

---

# Losing yourself; the bidirectional influence of the player and the role in table top role playing games

**Romy Koch**

*MSc. Graduate Student*  
LIACS, Leiden University  
r.l.koch@umail.leidenuniv.nl

**Max J. van Duijn**

*First Supervisor*  
LIACS, Leiden University  
m.j.van.duijn@liacs.leidenuniv.nl

**Marcello A. Gómez-Maureira**

*Second Supervisor*  
LIACS, Leiden University  
m.a.gomez.maureira@liacs.leidenuniv.nl

**Abstract**

If we can believe movies and TV shows, tabletop role playing games like Dungeons and Dragons have strong, brave heroic characters embodied by timid, socially insecure players. Literature about the player-character relationship shows that balanced and enjoyable characters combine elements of relatability and exploration, challenging the player to role play outside of their comfort zone while still being comfortable enough to immerse oneself. This study discusses the gap between the player and the character, focusing on whether or not there is a bidirectional influence of one on the other. The player inherently manipulates the character by driving their actions and consciously separating the player's knowledge of the real world and the character's knowledge of the fantasy world. But does the character influence the player by challenging the player to empathise with them, offering a training condition for personality exploration? Using prolonged exposure to a Dungeons and Dragons game training environment where players embody polarising characters, the pervasive influence of a character on the perceived personality of the player is measured by using the revised HEXACO personality inventory. Both experienced and inexperienced players were able to create meaningful character expressions, challenging themselves to role play. There are changes in the player that point towards the character, especially in character relevant areas, where impactful change is more concentrated. The either

---

*MSc. Thesis, July 5th, 2020, Leiden, The Netherlands.*

arrogant, thieving, lying or manipulative nature of the majority of the characters seems a probable catalyst for the universal drop in honesty/humility throughout the set of participants. There are indications of an influence from the character to the player, implying that role playing can be used as a training condition for personality exploration and the broadening of the self.

*“Fiction is only limited by the recombinative imagination of storytellers, who can try out life within the boundaries of the story as exuberantly or intensely as they like.”* - Brian Boyd, 2017

## 1 Introduction

Role playing often brings to mind an idea of stereotypical geek culture. A group of people at a table in a basement, the dim lighting shining on a map with figurines as someone enthusiastically exclaims that they want to throw a fireball at a dragon. Grown men and women running around on a field dressed as soldiers, trying to accurately recreate historical battles, or dressed up as elves, goblins or wizards, to make up their own battles. Someone by themselves in a room holding a controller, putting hundreds of hours into their video game quest to become the Arch Mage of the wizarding college. Role playing games, in all their shapes and sizes, have been around for over a century. This paper will focus on table top role playing, where play happens in the collective imagination of a group of players.

While playing table top role playing games, players create and embody a character to represent them in the fantasy world. These characters are usually quite elaborate, with personality traits, goals, professions, a moral compass, an idea of social etiquette and a role in a social group. All of

these factors have the theoretical possibility to differ from the same factors that make up the player, which is why it requires understanding for the players to immerse themselves in the character [33, 48]. The player manipulates the character through the fantasy world, deciding on their actions while ideally keeping a strict divide between the players vast understanding of the game, the other players, the fantasy setting and the referee versus the characters experience and knowledge of the world they operate in, which will be clarified in the background section [33].

If the character is not relatable to the player, they become harder to play [22]. On the other hand, playing a character who is very similar to the player seems counterproductive. Finding a balance between relatability and exploration, or playing a character that is not too similar but also not too different, makes creating a character that works well for the player an activity that usually takes a lot of thought and consideration. Some players seem to play themselves in a fantasy setting, while others become a character [48, 22]. This is common knowledge to anyone who is familiar with tabletop role playing, but scientifically, there is only speculation about the connection between players, characters and the immersive relationship that exists between the two. There is consensus about the fact that there is a difference between the player and the character. Players are exposed to a situation where they have to act and reason as someone else, forcing them to see situations from a different perspective. Do these alternative perspectives, motives and goals have a lasting influence on the player?

This paper sees the influence of the player on the character as a given and focuses on the influence of the character on the player. The research in this paper required participants to be exposed to a training condition where they embody a character that has polarizing characteristics from them-

selves. The changes in their perceived personality were then analysed. The results showed that there were small indications of a pervasive effect, especially in character relevant categories, where impactful change is more concentrated. The players and characters with the most polarizing characteristics showed the highest rate of change and categorizing these characters together shows indications of change towards the hypothesis.

This paper starts with a section on the background of table top role playing games and previous literature written about the relationship between people and the roles they embody. Then a description of the research method and design will be provided, followed by the procedure of the research. The next section will describe the results of the research, after which they will be analysed in the discussion section. A small section is added to provide the reader with the tools to reproduce the study, before concluding the research and discussing future work.

## 2 Background

This background section provides a brief recapitulation of literature relevant to this paper. It goes into detail about why we play, providing a historical timeline from the emergence of knowledge transferring to play as we see in all cultures today. Following is an explanation of table top role playing games, as well as the people who play them and the characters they embody. To explore the player-character relationship and its effects, Turner's role-person merging is discussed, as well as (social) identity theory. Lastly, an overview is given of the field of immersion and it's specified what elements of immersion are relevant to this study.

### 2.1 Why we play

Whether it be at a table, on a console or during a performance, role playing happens in all cultures and uses vari-

ous means of expression besides language. This subsection shortly explains the history of play, from the development of knowledge transferring, cognitive changes, the origins of narrative, the emergence of speech and later language, the origins of fiction and finally, play. It explores our narrative abilities and how we use it to form social bonds.

This explanation starts maybe surprisingly early, with three known important skills in the late *homo erectus* and *homo heidelbergensis*, these being toolmaking, firemaking and cooperative hunting. These skills would have to be passed over to the next generation, so instruction was necessary. This instruction could involve anything from ecological knowledge to close cooperation, and a selective group of individuals with a higher capacity to absorb this socially accumulated knowledge would thrive [7, 41]. These instructions would be passed on using a range of modes of expression, like gesturing, vocal sounds or miming events. *Homo erectus* was influential here, as this mimicry marked the emergence of human representation and the mimetic mind [18].

This human representation was pre-human mind, so most likely only covered events in the very recent past or plans and threats in the very near future, all communicated pre-language [18]. Speech began developing around half a million years ago in *homo heidelbergensis*, but language as we know it became possible in the autonomically modern *homo sapiens*, which was about 100.000 years ago [16]. The emergence of language changed us and our narrative abilities. These changes were noticed individually, socially, cognitively and even in our vocal and auditory systems. But important for the subject of play are the emotional and behavioural changes, as well as our relationship to our own perception and experience and those of others [19]. On top of a linguistic mind, the *homo sapien* developed the mimetic

mind, meaning the ability to better represent and communicate human experiences. Language and narrative give us access to the experience of others, even if these experiences are private or imagined experiences [7]. Through these shared experiences, we were driven to cooperate further.

The increased cooperation leads to pressure to communicate in social play. This happened in the form of i.e. vocomotor games, children's games that imitate adult behaviour or other rituals that create emotional bonds [18, 26].

Donald suggests mimesis can shape the mind even without communication, as we have the capacity to represent to oneself and consciously rehearse and practise complex multistage action [18]. Individuals began to imagine events that happened to others and learn how to take this into account in the context of our own decisions.

We prefer learning about striking personalities, situations, actions and developments [7]. We are attracted here to the surprise, not what we already know, so individuals who were skilled at this would be selected for reporting events. Skilled storytellers were almost twice as likely to be chosen as campmates, had higher levels of cooperation and higher reproductive success [39]. Narrative can also model and motivate personal values like courage, resilience or social values like generosity or sensitivity [34, 27]. We see this influence even now, as we spend 40% of our own conversational time in spontaneous narratives [21].

Recent research shows that the same brain network used for memory is used for imagination, perspective taking and social scenarios [8, 38, 40]. This close link between memory and imagination meant that we are able to remember experiences that we didn't experience, but have imagined through the telling of others [19]. This means also that non-

fiction narrative requires imagination as much as fictional narrative. Also in non-fiction, the listener preferred striking stories, so we developed expressive mimetic means but also exaggerated or invented details [19]. Inventing whole stories becomes easier then, as this recombinatory imagination was already there. Here, play and fiction emerged.

Social species play more than individual species, and play offered us a way to learn species-specific skills. We could test these in safe circumstances [5]. We see this now in modern therapeutic uses of role play, where therapists introduce subjects to traumatic scenarios with very low risk [6] (and the occasionally added buffer of pretending to be someone else).

Cooperative breeding played a big factor, as children learn through play longer than other species. Pretend play is seen universally in children and role playing games occur in all cultures. In *heidelbergensis* it led to mastering life skills, regulating social life and ensuring group cohesion [19]. Adults and older children also engage in pretend play or role play [28].

Stories are a big part of fiction and play, i.e. stories around the campfire. Dunbar observed that having a campfire offered an extra four hours of social interaction, and over 80% of this interaction involves stories [20].

Non-fiction extends our own range of experience, but is restricted by the experience of the speaker. As Boyd states very eloquently; "Fiction is only limited by the recombinative imagination of storytellers, who can try out life within the boundaries of the story as exuberantly or intensely as they like" [7]. The communal storytelling in table top role playing is no exception to this.

