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Narra Ludens:

Explaining Video Game Narrative Engagement Through Player Types and Motivations

Sercan Şengün

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Narra Ludens: Explaining Video Game Narrative Engagement Through Player Types

Narra Ludens: Video Oyun Anlatıları ile Etkileşimin Oyuncu Türleri Üzerinden Açıklanması

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ABSTRACT

This study aims to understand the behaviours of video game players regarding different narrative components inside video games. A branch of academic game studies called player type resarch seeks to understand why and how different players engage with video games. Various previous player type research offered a category of gamers commonly known as "narrative" or "fantasy" player type, yet failed to address the behaviours of this type in detail. To explain narrative players, the methodology of textual analysis on user reviews was chosen. The study gathered 1690 user reviews from Steam platform about 18 video games that were determined as the most popular games with narrative components in the first quarter of 2016.

The reviews were run through a semantic cluster and a valence analysis. Initially they were divided into clusters of narrative components, then the valence scores of each components were calculated. This provided the quantitative data of what components were leading the players' perceptions of the games, and how the players approached to each cluster sentimentally. However to understand the player types, a proximity analysis was performed on valence/cluster data. This analysis outlined five narrative player types. Tracing back to manually analysing selected reviews of these types, the types were named and their behaviours were explained through the clusters that they demonstrated low, high, and median valence scores to.

ÖZET

Bu çalışmanın amacı video oyunları içindeki farklı anlatısal bileşenlere karşı oyuncuların davranışlarını daha iyi anlamaktı. Akademik oyun çalışmalarının bir bölümü olan oyuncu türleri araştırmaları oyuncuların neden ve nasıl oyunlarla ilişki kurduğunu anlamaya çalışır. Daha önce yapılan çeşitli oyuncu türü araştırmalarında "anlatısal" (narrative) ya da "hayalci" (fantasy) diye isimlendirilen bazı oyuncu türleri ortaya çıkmış ancak bunların davranışları yeterince ayrıntılı açıklanamamıştı. Anlatısal oyuncuları daha iyi anlamak için oyunların kullanıcı yorumları üzerinde metinsel bir analiz yapma metodu seçildi. Çalışma için Steam platformunda 2016'nın ilk çeyreğinin en popüler anlatısal bileşenlere sahip 18 oyunundan 1690 adet kullanıcı yorum yazısı toplandı.

Yorumlar bir anlamsal ve bağdeğer analizine sokuldu. İlk olarak yorumlar anlatısal bileşenlerin bazında kümelere parçalandı, sonra da her bir kümenin bağdeğer puanı hesaplandı. Bu analiz oyuncuların oyunlarda kullanılan anlatısal bileşenler hakkındaki algılarını ve oyuncuların her bir bileşene nasıl bir duyarlılıkla yaklaştığını ortaya koydu. Ancak anlatısal oyuncu türlerini ortaya çıkarmak için bağdeğer/küme verisi bir yakınlık analizine sokuldu. Bu analizde beş farklı anlatısal oyuncu türü ortaya çıktı. Bu türlerin seçilen yorumları okunarak, türler isimlendirildi ve kümelere karşı gösterdikleri düşük, yüksek, ve ortalama bağdeğerlere bakılarak davranışları açıklandı.

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ABBREVIATIONS

3D	: Three Dimensional
AAA	: Triple-A Games, a term used for games with high production and marketing values
AI	: Artificial Intelligence
ASCII	: American Standard Code for Information Interchange
eSports	: Electronic Sports
IDN	: Interactive Digital Narratives
InSoGa	: Intensity, Sociability, and Games Model
LHN	: Living Handbook of Narratology
MBTI	: Myers-Briggs Type Indicator
MDA	: Mechanics – Dynamics – Aesthetics
MMORPG	: Massively Multiplayer Online Role Playing Game
MOBA	: Multiplayer Online Battle Arena
NPC	: Non-playable Character
PU	: Perceived Usefulness
PEOU	: Perceived Ease of Use
UGT	: Uses and Gratification Theory
VR	: Virtual Reality

1. Introduction

The purpose of this thesis is to contest the typical video game player type research approach, that congests gamers who engage with video games through the game's narrative, into a unified category as if all video game narrative engagement is homogeneous.

This initial chapter provides an introduction to the problems of several definitions associated with the study area; mainly the core nature and limits of video games as a medium, and how narrativity remains a contested discourse within the field. The chapter also provides an introduction to video game research and methods utilized.

The title of the thesis is a word play which combines Huizinga's fundamental book *Homo Ludens* (1955) that defines humanity through its affinity to play and games, and Niles' work *Homo Narrans: The Poetics of Anthropology of Oral Literature* (2010) that defines humanity through its roles as the narrator and the narratee. The combined concept, *Narra Ludens,* is used in this work to represent the video game players who mainly engage video games through the game's narrative components. They are the storytellers / story listeners who like to play – the humans who like to play with stories.

1.1. Structure of the Thesis

The thesis presents six chapters titled; *Introduction, Composing a Context Cluster for Narratives, Video Game Engagement and Player Type Research, A Joint Model for Narrative Players, Research Method for Uncovering the Motivations of Narrative Players*, and *Results and Discussion*. There are also two appendices provided; (A) *Steam Game Tags (as of February 2016)*, and (B) *AFINN-111 Word List by Finn Årup Nielsen (as of May 2016).*

Chapter 1, *Introduction*, provides the discussions about the relationship between narrative and video games as a medium. The

complexities of defining the narrativity inside video games is presented, as well the complications of the definitions of a video game, and its players as narrative entities.

Chapter 2, *Composing a Context Cluster for Narratives*, summarizes the theories of traditional narratives, and interactive narratives to determine the important components that dominated the definitions of a narrative.

Chapter 3, *Video Game Engagement and Player Type Research,* compiles a snapshop of the contemporary player type research. The results of each study is outlined. Consequently, the chapter merges all the research into a single player type matrix to underline the discordance of narrative player types.

Chapter 4, *A Joint Model for Narrative Players,* discusses all the designated narrative components and sub-concepts associated with them, as originated from Chapter 2. The result is a context cluster of narrative concepts that was utilized to analyse the user reviews.

Chapter 5, *Research Method for Uncovering the Motivations of Narrative Players*, provides the quantitative information about the data and data collection. An outline of research methodologies is also given with sample results.

Chapter 6, *Results and Discussion,* reveals the results of the analysis and summarizes their findings. The study proposes five player type of its own, that explain the behaviour of gamers related to video game narratives.

1.2. Narra Ludens; the Elusiveness of Narrative Gamers

Almost a decade ago narrative and playing were proposed as an oxymoron duo. An academic battle of words, aptly deemed as *narratology / ludology debate,* occupied the field of video game studies, effectively making the study subject more visible for scholars of various disciplines. The debate mainly inquired the legitimacy of this relatively new medium as

a stand alone study field, and tried to uncover its relations (or distinctions) with the previous cultural forms. The so called ludologist faction focused on the field of game studies as a self governing discourse that had little ties with previous forms, and rejected the attempts to explain them with established theories such as literary or film. Academic work of researchers such as Aarseth (1997), Adams (1999), Frasca (2001; 2003), Juul (2001), Eskelinen (2001), and Pearce (2002), sought to propose new approaches to understanding video games, that would not rely on previous theorethical frameworks and study fields – some of which they deemed as attempting to colonise the field from outside (Aarseth, 2001). The ludologists proposed the narrative segments (such as cutscenes) and the ludic parts of the games as detached entities, and as interrupting each other's flow. From a ludologist point of view, the production of a game is a process that focuses on amplifying the ludic (or interactive) parts of the game and narrative is not what the users of interactive media attach with inside games (Forrester, 1996).

Narratologists, on the other hand, focused on the storytelling power and potential of games and tried to understand the medium with literary approaches and theories. Researchers such as Laurel (1991), Murray (1997), Ryan (2001), Wolf (2001), Atkins (2003), and Monfort (2004) underlined the narrative as an important asset in meaning making mechanisms of video games. Plowman (1996) suggested that although the new medium had its own characteristics, the duplication of familiar narrative conventions from previous media could still constitute a coherent experience for playes. In this regard discourse models for literary analysis and film studies became partially applicable to video games, if not complying completely. For example, Genette's construct of *histoire, récit* and *narration* (1983) was suggested to be applicable to the branching structures of video game narratives (Şengün, 2013c).

Almost a decade after this debate, the viewpoints of narratologists and ludologists seem to be merging into more productive theories and

perspectives (Frasca, 2003; Mateas, 2005; Koenitz, 2014). The standpoint that will be taken in this work also represents a synthesis; while it is accepted that video games are very different from other media in their capacity to be ludic, simulative, and structural, they also rely not only on rules but heavily on storytelling elements to create meaning. In fact, it seems possible to concur that many of the ludic and structural elements in video games are often created to simulate storytelling in its new and traditional forms. As artifacts of culture, communication, and computation, video games cannot be abbreviated into neither rules nor narrative elements only (or even a pre-formulated combination of both). Instead it requies the researcher "*...to go back and forth continually between the designer and the user, between the designer's projected user and the real user, between the world inscribed in the object and the world described by its displacement*" (Akrich, 1992, p. 208). In any case though, the results of the merging of narratology and ludology, creates a game studies environment which is more diverse and inclusive, and one which approaches the medium of video games from many disciplines and critical discourses.

It should also be noted that this debate took place in the beginning of the millenium, much before the rise of mobile and casual games, pervading of the online communities, video games cementing their presence in the transmedia universes, rising of VR, popularity of eSports, and art and experimental games gaining exposure in distribution platforms such as Steam. Much as Malaby notes that "*...we cannot simultaneously use [the concept of play] reliably as a label for a kind or form of distinct human activity*" (2007, p.100), it also becomes harder and harder for the concept of video game to reliably draw borders around a predefined computational or cultural form. For each defined genre or synthesis of video game definition, a rebellious product is already in the production process. The standpoint of the ludologists which could be described as an obsession on the purification of video game form (Keogh, 2014), has become almost impossible to maintain as the form had already blended with outside forms, texts, technologies, and target audiences beyond recognition.

Among this cacaphony of forms however there have always existed a considerable amount of video games that focused on finding new ways to tell good stories inside the medium, and with them, the players who found these games engaging. This work tries to explain these players in regards to their fascination with the form, but not the context. Obviously these players may have preferences geared towards the content of these narrative video games (such as genre, story setting, etc.), however the structural ludic nature of the video games also suggests that they must also have preferences or connections to certain presentations of narrative inside the specific medium – a focus on not what story was told, but how it was told.