## 2.2 Tabletop role playing games

There have been common stereotypes when it comes to tabletop role playing through the years. In the 1970's, amidst the rising popularity of Dungeons and Dragons, the American public speculated about role playing being a satanic practise [30]. Many articles were written about role playing being a tool for realising fantasies about rape and murder, played exclusively by troubled young men and it was branded as a hobby that good Christians should steer clear of [47]. Popularity kept rising regardless, while pop media outlets started portraying role playing more, increasing its approachableness to a new and diverse set of players. Nowadays there are many kinds of role playing games, with varying levels of knowledge and studying to do before playing. Fifth edition Dungeons and Dragons, introduced to the public in 2012 and eventually published in 2014 [49], proved to be the most approachable version to date. New players only have to roll six main statistics to write up a character, whereas some role playing games require hours to create a character. The online community for role playing has grown to have vast numbers, discussing ideas for campaigns and characters. There are popular streams available of groups who have played on camera for hundreds of hours, sporting big followings. We can no longer speculate about the mystery of role playing, because with tens of millions of players worldwide, it has become a staple in popular culture.

Tabletop role playing games, or pen and paper role playing games, are defined by Lortz as *“any game which allows a number of players with some degree of freedom in an imaginary environment”* [29]. Montola also contributes some criteria for role playing games, starting with the minimum requirement of a character as the common denominator of role playing [33]. The character in his definition being an extension of the player, and *“a framework of roles through which the player interacts within the game, and for which*

*she constructs an illusion of a continuous and fixed identity, a fictional “story of self” binding the separate, disconnected roles together”*.

The most common tabletop role playing game is Dungeons and Dragons, produced by American publishing company Wizards of the Coast. Dungeons and Dragons has been around since the nineteen seventies and uses classic medieval European fantasy settings and creatures. Fantasy role playing games fall under only a subset of a large variety of tabletop role playing games, including science fiction games, strategic war games, action games, mystery games and many other genres and combinations. There are commercial games available in these categories, although some prefer to write the games themselves completely. The common setup for a fantasy role playing game exists out of a group of players (referred to as a 'party'), a referee (often referred to as 'game master') and a set of rules. These will be discussed in further detail below.

Role playing can be intimidating to get involved with, as most role playing games involve an extensive rule-set that players need to get familiar with prior to playing. Tabletop role playing games are played without a fixed board and pieces. There are maps when necessary, for example while engaging in combat or illustrating a location. Mostly the game is played in the players collective imagination, like improvisational theater.

There is no limit to what a player can attempt to have a character do. They can attempt to climb, jump over, investigate, open, close and break almost everything. The same way, they can try to talk to, fight or charm anyone. To incorporate a sense of fairness and randomness regarding the success of these attempts, dice are used. The referee will set a bar for a successful ending to this attempt, and if a player meets it, they will succeed. Some role playing games

will have exceptions that don't apply to these mechanics, but generally the large majority of role playing games use this format.

### **2.3 Players and Characters in Table Top Role Playing Games**

A small disclaimer is necessary, as it is difficult to find accurate estimates of role playing games players statistics. The references used in this paragraph are most likely outdated, as role playing games have developed as much as their players over the eighteen years that have passed since Fine's research. Players are now more diverse than in the 1970's, but still in 2002, there was a majority of male players. Most players are young, in their late teens to mid twenties. Many are students in the field of art, science or technology, which are also common fields for the non-student players. They therefore also consider themselves intelligent, as a majority have a college education [22]. In the nineties, a common media impression was that Dungeons and Dragons alienated players from both society, as well as their friends and family. In a research by DeRenard and Kline [17] concerning alienation and Dungeons and Dragons, it was revealed that their control group of Dungeons and Dragons players felt less alienated.

After an extensive period of observing and interviewing role players, Fine states there are several reasons that justify playing role playing games. The engrossment of playing is a big factor. Distancing oneself from the real world is considered more fun, as the fantasy world is less serious [22]. The social aspect of role playing is an important addition here, as Riezler [35] states that the significance of gaming lies in the shared nature of the engrossment and in the supportive recognition that others are equally engrossed.

According to Fine, four themes arise often when asked why players play, namely the educational components of gam-

ing, gaming as an escape from social pressure, gaming as aids in increasing one's sense of personal control of efficacy and gaming as aids in dealing with people. Two more reasons were given as to why gaming seems to be an effective tool for escapism, namely the release from the constraints of self and the release from the restrictions on (conventional) behaviour [22]. Players seem to want to have a sense of control over the environment, which fantasy role playing offers them.

There are many different kinds of characters in role playing games. Most importantly, all characters have both a race and a class. The most popular race for fifth edition Dungeons and Dragons (where we will be focusing on during this study) by far is human, but other common races are elves, dwarves, halflings, gnomes and orcs. Different races give characters different racial traits, i.e. dwarves are very strong and sturdy while gnomes are light on their feet and don't make a lot of noise. This can influence the choice of the class. The most common class for fifth edition Dungeons and Dragons is fighter, which is a very versatile class that allows characters to gain proficiency in their own preferred fighting style. Other popular classes are rogues (thieves), wizards, barbarians and clerics, for example.

Different games have different descriptors for their characters. Character sheets have a spectrum of simplicity, starting from a handful of statistics and modifiers that influence rolls to having pages of descriptions of a player's personality, skills, abilities, associations, motivation, allies, enemies, etc. The depth and complexity of a character differs from game to game but also from player to player. Fine differentiates between two groups of players, namely those who see the game as a game and those who see the game as a fantasy novel, or who would prefer to focus on interactive storytelling.

## 2.4 Fine's rendition of Goffman's frames of experience

There is a complicated relationship between players and characters, with much speculation in the community about the origin of successful character creation and embodiment. First, it's important to discuss the divide between different frames of experience in role playing, taking Fine's interpretation of Goffman's frame analysis. Fine states there are three frames that are to be differentiated between, which we will use throughout this paper [22].

Firstly, the experience as the person. This is the primary framework, where people know that they are people in the real world. This framework stands alone and is universal for everyone. Second, the experience as the player. This is the gaming frame, where people know that they are players in the physical world. They are aware of the rules and constraints of the physical world and ideally do not operate in this world while playing. Then thirdly, the experience as the character. This is the fantasy frame, where people know they are characters. That is to say, they are more than just the player manipulating the character, but they are the character. The character's identity and the player's identity are separate. This is the frame where people operate while playing, as they don't take the constraints of the real world into account.

## 2.5 Player-character awareness

Because there is a distinction between the person, the player and the role, it's interesting to compare their awareness of each other. The fantasy persona can be seen as an extension of the self. Even when players make characters that are the opposite from them, they are still driven by the player and therefore fused, making the influence of the character onto the player inevitable [33].

As role playing games require both the players to socialize in the gaming frame and the characters to socialize in the

fantasy frame, it's important for the players to compartmentalize their own identity from the role, as well as be aware of the other player's identity and their roles. Glaser and Strauss awareness context theory discusses four structural types of awareness contexts [23]. First is the *open awareness context*, where each interactant is aware of the others identity and their own identity as seen by the others. Second, the *closed awareness context*, where one interactant doesn't know the others identity or their own identity in the eyes of the other. Third is the *suspicious awareness context*, where one interactant suspects the others identity or their own identity in the eyes of the other. Last is the *pretense awareness context*, where both parties are aware but pretend they are not.

These structures were meant to be applied to the self versus the other, but as role playing requires enactment, it can be applied to several selves by the same interactant. Because it's one interactant with several selves (the player and one or multiple characters), it seems likely that all of the selves would require open awareness, meaning that each individual self has access to, and an awareness of, the other selves. This does not consider Fine's own rendition of Goffman's frame analysis, where the player only operates in the gaming frame and the character only operates in the fantasy frame. To maintain a separation, which in turn enhances the engrossing character of fantasy, the pretense awareness context is more accurate. This ensures the separation of knowledge for the selves as well, making it possible for one self to withhold information from the others [22]. The player holds knowledge of the physical world in which the game is played; they are aware of the rules and (most of the time) don't leave the table when information is shared that their character is unaware of. A player shields that information from the character, otherwise a situation known as *metagaming* occurs. This is where the character acts on

the knowledge of the player instead of their own, which happens in the gaming frame as opposed to the fantasy frame. Metagaming is frowned upon in the community. Avoiding metagaming, or enforcing fair play, is one of the tasks of the referee of the game.

### **2.6 The referee and rule enforcement**

All role playing games have a referee. Often referred to as a game master or dungeon master, this person has several responsibilities in the game. They organise the game content, whether this is based on an existing campaign from a book or written by the referee themselves. They play the role of all non-player characters (NPC's) the players encounter while playing, including their actions in combat. They narrate the story, including descriptions of all locations, non-player characters, actions and reactions. They judge the success of all attempted actions by the players; whether this be charming a city official into releasing a party member out of jail or jumping over a fence with chain mail armor on. They also, as mentioned before, enforce fair play and try to minimize the amount of metagaming. The referee, in short, ties the story together with the goal of creating an entertaining and challenging experience for their players. Ideally, they don't interfere with the play. The goal is always to have players make autonomous decisions, where the referee would only use their authority to stimulate role play in the party.

### **2.7 Parties and playstyles**

The party describes the group of player characters, and occasionally some non-player characters, that work together. Different parties have different play styles, depending on the preference of the players, the referee and the campaign setting. Cailliois' continuum states that game and play styles can range from very paiaic, or playful, to diegetic, or formal/mechanical [12]. Some players enjoy mechanical play

styles, focusing on combat mechanics and upgrades to maximise their abilities. They don't enjoy the experience of role playing very much. Other players heavily prefer role play to mechanical play, where they focus on expressing themselves, or being involved in intriguing storylines.