1.3. The Elusiveness of Narrative in Video Games

One of the prominent criticism of the narratology approach still seems to stand valid today; "*narrativists seem to systematically fail to provide clear, specific definitions of what they mean by narrative*." (Frasca, 2003, p. 96). Eskelinen (2012) announces all video game narrative research that fails to provide a clear definition of narrative as "*non-academic*". The concept of narrative is one of those slippery grounds in humanities where a Wittgenstein's (1961) semiotic anxiety and/or aberration is born; the word exists but its meaning is conflicted. While talking about narrative then, it sounds like, from Bernstein's quote of Geertz, we know of words but not of minds (Geertz, 1974).

The meaning of narrative is even more conflicted inside the medium of video games, etymologically stuck between the story and discourse – between what and how. As much as new terminology arises to compensate for how narrative is dismembered inside the medium, an expressive and interdisciplinary distinction between the story and its telling still seems amiss. Academicians like Koenitz avoid terms like storytelling (2016) and prefer conceptual framings like IDNs (Interactive Digital Narratives) to avoid further confusion (2015).

This discrepancy has also been the source for another ludologist criticism of narratology; since in many cases the narrative elements used in video games such as characters, settings, and events, proved to be forming unsophisticated, insufficient or inadequate stories, they deemed to not have true stories at all, thus stripping the medium of its ability to be a narrative form (Aarseth, 2004; Juul, 2001). What this outlook misses is that the story is only a part of the narrative discourse, and in spite of being very central, in its absence the form might still take precedence. The problem arises when one endorses the concept of narrative, identical as the concept of narrative arc. Ideally narrative arcs have structures such as setup, development, resolution, and etc. (Thompson, 1999). Yet this structure, which has its roots in the Aristotelean story structure, is actually one of the prominent forms of narrative, and not the entirety of the concept of narrative. Consequently, the question of "*is it a narrative*" becomes "*does it have a narrative arc*", and as a result, the value of video games as interactive narratives suddenly start on depending whether the arc can observed, drawing an inaccurate frame for thinking about video game narratives.

In any case, this raises an opposite question of gameness; in either case of forming a sophisticated narrative experience or not, the process could not become a checklist for a method to decide whether something is a video game or not. The meaning of play, the meaning of narrative, and the meaning of playing a narrative are all inside the lived experience, but in different set of priorities. These priorities could be intended to be arranged by the developer, yet the players also have a tremendous say in it. As much as the games might contain inherent tools to generate narrative meaning, this could easily be bypassed or enhanced by the players. The players might forfeit all meaning where there is much, or generate meaning where there is none. As Malaby puts it; "*an overly determinative reading of games as generative of meaning [such as in the narratologists' approach] often elides the potential for transformations of meaning grounded in the contingent practice of games*" (Malaby, 2007, p.106).

This approach uncovers the possibility of a novel methodology; looking at the players, instead of looking at the games to explain the borders of narrative inside the medium. For this reason, this work aims to use player produced content to understand narrative engagement inside video games, yet before attempting to explore and explain the narrative players, a context cluster or a tree of concepts for the traditional and interactive digital narrative theories is seemingly in need.

1.4. The Elusiveness of the Definiton of Video Games

The medium of video games was often accused of being immature (Wajcman, 1991). Not only for many people who are foreign to the field, video games may seem like a past time for children, but also for people who are informed about them, the majority of games may seem like teenage male fantasies brought to life. This ranges from the dominant genres (like shooting, racing, fighting), to the choice of protagonists, and from the foundations of narratives (rescue the princess), to how these stories are handled. However, a change in the medium has been signalled for the last few years as casual gamers and women take on the majority of video game players (Jayanth, 2014). The reflection of this subtle change inside the industry is the rise of more inclusive games featuring more diverse characters and alternate subjects, that require distinct emphasis on critical evaluations (Juul, 2010; Hjorth and Richardson, 2009; Parker, 2014). It may be understandable when these avant-garde or marginal works are trivialised by 'old-school' gamers, yet when casual games with uncompelling mechanics and seemingly diverse consumer segments acquire huge financial success (mobile games like *Candy Crush* or *Kim Kardashian: Hollywood* are good examples), the definition and the cultural boundaries of video games become contested.

Keogh describes this duality of players as *Hackers and Cyborgs* (2015). Hackers originate from early video game designers and players, who were involved with video games from their interest in computers and technology. Not surprisingly, the games they produced and enjoyed were

based in mastering the mechanics, focusing on the pleasure of control and skill privilages. For this group of players it becomes irritating when art games, non-games, or passive narrative games like *Dear Esther* or *Gone Home* start to invade the domain of video games, and gain recognition. Cyborgs on the other hand are described as cooperatively integrating with whatever is at hand, even if there isn't anything specifically to 'do' in the game – which results in having the motivation to enjoy the "*textual and phenomenological*" side of games as well (Keogh, 2015).

Table 1. Features of Video Games: A Comparative Definition

Celia Pearce (2002, p.113)	Jesper Juul (2003)	Chris Crawford (1984)
A goal (and sub-goals)	Investing for a desired outcome	
Obstacles (preventing the player from reaching the goal)		Conflict
Resources (helping the player to reach the goal)		
Rewards	Variable, quantifiable outcomes and values assigned to them	
Penalties (more obstacles that appear when previous ones were not successfully avoided)		
Information (known to game, players, or progressive information)	Rules	Representation (rules and reality simulation)
	Emotional attachment to the goal	
	Negotiable consequences to real life	Safety (consequences less harsh on real life)
		Interaction

While the definition of games as cultural and social phenomenon gets more and more complicated, their stature as media artifacts still seems explicable. Juul describes games as a resultant of rules and fiction (2005) – two direction that are in cooperation and competition (Table 1). This outlook defines the fictional universe of the game as means for implementing rule sets of the game. The inclusion of a fictional universe is first and foremost about creating a spatial interface for the player to experience and experiment with whatever rulesets are behind the software code. What Juul does not dwell on too much, but could be distilled from this outlook is that the opposite might also very well be true. The rules might also become an interface to experience and experiment on the fiction, and first and foremost inherent the purpose of telling a story. In any case, this mutual interaction is not denied. Juul's illustration of the 'half-real' existence pulls the player inside the definition, as fictional spatiality becomes the appliance through which the player gains agency over the virtual while staying as a real world entity.

Elson et *al.* (2014) adds a third layer over Juul's definiton; the context. According to their definition video games have rules (mechanics) and fiction (narrative), but they also have context depending on the way they are played. For example, video games that have social features are effected by the social context in which players interact with each other. Games like *World of Warcraft* or *League of Legends* don't only have rules or fiction but they are also adaptive to the social interactions taken inside or outside the game. In fact, their experience heavily relies on interaction which is taken outside the borders of the ruleset or fictional universe. This is a main part of the game experience and can only be governed by the game developers to a certain degree (Taylor, 2002). Many mobile games on the other hand are effected by the context of time and financial purchase; their content change over time as developers of the game provide changes in the rules and fiction depending on the passage of time and the financial habits of their users. Then, it would be incomplete to analyze free-to-play mobile

games just depending on their rules and fiction, as their revenue models play a dominant factor in their overall experience as games (Alha et *al.*, 2014).

1.5. More on the Narrative Language of Video Games

While talking about the language of movies, Metz (1974) suggests that it is impossible to achieve a comprehensive grammar of the art. He concludes that the abstraction of written text is inapplicable inside the visual and aural world of cinema. As much as the text tries to 'tell' the fictional world as detailed as possible, the film tries to 'show' instead of creating mimetic experiences (Mamet, 1992). Video games use both of these tactics and more. Text and video are used frequently in video game narratives, yet even more importantly 'tell' and 'show' is superseded by 'do'. Instead of fiction being told or shown, it becomes something to be participated in – video games have the capacity to do these all simultaneously and intertwined. Mimetic, diegetic, and participative elements can all be nested inside each other and interact freely – a characteristic which creates infinite possibilities for the storyteller / developer and obstructs the refinement of a methodology of creating a video game language. Manovich (2001) approaches this hardship by replacing narration with narrative action and exploration, indicating that it would be fallible to think of video game narrative as the same concept as traditional narrative;

> "*Instead of narration and description, we may be better off thinking about games in terms of narrative actions and exploration. Rather than being narrated to, the player herself has to perform actions to move narrative forward: talking to other characters she encounters in the game world, picking up objects, fighting the enemies, and so on. If the player does not do anything, the narrative stops*." (p. 247).

The participation of audience has been an issue in many media prior to video games, especially the way the producers textually encode media products and the ways audiences decode them (Hall, 1980). However, inside prior media, as Kellner puts it; "*to romanticize the 'active audience' by*

claiming all audiences produce their own meanings" would be a mistaken tendency (Kellner, 2005, p.15). This romanticization is half-true in video games, since players can be nothing but active inside the medium to explore the fiction space of the game, however they may still be passive receptors of cultural and ideological aspects of the content. While some games with minimum interaction (often called 'idle games') can still complicate the perception, 'no interaction' seems to be a frontier not exceeded inside the definition of video games (Khaliq, 2015). Games seemingly need to at least employ a textual activity – one which Aarseth (1997) calls 'extranoematic', a non trivial effort which manifests outside the subconscious. To be more precise it is possible to conclude that "*[games] have varying levels of interactivity, which demands that players make choices, choices which can then alter (sometimes very distinctly) the story or experience of a particular game*" (Consalvo, 2005).

Table 2. A characteristic comparison of media by Ritterfeld and Weber (2006, p. 401)

Characteristics of Medium	***Books***	***Television***	***Video Games***
Narrativity	Yes	Yes	Yes
Simulation	No	Yes	Yes
Interactivity	No	No	Yes
Intelligence	No	No	Yes

Lee et *al.* (2006) define three main views on the definition of interactivity and it becomes important to distinguish the interactivity of the video games medium as well as what it is meant when one uses the term interactive narrative. These three main approaches to interactivity are; technology oriented, communication setting oriented, and individual oriented. In technology oriented approach interactivity is defined as a characteristic or an extension of specific mediated environments (Biocca, 1998; Steuer, 1992). This approach however ignores the use cases of the

media, such as users selecting the extent of the interactivity they experience within it (Table 2). For example, two individuals playing a complex fighting or simulation game may experience different levels of interactivity depending on their efficacy of the game and medium in general. In the communication setting approach interactivity is defined as an exhange of information and a relationship organized by constrictions (Rafaeli, 1988; Rafaeli & Sudweeks, 1997). Rafaeli's definition compresses all interactivity offered by a computer at a certain time into a single entity that is interacting with the player. The description also values the existence of information in all interaction levels that then later begs the identification of information passed by any and all video game actions. Finally, individual oriented approach can be described as "*the degree to which participants in a communication process can exchange roles and have control over their mutual discourse*" (Rogers, 1995, p. 314). Individual oriented approaches are understandably harder to apply to human-computer interactions since they assume self-conscious partners on either side, who would perceive and regulate the process.