Different play styles involve different etiquettes, even within the party. Ethical behaviour for the party can mean that they collectively decide not to kill innocent people. Ethical behaviour for the party's thief might be that they can steal money from other party members in their sleep, or that they can sneak away in the night to do an activity that might financially benefit them.

The reason that this distinction between players, characters and parties is important to discuss is because of the role play heavy nature of the research. The participants in this research are asked to play as new characters that they might not immediately relate to, in a group that they (or their character) might not immediately relate to. The internal communication will make a big difference for their style of role playing, especially whether the player will decide whether to act on behalf of the group or on behalf of the character. This polarization of intention and motivation of the group and the character is also discussed further in the background, in the subsection describing identity theory.

### **2.8 Turner's role-person merging**

Previously mentioned are the frames of experience for the person, player and character and the origin of metagaming. Metagaming is a mechanical grey area between the player and character, but there is a much more emotional connection between the two. Characters often have characteristics players feel they lack. Whether they are strong, socially confident, good looking, wise or flirtatious, taking on the role of the character helps the player overcome deficiencies of their real self [22].



Some argue characters are an extension or exaggeration of the self. Players are more likely to role play characters that have similar characteristics to themselves (not including physical attributes, as they are nonessential). Where we see that role playing becomes challenging when the players know more than the characters, the opposite is also true. Role playing is harder if the character has higher abilities than the player, as realistically, the character can only be as intelligent or wise as the player.

Different players will have a different level of immersion while playing. Some players will play themselves as the character, while others will become a different person [22]. We know of cases where the embodiment of a role has led to role-person mergers, where players and characters fuse until the respective situations where they are inappropriately intertwined, i.e. choosing to play the character outside of the fantasy setting. When a role-person merger happens, socialization in that role might have pervasive effects on the formation of one's personality [45]. The roles Turner refers to roles for actors in theater, and mentioned three criteria for role-person merging. First, there is a failure of role compartmentalization, meaning that a person will continue to play the role in inappropriate situations, that is, outside of the boundaries of the role. Second, a person resists abandoning the role despite having access to alternative, more appropriate roles. A third is that the person will accept and hold beliefs and attitudes that are appropriate to the role as opposed to the person.

Fine states that role-person merging is not applicable for role playing games, as the roles are temporary and compartmentalized for the player. Goffman's role embracement is more appropriate [24]. In line with the merging of a role and a person is a concept called overinvolvement. This is where a player chooses to no longer separate themselves

from the character. They will attempt to play this character in their day to day lives. The risk of overinvolvement is increased when a player identifies too much with the character. Every player must identify with the character for the game to be successful [22]. Players have to find meaning in the character, to define a sense of worthiness in the character. The fact that different role playing games require varying detail for character creation is not an obstacle there, players are able to create a meaningful identity from only partial information, according to a theory called social constructiveness [4].

These theories are important to mention as the research also focuses on the pervasive effect of a character onto a player. Fine states clearly that he thinks that the roles are too compartmentalized for role-person merging to occur, but this research hypothesizes that there might be a (temporary) pervasive effect regardless of the fact that a player differentiate between what situation is appropriate for activating the right identity (meaning that they know to only play the character during the game). The aspect of resocialization should not be easily overlooked in table top role playing games, as the player balances two new social situations simultaneously. Therefore the hypothesis states that, when both the player's own social identity in the group of players in the gaming frame has to be defined, as well as their character's social identity in the party in the fantasy frame, these identities become less compartmentalized. It takes a lot of conscious effort to separate these two instances of socialization, and when this separation isn't successful it leaves room for personality exploration and a pervasive effect of the character's personality onto the player's personality.

## **2.9 Identity theory and the self**

Even though Fine establishes that role-person merging does not apply to role playing games, identity and the sense

of self are still an important factor in both. Before identity is discussed in more detail, it is important to mention two differences from the concept of identity and the self, according to Turner. First, there is the possibility that identity is only situational, and therefore the person's identification of the role is only as strong as their situational involvement. A second difference is that the person's idea of self and their identity are conceived subjectively, meaning that the identification with a role is dependent on the person's arousal of self-feeling [45].

There are several working movements within the general field of identity theory. For the purposes of this paper, concepts that could apply to role playing will be emphasized.

First, in identity theory and social identity theory, the concept of self is defined as reflexive, meaning that it can view itself as an object and can define itself in relation to other social categories [42]. In social identity theory, this is called self-categorisation [44], and in identity theory this is referred to as identification [31]. This process makes it so the identity is formed, where a social identity means that one is aware they belong to a social group [1].

Social identity deals with a cognitive process called depersonalization, or seeing oneself as a representation of the group rather than an individual [44]. In identity theory a similar process exists, called self-verification. This entails seeing oneself as a representation of the role, including all norms and values that the person associates with the role [10]. Both processes occur when an identity is activated [42].

The term salience is given to describe the activation of an identity in a situation. Whether an identity is truly salient, or simply played out, depends on identity commitment. This can be qualitative (meaning the quality of the connection to

others) and quantitative (the number of ties that the identity has, or the embeddedness in the social structure), where a high identity commitment leads to more salience [42].

Social identity in role playing means that the player considers first the perspective of the group, causing them to act and decide uniformly as a group [42]. Having a role identity theory opposes this, stating that a player acts on the perspective of the role, deciding actions by negotiation with rolepartners (or counterroles) [9, 11]. This focuses more on the role as a unique entity, acting on their own behalf with unique motivations. There are situations where the social identity overrides the role identity and vice versa, although Deaux argues that some personal (or role) identities represent a view of the self and therefore pervade all others [15].

Similarly to the idea of situational identities, there are different perceptions in the gaming frame and the fantasy frame, described by Ijsselstein and Riva as the physical environment and the mediated environment. They state multisensory stimulation can come from both environments and we can feel present in either one, depending on what is the dominant perception at any time [36].

During the research, the participants are asked to activate the appropriate situational identity in the appropriate situation, namely the character when playing the game. Albeit that the character is written by someone else and only provided to the participant, there is always a grey area where the player has to create meaning to the character themselves. We cannot know whether they create this meaning from their own perception of the character or from the play style and identity of the group, we can only observe this when it happens. The player is exposed to a situation where the motivation of the character and the motivation of the group differs, or could even be completely opposite of each other. Whether the player makes decisions based on

the best outcome for the group or the best outcome for the character greatly influences the way they play a role and therefore the outcome of this research.

### 2.10 Character investment

Vermeule, in her book *Why do we care about literary characters*, states that people “cannot reason or even think without emotion—indeed, without narratives” [46]. Also that we “think about most things—facts, values, norms, society, even our own fates—by binding them up into figures and stories about other people”. She emphasizes the personification of problems that we as humans think about. She argues that, if we developed cognitively to solve problems based on the creation of narratives and the personification of problems, then the distance between other people and fictional characters is very small. We can care about fictional characters the same way that we care about other people because we see almost every important thing as narrative agents. She argues that, through the conceptualization of narrative and characters, we process almost everything that we know. Fictional characters are inhabitants of our narrative, and in table top role playing, we manipulate both the inhabitants and the narrative directly. In theory, the characters we play or the characters we encounter, seem real to us because we process knowledge about them the same way that we process knowledge about most other things. This is why players are generally invested in their character’s survival or their treatment of other characters, and why we are so immersed in the fantasy frame.

### 2.11 Immersion

There seems to be a general consensus that player immersion is a big part of the gaming experience. The phenomenon, described in its early beginnings as presence or telepresence [32], has been described as a sort of sense of ‘being there’, there being of course whatever object it is the

beholder is beholding. Calleja differentiates between immersion as absorption and immersion as transportation [13]. Absorption in this context refers to the dictionary definition of immersion, being “Absorption in some condition, action, interest, etc.”. Immersion as transportation, however, is based on an ideal of feeling transported to another place, with the criteria of “...the anchoring of the player to a specific location in the game world via their avatar, which the game world and its inhabitants, including other players, react to.” This seems appropriate for table top role playing, regardless of the lack of perceptible virtual environment. The virtual environment in this context would be the fantasy frame in Fine’s frames of experience, where the character functions as the avatar. This environment meets one of the key features for feeling immersed outside of a perceptible , says Ryan, as it creates a space that the player can relate to, offering an ‘expanse to be immersed within’ [37].

Table top role playing has a unique relationship with immersion. Not only is there a player that perceives a mediated environment that they can manipulate and that responds to them, there are several other players present in both that mediated environment as well as the physical environment. The whole set of players operate in the same fantasy frame, requiring all players to believe, to a certain extent, that what happens in this mediated environment is a form of reality. The significance of these types of games lies in the shared nature of the engrossment and in the supportive recognition that others are equally engrossed [35]. This *folie a deux*, or shared insanity, lies at the root of table top role playing.

## 3 Research Method and Design

This section will first discuss universal methods and play systems used in both the pilot and main experiment of this study. Both of these experiments consist of three stages, namely a first measurement, a training condition and a sec-

ond measurement. The pilot will focus on the relationship between the player and their chosen character and will be used in order to provide a research direction for the main experiment. The main experiment measures the influence of the character's personality onto the player's perceived personality by prolonged exposure to a training condition where they play someone they would normally not relate to. This section will first discuss methods used in both experiments, after which the pilot experiment design and results will be mentioned. These results were influential in the design of the second experiment, which will be discussed afterwards.