Lee et *al.* (2006) conclude that in its current state interactivity theories fail to define video game interactivity properly and propose to define it as "*perceived characteristic of a communication act, which varies according to a communicating actor's perception [and] a constructed characteristic of a communication act according to an individual's perception*" (p. 263). This approach allows us to define the interactivity of a (video game) narrative, not as an inherent attribute but as the motivation of the player to go to extents in experiencing the medium. This conclusion also points to the analysis of player perceptions to define video game narrative instead of searching for a detached and inherent definition.

In terms of video game narrative, the definition problem centers around the issues of encoding and decoding. Since video games allow their audience to be hyper active inside the medium, the players have the ability to completely deny the textual information or content confined within the

game's code and use the software as a tool for their own ends of meaning making. Jenkins (2004) differentiates between these domains as embedded and emergent narratives. Embedded narratives are encoded content; the snippets of text, visual, video, and storytelling embedded within the fictional space by the developers, in the purpose of allowing the player to find and experience them, resulting in the construction of a story more or less intended by the encoder. Emergent narratives on the other hand are decoded narratives, those that arise during the play time by the participation of the player. They may or may not include the embedded components, be intentional or unintentional, foreseen or unforeseen. Calleja (2009) offers the concepts of scripted narratives and alterbiographies, as a similar duo. While scripted narratives match more or less with the concept of embedded narratives, the alterbiographies have minor differences with emergent narratives. Calleja associates alterbiography practices with player personalities and points out that this is a personal narrative built around game experiences that fundamentally retains its language over different games, since it is coalesced with a personae rather than a game. This coincides with Ryan's (2004) implication of destiny ruled autotelic game world, in which the player is self-motivated to interact, solve, and progress, while creating a personalized textual setting.

Deriving from Fludernik's (1996) natural narratology, Ensslin (2015) describes video games as 'unnatural narratology', a distinction which operates on two different layers; the story level and the discourse level. On the story level, unnatural narratives may include "*multiple contradictory endings of a story, or two parallel timelines that unfold at different speeds*" (Ensslin, 2015, p. 47). On discourse level however they are anti-mimetic, deviating in narrative design and sequentialisation. Thinking about character death and rebirth in video games, saving and reloading, and the phenomenon of universe at pause (the common occurence in narrative games, where the whole fiction universe is stuck in a condition until the player finds the right action) (Şengün, 2013b) supports Ensslin's approach

of unnatural narratives, as well as Jenkin's emergent narratives where each game play experience produces a different narrative in itself.

1.6. An Introduction to Video Game Research

The incompatibility of the video games with traditional entertainment theories causes special hardships as well as academic pitfalls in the quest to understand the medium. The primary suspect that causes this incompatibility have been offered as interactivity (Vorderer, 2000). The concept of interactivity incorporates the users into the equation, rendering their position as the passive content receptors obsolete. The process of playing a video game is a more personalized experience as both the game and the playing of the game have the potential to develop into modified continuums.

Sellers (2006) lists various forms of interactivity as; perceptual and physical interactivity (repetetive and rhythmic), short-term cognitive interactivity (overcoming proximate objectives), long-term cognitive interactivity (strategy building), social interactivity, and cultural interactivity (long-term change or learning of cultural perceptions). Video games share some of these interactivity forms with other entertainment media while stressing on some specific types. Perceptual and physical interactivity seems to be the featuring form of interactivity in video games since many games are based on instant decisions and fast feedback, however short-term puzzle or challenge solving and long-term strategy making are also among the interactive strategies offered.

As important as interactivity though, another distinct question is the way fun or arousel has been defined as a cognitive process in previous entertainment theories that have discordant aspects with the way video games are experienced (Grodal, 2000). The gratification felt by players in regards to challenge and competition is a concept that seems hard to describe with traditional entertainment models, as entertainment is supposed to be offered as easily accessible and simpflied. The proposals such as

individuals turning to entertainment media to alleviate their feelings of upset into feelings of cheer (Oliver, 2003) are most of the time difficult to replicate inside video games, as many games provide formidable and highly involving mental and physical challenges, in which case the arousel obtained can hardly be associated with the traditional formulation of fun.

Grodal's (2000) conclusions that in seeking media use, individuals would be motivated to avoid negative stimuli and seek positive stimuli within a hedonistic perspective were explained under four other elements; excitatory homeostasis, intervention potential, message-behavioral affinity, and hedonistic valence (Bryant and Davies, 2006). Excitatory homeostasis is the behaviour of choosing entertainment based on the personal optimal level of arousal. For video games, this arousal is mostly not described as fun but as excitement (Griffiths and Hunt, 1995). This arousal may be a reaction to the ludic success achieved by the player or a reaction to the narrative or centextual content of the game (most of the time, action and violence) (Dietz, 1998). The intervention potential is the potential of a message to be detected by the user of the media. The intervention potential of video games is seemingly higher than previous media, as video games constantly require the attention of the player who feels compelled to focus on the animated images on the screen (Detenber et *al.*, 1998). This potential is bound to be relatively higher to film and television since keeping the track of happenings on the screen is an important aspect of success inside the medium. Message-behavioral affinity could be explained as the harmony between the context and the emotional state of the user. As an example children who experienced conflict with their peers regularly, are reported to be easily impelled to video games with violent content (Slater, 2003). Finally, hedonistic valence reflects the positiveness or negativeness of a media message. Measuring of valence then becomes an important factor towards the understanding of media selectivity.

The third distinctive feature of video games that set them apart from previous media is referred as presence or telepresence. The concept of

immersion is also sometimes used interchangeably with presence and they have a particular importance in the video games medium, related to the entertainment theory (Klimmt and Vorderer, 2003; Tamborini, 2000). (Tele)presence is described as "*a mediated experience that seems very much like it is not mediated; a mediated experience that creates for the user a strong sense of presence*" (Lombard and Ditton, 1997, p.1). Presence is a fragmented concept, with distinctive non-standardized applications across different media. Tamborini (2000) argues that inside video games presence has two essential attributes; involvement and immersion. In a later work the concept of vividness is also added to this list (Tamborini and Skalski, 2006). It is suggested that spatiality, visual cues, and other sensory input is the leading elements of presence in video games. As much as there is difference in the experience of presence within different kind of media, characteristics and perceptions of individuals are also reported to be regulating the effects of presence (Ijsselsteijn et *al.*, 2000).

These fundamentally distinct features led researchers to explain the layers that video games are percieved by the individuals. Smith (2006) defines the aesthetic value of video games in terms of visual, auditory, and tactile features. The visual and auditory components are the primary gateway for the player into the game world yet the tactile stimulation of controllers also define the gaming experience in various ways. All of these components merge together to engulf the player within a perceived and coherent alternate reality, thought not necessarily in the sense of simulating the reality. Nitsche (2008) describes the five planes of video game experience; rule-based (game rules, code), mediated (the visual presentation of the game on the screen), fictional (the game space as imagined by the player, typically more livelier and with added meaning), play (the space occupied by the player and the controller) and social. As Nitsche puts it; "*[...] in order to provide a fluent gaming experience, they all have to work in combination*" (p. 16).

However, realism has been a holy grail for recent video game production, as technology allows developers to create more realistic games (Bracken and Skalski, 2009). As research shows, this quest for realism is mostly focused on visual (Schwartz, 2006) and aural (Kramer, 1995) sensory experiences of the games. Shapiro et *al.* (2006) discuss realism, in contrast with perceived realism – and discuss perceived realism in forms of absolute perceived realism and relative perceived realism (Shapiro and Weisbein, 2001; Shapiro and Chock, 2003). Absolute realism is how the media consumer judges an event in a media narrative based on its probability to happen in real life. In this aspect most fantasy settings lack absolute realism, as well as almost all video game settings. Whether they might be taking place in the real world (such as military simulations like *Call of Duty*, sports simulations like *FIFA*, or racing simulations like *Need for Speed*), there will always be a suspension of belief element (such as in *Call of Duty* soldiers carrying unrealistic amount of weapons, and having life points that allow them to get shot and not die, or die and respawn). Relative percieved realism on the other hand is the setting or narrative keeping true to its form and be coherent in its own discourse. This very much defines the realism form found inside video games, since video game worlds are governed by structural rules that focuses on keeping the world simulation coherent. As a conclusion Shapiro et *al.* (2006) define a conceptual realism that video games might need to focus on more than or as much as sensory realism. This kind of realism encapsulates "*the conceptual and more abstract elements that go into the judgement [of realism in video games]*" (Shapiro et *al.*, 2006, p. 285).

Through a quantitative research Ribbens and Malliet (2011) define seven characteristics that govern the perception of reality in video games;

- Simulational realism; is the case where the rules of the simulated world is as close to daily life as possible,

- Freedom of choice; is the degree of freedom offered to the player inside the game world that supports the illusion of unmediated experience to the maximum,
- Character involvement; is the identification feeling of the player as she embodies a character,
- Perceptual pervasiveness; is the visual and aural ability of the video game to create a compelling reality,
- Authenticity regarding subject matter; is the diegetical authenticity of the world in the screen and its real life precursors,
- Authenticity regarding characters; is the ability or scripting of the on screen actors to make meaningful decisions,
- Social realism; is the perception of the video game reality as it pertains to the social connections experienced by the player.

From a designer's point of view one of the most prominent frameworks to understand video games is MDA (Mechanics – Dynamics – Aesthetics) (Hunicke et *al.*, 2004). The significance of MDA is the fact that it associates the aesthetics value of video games with the concept of fun, while describing fun in eight distinct but synergistic player types; sensation, fantasy, narrative, challenge, fellowship, discovery, expression and submission. A reflection of this categorization in previous entertainment media may approximate to genre theory. While in previous entertainment media like TV and film, genre is the defining factor in compartmentalization, in video games the categorization is not the consequence of the content but of behavioral context.

In fact, since video games operate on different planes like Nitsche's (2008) model, this behavioral context could be applied on all individual planes of engagement as well as the overall game experience.

1.7. Summary

This chapter began with outlining the narratology vs ludology debate in video game studies. The debate underlined the compatibility and

incompatibility of video games with narrativity. It has been suggested that the definitions of the video games medium and narrativity within it, are discourses in motion. The chapter also provided a summary of video game research, the field's relation to the previous media studies.

The next chapter provides a review of the literature of narration, first from a traditional approach, and then inside interactive environments. Various definitions of narrative are scrutinized.