### **3.1 The Revised HEXACO Personality Inventory**

The personality test selected for the pilot is the revised HEXACO Personality Inventory [3]. This test is psycho pathological, meaning that it shows the participants perception of their own personality and environment. HEXACO handles a set of six personality factors, namely Humility, Emotionality, Extroversion, Agreeableness, Conscientiousness and Openness to Experience [2]. The revised HEXACO personality test is based on the five factors of personality that have been most observed in personality studies, but adds humility. These five factors tests have proved to be quite reliable, showing stability in participants' results over time [14].

### **3.2 Fifth Edition Dungeons and Dragons**

As mentioned before in the background, the most common table top role playing game is Dungeons and Dragons, which has been around since the seventies and uses classic medieval European fantasy settings and creatures. The fifth edition is the latest edition of the game and it is deemed the least intimidating to new players, as its rules are more straightforward and user friendly than previous editions. Because Dungeons and Dragons is the most

popular role playing game, chances are the highest to encounter experienced players. This is key to finding a diverse set of participants for the experiments and is why the fifth edition Dungeons and Dragons is used as the play system for this study.

### **3.3 Sampling**

In order to have a diverse set of participants for the study, the participants had to be divisible into roughly equal groups of experienced and inexperienced players. By having a set of participants with mixed role playing backgrounds, the potential influence of experience onto the hypothesis can be analysed. The age, nationality or gender identity of the participants are not a consideration for the study. The participants for the study will be found using different sampling methods. Initially, the snowball method will be used [25]. A message will be sent out, asking for participants and introducing their task in the study, with the added request to spread that message to people the recipients thought might be interested. When enough potential participants apply to join the study, purposeful sampling will be used to ensure the variety of experience in participants [43].

### **3.4 Pilot**

A pilot experiment was run based on an initial research direction to try to find similarities between players and their most successful characters. 'Successful' in this context was described as the character the participant most enjoys playing. Because at this point in the study there was still uncertainty of the eventual research direction, the results of this pilot would be instrumental in steering the direction of the main experiment. The idea behind this preliminary experiment was to establish;

- 1) if there is a 'common' role player personality trait as well as
- 2) if there is a formula of sorts to character creation. Is

there a certain (unconscious) decision role players make about which elements of their own personality they want to transfer to a character and which elements they want to change (and to what extent)?

The pilot began by reaching participants. Because it was done at a small scale, two regular player groups were selected. Using convenience sampling, the participants asked initially were players in campaigns that the researcher is involved in. Snowball sampling was used in order to reach two additional participants. All participants had different experience levels. The first group consisted of players who had been playing for several years and had therefore played several different characters. The second group had just begun their first campaign and had minimal role playing experience. The preliminary experiment was done with nine participants. All participants took the HEXACO personality inventory to test their perceived personalities (results can be found in appendix item 20).

After taking the revised HEXACO personality test, players were asked about their experience level with role playing generally, and fifth edition Dungeons and Dragons specifically. They then played a game as their most successful character. These games all lasted between three and four hours, providing the participants with the opportunity to immerse themselves in the character. These games were not hosted by the researcher but took place in the participant's usual game setting with their usual group of players. Afterwards, the participants were asked to take the revised HEXACO personality inventory again but this time as their character. These qualitative results were then analysed.

From this small subset of players, we can differentiate between experienced and new players. This makes quite a difference, as experienced players seem to have a lot of overlapping qualities. They are noticeably more anxious

and consider themselves to be unconventional. They also have a below average enjoyment of life. They are generally emotional and forgiving. They are open to experiences yet do not consider themselves extroverted. Where there are noticeable trends in personality traits in experienced players, there are opposite trends in the characters personalities. Characters are less anxious and usually more socially confident. They have a higher enjoyment of life. They are less agreeable, less forgiving and less emotional. They are usually less open to experience but a lot more extroverted. So in this small group of experienced players, there seems to be a sign of common traits in players that they compensate in opposing common traits in characters.

Noticeable is that the inexperienced group does not reason about themselves in extremes, their results generally being more average (between 2.5 and 3.5). Their characters show much more similarity to the players than the experienced group, the results sometimes even going the opposite direction as the results mentioned in the previous paragraph.

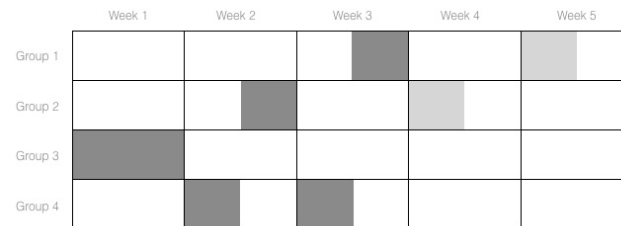
The overlapping differences between player and character are much more obvious in players who have committed to role playing as a hobby, which leads to several interesting questions. Do role playing games simply attract socially timid introverted people and give them a medium to be more socially expressive in an environment they feel comfortable in? Does prolonged exposure to role playing actually make players feel more unconventional, anxious or introverted? Are inexperienced players not representative for the 'typical' role player image?

The pilot was used to inform the main experiment and steer it in an interesting direction. The results of the pilot seemed to suggest a difference between the player and the role, especially in social skills, confidence, openness and forgive-

ness. The second experiment was set up to test whether these differences between the player and the character can lead to pervasive effects on the players perceived personality.

### 3.5 Second Experiment Environment

The intention is for the experiment to take place physically over the course of five weeks. The participants will be divided in groups of four to six, ensuring that the referee can oversee the discussion and conversation at the table. They will be asked to come together for one or two session(s) of roughly eight hours. One of the groups will have only one session that lasts eight hours due to scheduling reasons, while the rest of the groups will have two sessions, each a maximum of two weeks apart. All material needed for the experiment will be provided, including all of the necessary information for participants beforehand. The experiment



**Figure 1:** Session schedule

environment unfortunately had to be adjusted due to the circumstances involving the COVID-19 pandemic. The last two sessions, as shown in the figure, were played online due to circumstances around the COVID-19 pandemic. The platform used for this was roll20, an online service that provides players to play tabletop role playing games from a distance. The effect of this on the experiment will be discussed in the procedure.

### 3.6 The Researcher in the Role of the Referee

The personal involvement of the researcher in the experiment is high, as she acts as the referee for all of the campaign sessions. The researcher will write and provide the campaign setting, as well as create all of the original maps and characters. She will also be playing all the non player characters and providing background information and narration. As is mentioned in the background, she will not interfere with the play and strive to have all players make autonomous decisions. She will try to stimulate role play by reminding players of their character sheets if a situation occurs where a player considers making a fundamentally uncharacteristic decision.

As mentioned before, the experiment consisted of three main phases; the zero measurement, the training condition and the second measurement.

#### 3.6.1 The Zero Measurement

The zero measurement took the form of a personality test. The revised HEXACO personality inventory was deemed most appropriate due to its psycho-pathological approach. The results of the test were analysed and played a key part in deciding the roles used in the training condition.

#### 3.6.2 The Training Condition

The training condition had several important tasks. First, to challenge the player to role play. This is an important exercise, because playing a role that is very similar to the player feels less like a conscious effort. If one has to think consciously about playing a role, it requires more empathy which is vital to a player's understanding of a character and their motivation. As seen in the background section, Boyd tells us that narrative can model and motivate personal values, such as courage and resilience or social values like generosity or sensitivity. The training conditions attempts to simulate that here, as the players are able to shape the

story to fit their individual goals more clearly. This requires them to think consciously about the motivations of their character by empathizing with them. They consider the character's experience in any given narrated situation, projecting this on their decision making. They have to try and be more courageous or adventurous or prudish or clever than they are themselves.

The second task is to have the player re-socialise in a new fantasy environment and social group as a character that is different from how the participants see themselves. Socialising in a new (fantasy) social group allows the participants to consider themselves as both the subject and the object; they have the opportunity to find out how they see themselves in a social setting as well as seeing themselves through the eyes of the other player characters. The goal is to create a deeper understanding of the role and the character's motivation.

The third task is creative problem solving as a character who might act or reason differently from how the participant would act or reason. Creative problem solving in tabletop role playing games can be very diverse. Whether it is creating the best strategy for attacking an enemy clan, figuring out what will open the door to a puzzle room in a dungeon, or deciding between fighting and seducing the queen of the empire, every character goes about solving problems differently. Having the player consider problem solving as the character challenges them to think outside of the box and to act outside of their comfort zone as a player, making it a very conscious exercise.

Because of the emphasis on the difference between the player and the character, it was a given for this experiment that the player must differ from the character in an obvious way. In order to achieve this, a decision was made to create a polarising personality type for all participants. The player

would play this character in a campaign for roughly eight hours. The campaign facilitates the goals of the training condition by providing plot points where the characters have to strategize and work together but have them be free to decide what the best plan of action would be, i.e. they could decide to be as aggressive or diplomatic as they thought was best.

Another part of the training condition is that the participants have to find a balance between their social identity and role identity. The party consists of very diverse characters with diverse motivations, but they still get assigned a common goal. The player will make decisions that will be either based on the motivations (or at least the participant's perception of those motivations) of the character or the motivations of the group as a whole, which will heavily influence their role playing.

The training condition will exist out of a campaign that lasted roughly eight hours. This campaign, in short, tells the story of a group of adventurers that are hired by the mayor of a small settlement near a swamp, to investigate some strange activity in the cliff side haunted mansion that overlooks the settlement. In the mansion they find clues leading them to suspect someone is orchestrating said strange activity from the centre of the swamp with help from a settlement resident. They travel to the centre of the swamp to find a clan of bandits performing dark magic and who expose the corruption of the head of the guard of the settlement. They defeat the bandits to return as heroes and get to decide on the faith of the corrupted guard themselves. The settlement is lively, including a shop, tavern, smithy, library, temple and several farm houses. The adventurers are free to communicate and cooperate with whomever they please to reach the eventual goal. All campaign necessities, including the story, location descriptions, shop descriptions and inventory, char-

acter sheets and backstories, play guides and maps can be found in appendix items 1-19.

### *3.6.3 The Second Measurement*

After being exposed to the testing condition for roughly eight hours, the participants are asked to take the revised HEXACO personality inventory again. These two sets of test results are then analysed to see whether a change occurred, where it occurred and whether that change is in favor of the personality of the character.

This analysis will consist of both a qualitative and quantitative section, exploring the data changes according to character, group, experience level, HEXACO categories and any other categorization that seems relevant.

## **4 Procedure**

The procedure started with selecting participants with varying role play experience. As mentioned in the methodology section, this is done by a combination of convenience sampling and snowball sampling. Participants reached out to the researcher. Twenty participants responded, six of which formed one existing group and requested to play together. This was accepted because the resocialization did not involve the players so much as the characters. The characters did not know each other at the beginning of the campaign.

The rest of the participants were then divided into groups based on availability and location, so first participants who worked days or evenings and weekends were grouped together. Afterwards, they took the revised HEXACO personality inventory. Ideally, these steps would have been in reverse order, so the participants could be grouped together based on the most diverse set of personality traits.

The results of the HEXACO personality inventory were

analysed and the noticeable personality traits were marked. HEXACO results go from a scale of one to five, so noticeable results in this context being two and lower and four and higher. This indicated that participants felt they were very much trait X or very much not trait X.

A set of six characters were written. The characters that were most appropriate for the experiment were the barbarian, the bard, the cleric, the ranger, the rogue and the wizard, a motivation for which will be explained below. The ranger is not explained here, as they were a unique character written specifically for one participant.

### *4.0.1 The Barbarian*

The barbarian was arguably the most archetypal character in the experiment. They are dumb, violent and antisocial. They are exceptionally impatient and preferred to use violence to get their way rather than civilized discussion. The players who viewed themselves as gentle, patient and fearful were assigned this character, traits found in the agreeableness and emotionality categories. All players assigned the barbarian approached the researcher, expressing worry and inquiring what the character was based on.

### *4.0.2 The Bard*

The bard is an outspokenly charming character, using music and poetry to bring stories of their adventures to the people of the world. The bard is hyper social and extroverted, edging on arrogance. They are highly flirtatious and aren't afraid to take initiative. Players who viewed themselves as prudish, anxious and introverted were assigned the bard character. The important categories for the bard were extroversion and honesty/humility.

### *4.0.3 The Cleric*

The cleric is a sacred priest of their chosen patron, with a strong ambition to spread the word of their patron while per-



forming their assigned sacred duty. The cleric is helpful, selfless and forgiving. They are stubborn and won't change their mind easily when they are convinced that their own patron has shown them the right way. Players who viewed themselves as unagreeable were assigned the cleric character, this therefore being the most important HEXACO category.

#### 4.0.4 *The Rogue*

The rogue is a quiet, selfish thief who wanders the streets at night hoping to swindle or pickpocket some strangers. They lie and exploit others to get what they want. They are impatient and emotionally unavailable, making them hard to read. They will be your friend when it seems advantageous to them, but you can't trust a single thing they do or say. Players who view themselves as sincere and fair, as well as emotional were assigned the rogue character. Honesty/humility was the most important category.

#### 4.0.5 *The Wizard*

The wizard is a book-learned magic user, a scholar who has dedicated their life to increasing the body of knowledge of their field. They are awkward and introverted. They use logic and not emotion to decide their actions and are mostly uninterested in matters outside their field. They are well aware of their cleverness and don't have a strong sense of fairness. Players who viewed themselves as curious and extroverted, as well as fair and modest were assigned the wizard character. The most important categories being honesty/humility, extroversion and emotionality.

The background for some characters was slightly adjusted when necessary to match the participants better in the separate groups.

A guide was written for new players, explaining the rules of the game as well as a comprehensive guide to reading their

character sheet. This information, along with the information about the character they were playing (which existed out of a written background explaining their motivation and personality as well as their character sheet), were given to the participants. Any questions were answered to make the participants feel ready for the start of the campaign. To facilitate the reproduction of this study, the guides are provided in this paper.

Then the campaign was written. The setting was created, including original maps, encounters, non player characters and plot hooks. The players were provided with everything they needed to play, including printed out versions of their character sheets and a set of polyhedral dice used in role playing games. To facilitate the reproduction of this study, the campaign setting is provided in this paper.

The campaigns took place in a time frame of 5 weeks. Each campaign lasted roughly eight hours. An extensive description of the individual sessions and the participants can be found below, including any noticeable play styles they developed.

Individual players will be referred to by a participant code, which is an abbreviation of their character (*BB* for barbarian, *BD* for bard, *C* for cleric, *R* for rogue, *W* for wizard and the unique *Ra* for the one ranger) and group number.

#### 4.0.6 *Group one*

This group had players of varying experience levels, from players where this was their first experience with role playing ever to players who had been in campaigns for years. Most of the players had met before. They took the exercise of role playing seriously in the first session, where they physically met to play. Two of the players wore costumes for their characters and the experienced players challenged the newer players to role play in an inviting and open way. The

second session happened digitally, which interfered with the immersion of the game. Technical issues, background noise and every day world distractions caused a chaotic atmosphere, influencing the amount of role play that was possible. The group ran the campaign plotline almost perfectly, only disturbed by the barbarian setting a hay barrel on fire in an attempt to cause a commotion.

There was little to no interference from the referee. The roles seemed to be comfortable enough for all players apart from *W1*, who struggled with creative problem solving as their character. This wizard, whose archetypical trait is their cleverness, requires some nudging on occasion, i.e. as a reminder that they were smart enough to not set a house on fire while they were in it. *BD1* initially seemed uncomfortable with flirtatious behaviour, but attempted it throughout the campaign nonetheless. The other players seemed to have no problem with role playing as their characters.

#### *4.0.7 Group two*

This group had mainly low experienced players who weren't familiar with one another. This new experience with role playing combined with making an impression on a new group of people lead to some chaotic situations. During the first session, *C2* and *R2* had the hardest time getting into character, speaking and deliberating mostly as the player. *R2* did take their role as a thief very seriously by stealing from the party, the mayor of the town and the bandits alike. *BD2* was relatively quiet for playing a very extroverted character. *BB2* and *W2* took the role playing quite seriously, taking all plot hooks designed for their characters and playing them out very well. A chaotic situation ensued near the end of session one, where they were asked to stay in the tavern while awaiting the results of an investigation. *BB2*, feeling trapped, decided to set the entire tavern on fire, leading the sessions to end quite abruptly.

The second session was online, which again turned out less than ideal. Technical issues led to some players not being able to hear the rest of the party properly, especially during deliberations. They did follow the campaign plot quite well, ending the second session right after defeating the bandits.

#### *4.0.8 Group three*

This group played first and the longest, playing the whole eight hour campaign in one day (and with only four players). The players were unfamiliar with each other but experienced. They ran through the campaign plot perfectly, following all leads with little distractions. *BD3* chose to present more as a poet and storyteller, which was a way to interpret the character that didn't involve much initiative or flirtatious behaviour. *R3* played their rogue very well, stealthily intruding in different places and stealing everything valuable before the other players had a chance to see. *C3* was very selfless, offering their share of any monetary reward to the rest of the party.

#### *4.0.9 Group four*

Group four was the most experienced group and all players had been in campaigns with one another prior to the experiment. Both sessions took place physically and all players were experienced role players. This group was by far the most immersed in their characters, leading to some perfect examples of character embodiment, such as *W4* holding an almost 5 minute long monologue about the bark of the specific tree in the swamp they were interested in, or *BD4* bursting into an improvised serenade in the Draconic language. *BD4* also memorised all of the female character's names they met but refused to learn any male character's name, including the males within the party. *C4* continued to incorrectly quote prophecies from their patron ("Ah, but don't forget a lightning bolt is sharp on both sides!"). *BB4*

spoke almost completely in grunts and physical movements to get their point across and *R4* even got other party members involved in their scheming (like having *BD4* play music for the barmaid as *R4* snuck behind the bar to steal from the register). The only unique character, the ranger, successfully played their character both arrogant, bored and was constantly showing off by doing backflips for the unimpressed barbarian.

The party spent so much time arguing, plotting and scheming that they had to finish the campaign prematurely and ended up not fighting the bandits.

Immediately after the campaign finished, the participants were asked to retake the revised HEXACO personality inventory. The changes from the first to the second test were analysed, focusing on change that happened in the direction of the character. These results can be found in the results section of the paper.

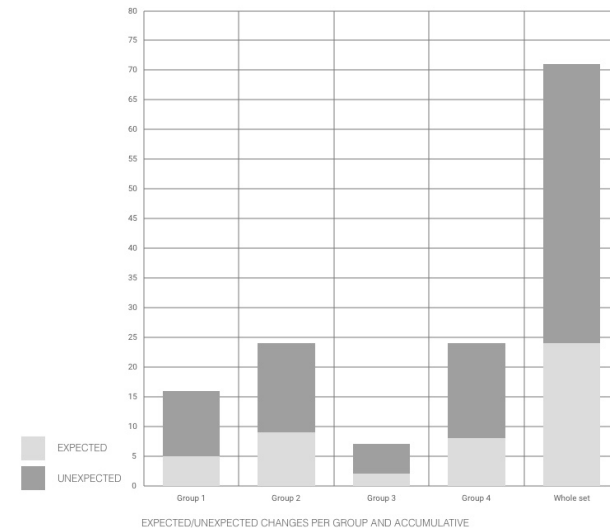
## 5 Results

In line with the hypotheses of the experiment, the prediction was that, between the first and second test moment, there would be a change that could be traced back to the training condition. That is to say, a change towards the personality of the character they embodied during the study.