2. Composing a Context Cluster for Narratives

This chapter will outline the theories on traditional and interactive narratives ranging from classical Aristotelean approach, to contemporary media narrative theories. The theories of traditional and interactive narratives will be fused together to understand how narrativity may operate inside video games.

As stated previously, to analyze the narrative perceptions and definitions within the video game genre, a context cluster (or a typology) of narrative is needed. From a Weberian approach one way to build such a comprehensive cluster is to infer codes from a selected theory and compare relevant studies with the resulting codes. Alternatively, as a more generalized method, it is possible to find key studies that would sample the studies made in the discipline (Grémy and Le Moan, 1976). The approach of this study is the latter inductive process, which will analyze theories of narratives, interactive narratives, and video game narratives. The resulting codes will be fused together to create a singular cluster that points to the essential components which explain narratives.

Robert and Shenhav (2014) created two different typologies to study and analyze narratives; status approach and perspective approach. The status approach defines narratives as a part of human existence and as a stand-alone representational device. The first definition forms one of the basis for the name of this work; *homo narrans*. As popularized by Fisher (1989) the term clarifies that "*[...] through narrativity that we come to know, understand, and make sense of the social world*" (Somers, 1994, p. 606). The perspective approach defines narratives as paradigms, axiologies, analytical procedures, and research objects. These categories underline the importance of narrative not as a stand-alone entity but also as characteristics of objects that manifest stories (Foss, 2008). In this light, video games can

be accepted as containing narrative objects or entities not as methodology but as content.

2.1. Traditional Narrative Theories

The narratives have long been accepted as cognitive constructs that orientate human thinking and culture building (Gee, 1989; Scollon and Scollon, 1981; Donald, 1991; Minami, 2002). According to Rogoff (2003) "*the narrative structure that is valued in each community gives form to the ways that people express ideas in conversation and writing*" (p. 269). This cultural approach also reverberates how individuals assess ideas, ethics, and other values. Consequently, how cultures form narratives would effect their imagination, figurative perception, and finally, play culture. According to White (1980) human beings are narrative creatures and they possess a natural urge for storytelling. Mishler (1995) also underlines that the way we "*story the world*" has a great impact on our construction of life and reality (p. 117).

From an evolutionary perspective narratives have been offered as a way of adaptation as "*[narrratives are] valued, preserved, and transmitted because the mind detects that such bundles of representations have a powerfully organizing effect on our neurocognitive adaptations, even thought the repreentations are not literally true*" (Tooby and Cosmides, 2001, p. 21). Similarly narratives are also offered as the basis of memory construction (Bruner, 1994; Pennebaker and Seegal, 1999). According to Schank and Abelson, transforming our memories into shorter narratives allows us cognitive freedom over "*constant reaxamination*" of actual events (1995, p. 42). Bruner and Lucariello (1989) also define narratives as tools to understand and resolve conflicts and problems. Paradigmatically inexhaustible structures of narratives and meaning making depend heavily on binary conflicts between two parties (typically good vs evil) (Lévi-Strauss, 1967). Particular to video game narrative conflicts, Darley (2000) notes that their origins are stereotypical, cartoonish and "*the motives both of players and their enemies are basic in the extreme*" (p.151).

It is also possible to approach narrative from a communication perspective (Fisher, 1984; 1989). Fisher states that narratives are "*stories we tell ourselves and each other to establish a meaningful life-world*" (1984, p. 6). Bordwell (1985) defines narratives as communication conduits of representations, structures, and processes. He also underlines the importance of cultural perceptions in narrative construction and its effectiveness as a communication entity. From a cultural perspective he proposes that individuals do not "*patiently isolate each datum*" (p. 35) in a narrative and instead just compare them with their own cultural schematics to make meaning.

For Ricoeur (1991; 1992), identity is also a form of narrative, since it is only in terms of narrative that one can speak of her own life to others and herself. This narrative identity requires spatiality and continuity to make sense. Somers (1994) proposes that narrative is the only way one can construct an epistemological other, thus approaches the concept of narrative as a product of social ontology. Frissen et *al.* (2015) propose that inside the digital age Ricoeur's narrative identity has interacted with play and was transformed into ludic identity construction "*that explains how both play and games are currently appropriate metaphors for human identity, as well as the very means by which people reflexively construct their identity*" (Frissen et *al.*, 2015, p. 11).

The Living Handbook of Narratology (LHN) is an interactive and ever evolving source for the definitons of narrative throughout different disciplines (Hühn, n.d.). This online wiki was derived from the original printed Handbook of Narratology from 2009 (Hühn et *al.*, 2009). What LHN demonstrates that narrative requires diverse methodologies across various disciplines and its historical context is variant with the subject matter.

One of the earliest formal analysis of narrative was provided by Aristotle and is accepted as the foundation for traditional drama structure. The Aristotelian structure provides a specific progression in narrative that

could be summarized as consecutive segments of falling, rising, climaxing, and resolving. Cavazza and Pizzi (2006) propose that "*the Aristotelian model's descriptive power is not sufficient to be considered as a narrative formalism*" (p. 73). The model mainly describes the aesthetic characteristics of a narrative progression, but not the formalization of narrative procedures. As a modern translation of Aristotelian structure, Larivaille (1974) proposes the 5-act sequence, describing the characteristics of transition between the 3-acts as important as the 3-acts themselves, thus turning the transitions into dynamic elements. A contemporary counter approach to this progressive structure is the definition of regressive narratives (Gergen and Gergen, 1988). Regressive narratives defy "*narrative focus of the story [as] advancement, achivement, and success [and present] a course of deterioration or decline*" (Elliott, 2005, p. 48)