Before the experiment, all HEXACO subcategories that were of importance to the player were marked. These subcategories were used to create the 5 universal characters, as well as the one unique character. The same subcategories used to create the characters, were also used to test whether change was relevant or irrelevant to the character. All HEXACO subcategories with a change over one time the standard deviation of the whole set of participants in the second test (.89), were marked and categorized together. On average, these were 16.43% of all subcategories for

the whole group, or 71 subcategories. Individually, these changes ranged from 0% (two participants with zero subcategories with changes over 1SD), to 37.5%.

As shown in figure 2, most of these changes were not in subcategories that were directly relevant to the character. In the whole set of participants, the average change that happened in expected subcategories versus unexpected subcategories was 33.8%.



**Figure 2:** Expected vs unexpected changes

The same categorization was made for changes over two times the standard deviation of the whole set of participants in the second test (1.78). On average, only 4.17% of all subcategories for the whole group were over 2SD, or 5 changes. Of these changes, 80% were in subcategories that were relevant to the character.

For the qualitative analysis, the participants were placed on a visual spectrum that handled several themes. This included age, experience level, the number of changes overall (over 1SD), the number of changes relevant to the character and the individual HEXACO subcategories (honesty/humility, emotionality, extroversion, agreeableness, conscientiousness, openness to experience).

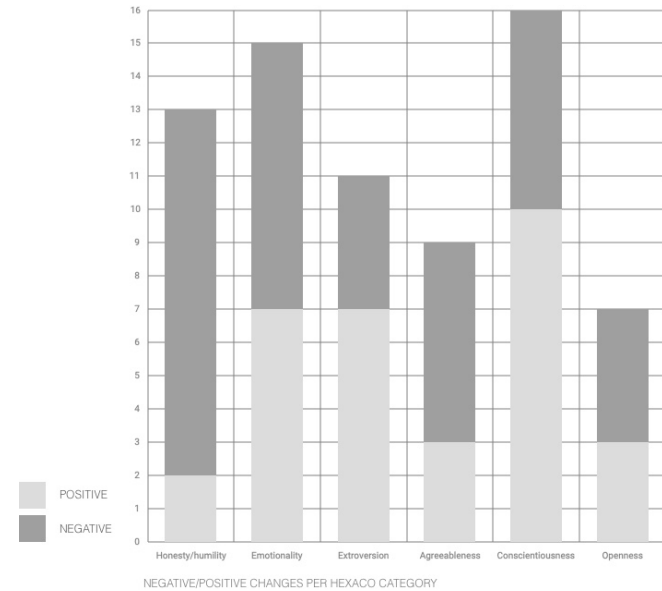
One thing of note was that all participants over 30 years of age had minimal change happen. Of the three participants, only one had one subcategory change over one time the standard deviation. None of the other themes showed a traceable pattern.

All of the changes were then grouped by HEXACO category to find any positive/negative trends. The results can be seen in figure 3. Interestingly, there is a pretty even divide in all categories apart from honesty/humility and (slightly less so) agreeableness, where there is a noticeable negative trend. This means that of the players that had changes over one time the standard deviation in these categories, a large majority felt that they were less honest, humble and agreeable after playing.

The participants were then divided by the character they played, the only exception being participant *Ra*, who was the only player that was assigned a ranger character. The individual number of changes over one time the standard deviation showed that different characters caused different amounts of change in the players (see figure 3). The average results within the HEXACO categories were visualised as well, showing the average change per HEXACO category for all the players with the same character. The characters will be quantitatively discussed below.

#### *Barbarian*

The barbarian character had four players. On average, they



**Figure 3:** Negative vs Positive trend

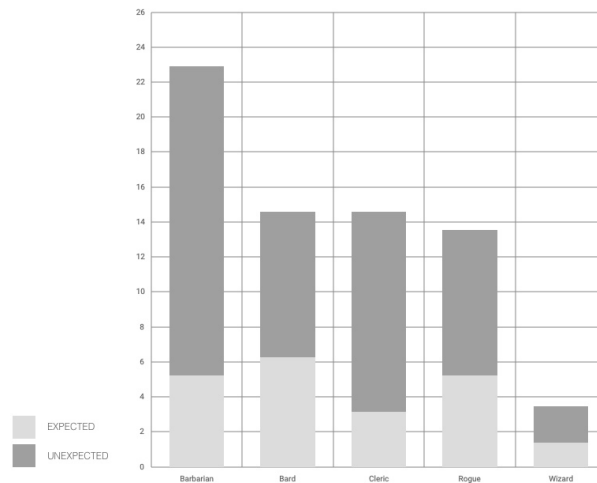
had a change rate of 22.91% in all subcategories, 22.72% of which were relevant. Figure 4 shows the average change per HEXACO category. The decline in both agreeableness and emotionality is in line with the hypothesis of the experiment.

#### *Bard*

The bard character had four players. On average, they had a change rate of 14.58% in all subcategories, 42.86% of which were relevant. Figure 5 shows the average change per HEXACO category. A slight decline in honesty/humility is in line with the hypothesis.

#### *Cleric*

The cleric character had four players. On average, they had



**Figure 4:** Percentage of change per character

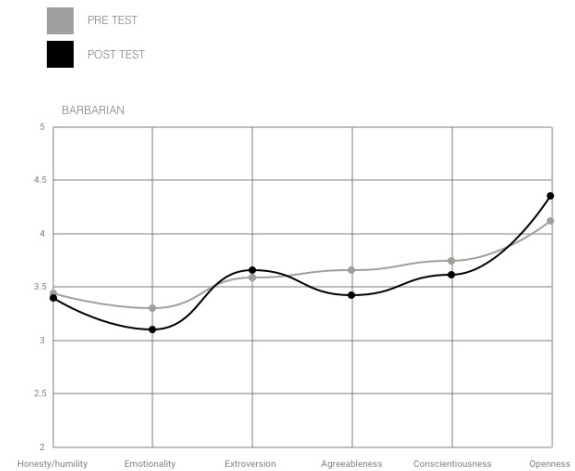
a change rate of 14.58% in all subcategories, 21.43% of which were relevant. Figure 6 shows the average change per HEXACO category.

#### *Rogue*

The rogue character had four players. On average, they had a change rate of 13.54% in all subcategories, 38.46% of which were relevant. Figure 7 shows the average change per HEXACO category. A decline in honesty/humility is in line with the hypothesis.

#### *Wizard*

The wizard character had three players. On average, they had a change rate of 2.78% in all subcategories, 50% of which were relevant. Figure 8 shows the average change

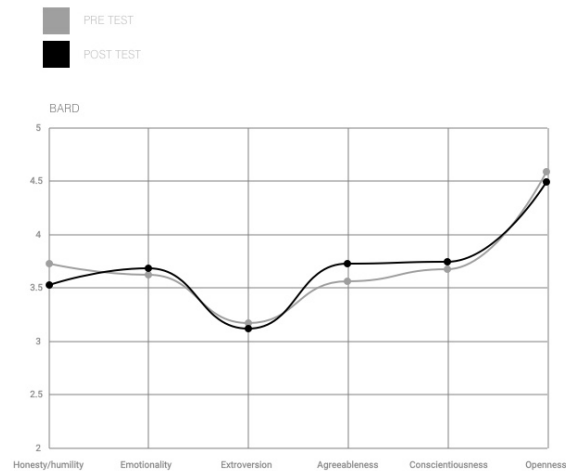


**Figure 5:** Average barbarian

per HEXACO category. A noticeable drop in honesty/humility and emotionality is in line with the hypothesis.

## 6 Discussion

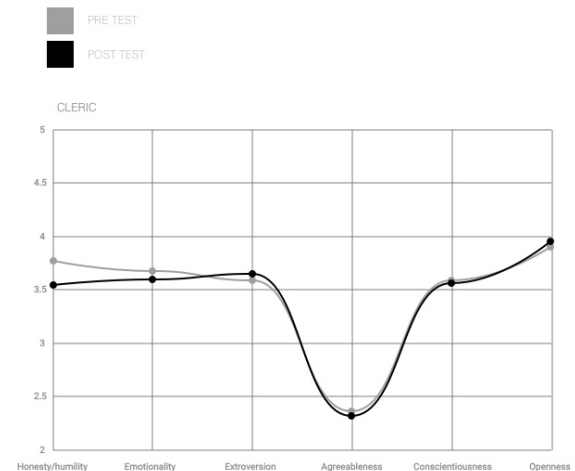
The results seem to show some indication of impactful change before and after the testing condition. Most changes are seen outside of categories that were expected to change according to the hypothesis, but the most impactful changes are mostly concentrated in expected categories. The changes over one time the standard deviation over the whole set in the second test show 33.8% relevant change, whereas the changes over twice the standard deviation show 80% relevant change. Looking at that same 80% relevant change on an individual level, it concerns *Ra*, *BD2*, *R2* and *R4*.



**Figure 6:** Average bard

*Ra* has a large change in anxiety, rating themselves as 1.5 in the first test but as 4 in the second. The ranger archetype for this experiment views themselves as the heroic group leader, taking initiative in exploration, battle and discussion. It could be that this backfired on the player, causing them to experience more anxiety as it was outside of their personality to do so. It is taken into consideration that this could be caused by the outbreak of the COVID-19 pandemic, but this was not as impactful at the time of the second test, as the last session still happened physically.

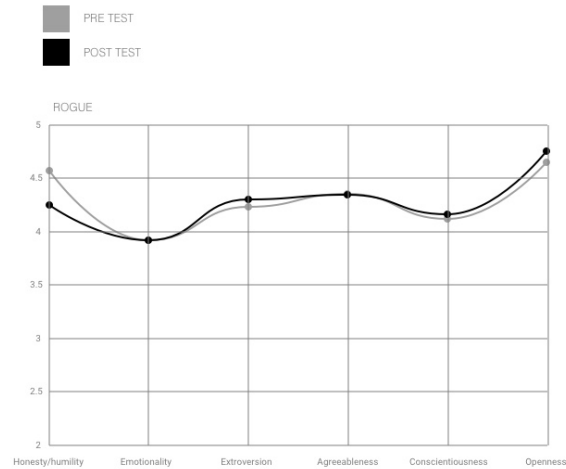
In the first test, *BD2* viewed themselves as being forgiving with a 4.5, but in the second test they tested as a 2.5. The bard archetype isn't necessarily unforgiving, although being agreeable isn't a priority. This could stem from the session itself, where the party felt mistreated by the guards of the



**Figure 7:** Average cleric

settlement, and thus decided to set the tavern on fire. This group generally tended towards violence to solve problems, so the group agreeableness declined and *BD2* was no exception to this.

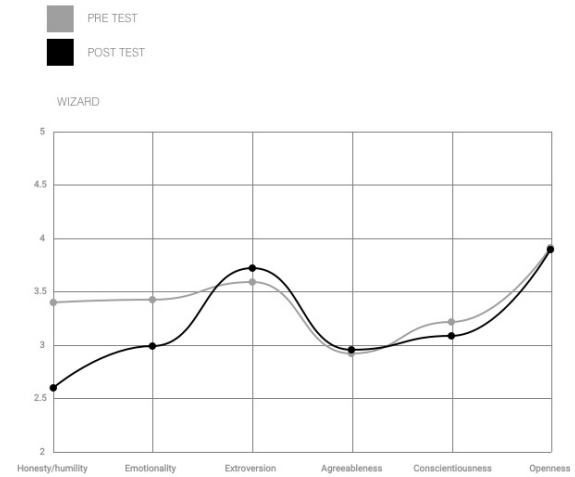
*R2* and *R4* both show very expected change. They are both in the rogue archetype, a antisocial thief who is not unwilling to sell out the party in exchange for riches. *R4* had a dependence of 4, but dropped down to a 2 by the second test, which is in line with this einzelganger archetype. *R2* had an interesting result, showing an initial greed avoidance of 5. The rogue being a thief, it isn't surprising to see this decline to a 2.5. When asked about this several weeks after the experiment, they said they no longer agreed with this, seeing themselves more as a 5 again.



**Figure 8: Average rogue**

Participants over the age of thirty show minimal change in general. An interpretation could be that they have a more formed idea of their own personality and it is less likely to change because of external influences. But with such a small group (three out of twenty participants) it is hard to tell.

Generally, there is a strong decline in honesty/humility in the whole set of participants. Out of all changes over one time the standard deviation, 84.62% declined, the rest increased, as was mentioned in the results section. These declines happened most in the sincerity and greed avoidance subcategories, so a majority of players that had changes in these subcategories felt more greedy and less sincere after playing. All character backstories (apart from



**Figure 9: Average wizard**

the cleric and wizard) were aimed towards making money, that being the motivating factor that makes the character decide to join the adventure. Most of the declines in the subcategory happen for participants that played the rogue character. The insincerity is less obvious, as the only character that is described as outspokenly insincere is the rogue, but a decline in sincerity is seen in all characters but the bard and the barbarian.

Some players have results that are so unlike the expected outcome of the experiment that it seems to show a pattern of overcompensation, i.e. *BB1* going from a 3 to a 4.67 in gentleness, which is very unlike their barbarian character. These traits in the player could feel revalidated or even exaggerated after experiencing situations in another identity.

Barbarians have the highest average number of changes per player, perhaps because the contrast between the barbarians and the participants that embody them is the starkest. As mentioned in the results section, all players assigned the barbarian character approached the researcher to inquire whether this dumb, violent character was somehow based on them. Because this character was so inherently different from the player, the role playing was taken very seriously, which could possibly explain the average decline in both the agreeableness and emotionality of the players.

The wizard had the least changes. The average honesty/humility and emotionality has gone down, which is in line with the character, but the average extroversion of the players has gone up. The changes are so minimal that it remains hard to say what caused this, perhaps the character is poorly written, making it hard to role play. *W4* has no changes whatsoever, *W1* and *W2* both have only one. *W4* is over thirty, which is mentioned before as a pattern for minimal change. *W1* and *W2* both played their second session online and *W1* experienced technical issues throughout the session.

The barbarian, bard and rogue characters had expected changes in the average HEXACO categories, as seen in the results section. The barbarians, as seen above, declined in agreeableness and emotionality. The bards and rogues both declined in honesty/humility, the rogues more focused in honesty and the bards more in humility. This does seem to indicate some change towards the character.

A consideration to take into account is the influence of group behaviour on the role play experience of individual players. The procedure discusses different groups and whether they did or did not seem to take on a specific play style. Groups that communally gravitated towards violence

influenced the individual characters that, from their given description, would not. This concept of the group internally having characters with polarizing characteristics and motivations was intentional, as was previously described in the background. The player has to balance their social identity and their role identity, making decisions that make sense without drifting too far from the group mentality. It's interesting to see, even in these results that the same characters from different groups will diverge into an opposite direction that correlates to the play style of their group. That sociological aspect is very hard to control for the purposes of an experiment, as is shown here, where all groups were given the same characters and campaigns and all of them played differently.

A big part of this was the idea of re-socializing mentioned in the background. Most players in three out of the four groups did not know each other and were balancing making a good impression on the players as well as playing a character that would fit well into the group dynamic. We have to remember that humans find it hard to separate social scenarios from imagination, so social pressure feels real whether it happens in the fantasy frame or the gaming frame. This tension of socializing in the gaming frame influenced the decision making of the character greatly, leading to a situation where the social identity was most prominent for most of the characters as well. This was probably also in an attempt to create deeper social bonds with the party, showing common interests and creating common values.

As mentioned before, narrative can model and motivate personal values. This experiment tried to simulate that by forcing players to empathize with the character, projecting their goals and motivations onto any narrated experience. They have to try and be more courageous or adventurous or prudish or clever than they are themselves, in order to



see if any of these traits were appealing enough to influence the person. Overall, there seems to be a small indication of a pervasive effect on the perceived personality of the player after a prolonged exposure of the training condition, but the size of the set of participants is too small to determine whether this indication is truly a pattern or a coincidence. This study took an empirical approach, using a measure that highlights an abstracted view of what happened during the extensive experiment. The whole process of the experiment is outside of the scope of this report.

### **6.1 Evaluation**

There are several limitations to the experiment; With a subset of twenty participants, all results found during the analysis are early signs of patterns that would have to be tested in a much larger study. This study is time intensive, making doing an experiment like this on a much larger scale seem like an immense task. The character subsets analysed above exist out of three or four participants, making it impossible to say anything definitive about the results.

Another problem faced during the execution of this experiment was the upcoming of the COVID-19 pandemic. This crisis led to two sessions being held on an online platform, interfering with the experience of the players. This crisis also could have led to some players experiencing feelings of distress, influencing their second HEXACO test results.

The characters, although archetypal, are still up to the interpretation of the player. So choosing certain play directions (bard being poetic as opposed to flirtatious, wizards being socially oblivious as opposed to being snobby) is something that can influence the expected outcome of the experiment without being the 'wrong' type of role playing.

## **7 Reproducing the Study**

To facilitate the recreation of this study, this paper includes a collection of original characters (both player characters as well as non-player characters), maps and campaign ideas that can be adjusted to fit different executions of this experiment. Also included is a summary of the most important rules for fifth edition Dungeons and Dragons and a guide on how to read a character sheet for new players. This can be found in appendix items 1-19.

## **8 Conclusion**

In order to find a direction for the main experiment, an exploratory pilot experiment was run. This experiment was focused on the similarities and differences between a player and their character. Players took the revised HEXACO personality inventory prior to playing a session as their preferred character. These sessions lasted roughly four hours, after which the participants were asked to take the same revised HEXACO personality inventory as their characters. The results showed some interesting trends that were common for most players, alongside a steep difference between the player and the character. This difference was the biggest catalyst for the eventual research direction of this paper. The player is exposed to the character and empathizes with them in order to properly embody them. Does this exposure have an effect on the player?

This new research direction aspired to answer the research question. Does a bidirectional influence between the player and the role in the context of tabletop role playing games exist? In an attempt to answer this question, an experiment was designed that would require participants with varying role playing experience to be exposed to a character for a prolonged period of time. The objective was to find a change in the player before and after playing, specifically a change that could be traced back to the character.

Twenty participants were recruited. A zero measurement was taken, again using the revised HEXACO personality inventory. The results were analysed and noticeable characteristics were marked and grouped. Characters were written for subsets of players, all of which had polarizing characteristics from the participants. The participants were placed in groups and were exposed to the training condition, which existed of a campaign lasting roughly eight hours. Afterwards, they were asked to take the revised HEXACO personality test again. The results of the first and second test were both quantitatively and qualitatively analysed, focusing on changes that happened in the direction of the characters characteristics.

The influence of the player onto the character is implied, as the player manipulates the character in the fantasy world. A perfect separation of knowledge between the player and character is unrealistic, therefore the character in the fantasy frame will always be motivated by the player's knowledge of the gaming frame. The character is also limited by the player's abilities; they can only be as wise or intelligent as the player. Therefore the influence of the player onto the character is inevitable.

The results showed that there were small indications of a pervasive effect, especially in character relevant categories, where impactful change is more concentrated. The players and characters with the most polarizing characteristics showed the highest rate of change and categorizing these characters together shows indications of change towards the hypothesis. The either arrogant, thieving, lying or manipulative nature of the majority of the characters seems a probable catalyst for the universal drop in honesty/humility throughout the set of participants, but further research is needed to determine the full effect of the training condition.

An implication of these results can be that role playing is

not as compartmentalized as theories suggest, and can be used as an effective training condition for identity exploration. If this study was to continue, a bigger set of participants would be ideal. Also, the experiment would be recreated with different play systems than just fifth edition Dungeons and Dragons, as the variation in themes, settings, rules and characters could have a big impact on the results of the experiment. Lastly, to deepen the research question, there could be a third test several weeks after the experiment, to determine whether any lingering change happened.

## 9 Acknowledgements

First, I would like to thank Marcello Gómez-Maureira for the huge investment of time, knowledge and support he put into this thesis. He made a huge mountain of work seem manageable and I feel that he is responsible for this obligatory thesis turning into a passion project that I love and would like to continue further in my academic career.

I would also like to thank Max van Duijn for looking past my chaotic writing and thinking and offering direction when it was very much needed.

Lastly, I would like to thank my colleagues Gabe Webb, Sander de Jong and Gaia Manganello for teaching me that it's better to be miserable together.

## 10 REFERENCES

1. Dominic Abrams and Michael A Hogg. 1988. Comments on the motivational status of self-esteem in social identity and intergroup discrimination. *European journal of social psychology* 18, 4 (1988), 317–334.
2. Michael C Ashton. 2013. *Individual differences and personality*. Academic Press.
3. Michael C Ashton and Kibeom Lee. 2007. Empirical,

- theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and social psychology review* 11, 2 (2007), 150–166.
4. Frederic Charles Bartlett and Frederic C Bartlett. 1995. *Remembering: A study in experimental and social psychology*. Cambridge University Press.
  5. Patrick Bateson. 2005. The role of play in the evolution of great apes and humans. *The nature of play: Great apes and humans* 1324 (2005), 167.
  6. Wayne D Blackmon. 1994. Dungeons and Dragons: The use of a fantasy game in the psychotherapeutic treatment of a young adult. *American journal of psychotherapy* 48, 4 (1994), 624–632.
  7. Brian Boyd. 2018. The evolution of stories: from mimesis to language, from fact to fiction. *Wiley Interdisciplinary Reviews: Cognitive Science* 9, 1 (2018), e1444.
  8. Randy L Buckner and Daniel C Carroll. 2007. Self-projection and the brain. *Trends in cognitive sciences* 11, 2 (2007), 49–57.
  9. Peter J Burke. 1980. The self: Measurement requirements from an interactionist perspective. *Social psychology quarterly* (1980), 18–29.
  10. Peter J Burke. 1991. Identity processes and social stress. *American sociological review* (1991), 836–849.
  11. Peter J Burke and Donald C Reitzes. 1981. The link between identity and role performance. *Social psychology quarterly* (1981), 83–92.
  12. Roger Caillois. 2001. *Man, play, and games*. University of Illinois Press.
  13. Gordon Calleja. 2011. *In-game: From immersion to incorporation*. mit Press.
  14. Paul T Costa Jr, Robert R McCrae, and Corinna E Löckenhoff. 2019. Personality across the life span. *Annual Review of Psychology* 70 (2019), 423–448.
  15. Kay Deaux. 1992. Personalizing identity and socializing self. *Social psychology of identity and the self-concept* (1992), 9–33.
  16. Dan Dediu and Stephen C Levinson. 2013. On the antiquity of language: the reinterpretation of Neandertal linguistic capacities and its consequences. *Frontiers in psychology* 4 (2013), 397.
  17. Lisa A DeRenard and Linda Mannik Kline. 1990. Alienation and the game Dungeons and Dragons. *Psychological Reports* 66, 3\_suppl (1990), 1219–1222.
  18. Merlin Donald. 1991. *Origins of the modern mind: Three stages in the evolution of culture and cognition*. Harvard University Press.
  19. Daniel Dor. 2015. *The instruction of imagination: Language as a social communication technology*. Foundations of Human Interacti.
  20. Robin IM Dunbar and John AJ Gowlett. 2014. Fireside chat: the impact of fire on hominin socioecology. *Lucy to language: the benchmark papers* (2014), 277–296.
  21. Suzanne Eggins and Diana Slade. 2005. *Analysing casual conversation*. Equinox Publishing Ltd.
  22. Gary Alan Fine. 2002. *Shared fantasy: Role playing games as social worlds*. University of Chicago Press.
  23. Barney G Glaser and Anselm L Strauss. 1964. Awareness contexts and social interaction. *American sociological review* (1964), 669–679.

24. Erving Goffman. 1975. Role-distance. *Life as Theater: A dramaturgical sourcebook* (1975), 123–132.
25. Leo A Goodman. 1961. Snowball sampling. *The annals of mathematical statistics* (1961), 148–170.
26. Peter Gray. 2009. Play as a foundation for hunter-gatherer social existence. *American Journal of Play* 1, 4 (2009), 476–522.
27. Lynn Hunt and others. 2007. *Inventing human rights: A history*. WW Norton & Company.
28. Jerome Lewis. 2009. 13 As well as words: Congo Pygmy hunting, mimicry, and play. *The cradle of language* 12 (2009), 236.
29. Stephen L Lortz. 1979. Role-playing. *Different Worlds* 1, 1 (1979), 36–41.
30. Daniel Martin and Gary Alan Fine. 1991. Satanic cults, Satanic play: is Dungeons and Dragons a breeding ground for the Devil? *The satanism scare* (1991), 107–23.
31. J McCall George and Jerry L Simmons. 1978. Identities and interactions. *New York* (1978).
32. Marvin Minsky. 1980. Telepresence. (1980).
33. Markus Montola. 2009. The invisible rules of role-playing: the social framework of role-playing process. *International journal of role-playing* 1, 1 (2009), 22–36.
34. Steven Pinker. 2012. *The better angels of our nature: Why violence has declined*. Penguin Group USA.
35. Kurt Riezler. 1941. Play and seriousness. *The Journal of Philosophy* 38, 19 (1941), 505–517.
36. Giuseppe Riva, Fabrizio Davide, and Wijnand A IJsselstein. 2003. Being there: The experience of presence in mediated environments. *Being there: Concepts, effects and measurement of user presence in synthetic environments* 5 (2003).
37. Marie-Laure Ryan. 2001. Narrative as virtual reality. *Immersion and Interactivity in Literature* (2001).
38. Daniel L Schacter, Donna Rose Addis, Demis Hassabis, Victoria C Martin, R Nathan Spreng, and Karl K Szpunar. 2012. The future of memory: remembering, imagining, and the brain. *Neuron* 76, 4 (2012), 677–694.
39. Daniel Smith, Philip Schlaepfer, Katie Major, Mark Dyble, Abigail E Page, James Thompson, Nikhil Chaudhary, Gul Deniz Salali, Ruth Mace, Leonora Astete, and others. 2017. Cooperation and the evolution of hunter-gatherer storytelling. *Nature communications* 8, 1 (2017), 1–9.
40. R Nathan Spreng and Cheryl L Grady. 2010. Patterns of brain activity supporting autobiographical memory, prospection, and theory of mind, and their relationship to the default mode network. *Journal of cognitive neuroscience* 22, 6 (2010), 1112–1123.
41. Kim Sterelny. 2012. *The evolved apprentice*. MIT press.
42. Jan E Stets and Peter J Burke. 2000. Identity theory and social identity theory. *Social psychology quarterly* (2000), 224–237.
43. Harsh Suri and others. 2011. Purposeful sampling in qualitative research synthesis. *Qualitative research journal* 11, 2 (2011), 63.
44. John C Turner, Michael A Hogg, Penelope J Oakes, Stephen D Reicher, and Margaret S Wetherell. 1987. *Rediscovering the social group: A self-categorization theory*. Basil Blackwell.

45. Ralph H Turner. 1978. The role and the person. *American journal of Sociology* 84, 1 (1978), 1–23.
46. Blakey Vermeule. 2010. *Why do we care about literary characters?* JHU Press.
47. David Waldron. 2005. Role-Playing games and the christian right: Community formation in response to a moral panic. *The Journal of Religion and Popular Culture* 9, 1 (2005), 3–3.
48. Dennis Waskul and Matt Lust. 2004. Role-Playing and Playing Roles: The Person, Player, and Persona in Fantasy Role-Playing. *Symbolic Interaction* 27, 3 (2004), 333–356.
49. James Wyatt, Robert J. Schwalb, and Bruce R. Cordell. 2014. *Player's Handbook*. Wizards of the Coast. <https://books.google.nl/books?id=ZjzjoAEACAAJ>