An early structuralist in narrative studies would be Propp and his work in uncovering the formalist approach to Russian folktales (1968). Propp was successful in dividing Russian folktales into symbolic units with distinct narrative purposes (Table 3). These basics (31 in total), has the power to come together in various possibilities and form a narrative structure independent of the characters. This Proppian approach had a guiding function for researchers who wanted to merge narrative and interactivity together as it had the power to translate narrative into formulas that could be understood computationally (Figure 1).

$$\alpha\beta^{3}d^{1}A^{1}B^{1}C \uparrow H^{1}\text{-}J^{1}K^{4} \downarrow w^{3}$$

Figure 1. A Proppian narrative formulation by Cavazza and Pizzi (2006, p. 74). Each letter corresponds to one of the 31 functions of Propp (for example; B: Abduction)

Barthes (1974) devises an even more comprehensive formal list of 48 actions (based on proaireteisms observed in Balzac's Sarrasine). Barthes action approach is much like Propp's 31 functions in terms of purpose yet

contain more freedom in terms of temporality. While Proppian functions have limitations on sequentiality, Barthian actions can form more spontaneous semantic flows. Whether predetermined like a Proppian structure, or free flow like a Barthian one, it seems clear that a narrative represents a sequentiality of events (Abbot, 2002).

A criticism on Proppian structure may come from the lack of characters' involvement in the drama, as the emotional and psychological states of characters in the narrative are hardly taken into consideration as the main propelling force that drives the narrative. Instead the narrative is presented as an autonomous entity that progresses for its own sake and not for the involvement of its characters.

Greimas (1983) builds another formalist approach above Proppian structure which approaches the narrative almost from the opposite position of Propp's. Instead of Propp's 31 narrative functions, Greimas defines 7 actants which explores why characters in the narrative do what they do. Greimasian structure is based on the mythical and semantic roles of actors such as Hero, Helper, Sought-for Person, etc. Bremond (1980) builds on Greimasian character structure to include the psychological states of characters. Bremond's approach takes into account the psychological outcomes of what characters did onto other characters. By this way, the characters gain the ability to change roles during the course of the narrative, voluntarily or involuntarily. Brown (1987) also underlines the importance of the development of a character inside the narrative as he describes narrative as "*an account of an agent whose character or destiny unfolds through actions and events in time*" (p. 143). His definition not only encapsulates the changing psychological position of a character but also makes a transition into dividing the narrative into actions.

Table 3. Propp's (1968) 31 narratemes, Barthes' (1974) 48 actions, and Greimas' (1983) 7 actants

Study	***Narrative Structure***	***Narrative Sub-steps***
Propp (1968)	1st Sphere: Introduction	1. Absentation: Someone goes missing 2. Interdiction: Hero is warned 3. Violation of interdiction 4. Reconnaissance: Villain seeks something 5. Delivery: The villain gains information 6. Trickery: Villain attempts to deceive victim 7. Complicity: Unwitting helping of the enemy
	2nd Sphere: The Body of the story	8. Villainy and lack: The need is identified 9. Mediation: Hero discovers the lack 10. Counteraction: Hero chooses positive action 11. Departure: Hero leave on mission
	3rd Sphere: The Donor Sequence	12. Testing: Hero is challenged to prove heroic qualities 13. Reaction: Hero responds to test 14. Acquisition: Hero gains magical item 15. Guidance: Hero reaches destination 16. Struggle: Hero and villain do battle 17. Branding: Hero is branded 18. Victory: Villain is defeated 19. Resolution: Initial misfortune or lack is resolved
	4th Sphere: The Hero's return	20. Return: Hero sets out for home 21. Pursuit: Hero is chased 22. Rescue: pursuit ends 23. Arrival: Hero arrives unrecognized 24. Claim: False hero makes unfounded claims 25. Task: Difficult task proposed to the hero

		26. Solution: Task is resolved 27. Recognition: Hero is recognised 28. Exposure: False hero is exposed 29. Transfiguration: Hero is given a new appearance 30. Punishment: Villain is punished 31. Wedding: Hero marries and ascends the throne	
Barthes (1974)	Proaireteisms in the order observed in Balzac's Sarrasine	- To be deep in - Hiding place - To meditate - To laugh - To join - To narrate - Question I - To touch - Tableau - To enter - Door I - Farewell - Gift - To leave - Location (Boarding School) - Career - Liaison - Journey - Theater - Question II - Discomfort - Pleasure - Seduction	- Will-to-love - Will-to-die - Door II - Rendezvous - To leave - Dressing - Warning - Murder - Hope - Route - Door III - Orgy - Conversation I - Conversation II - Danger - Rape - Excursion - Amorous Outing - Declaration of Love - Kidnapping - Important Event (Concert) - Incident - Threat

		- To decide	- Statue
Greimas (1983)	• Actor (Acteur) • Subject (Agent) • Object (Objet / Patient) • Recipient (Bénéficiaire) • Helper (Adjuvant) • Opponent (Opposant) • Reciever (Instrument)		

Todorov (1981) divides the narrative not in limited actions or functions, but into narrative units and seeks the "*relations of narrative units among themselves*" (p. 48). In his proposal narrative units can be understood in three different types; clause and sequence, which are analytic, and the text which is empirical.

Contemporary definitions of narratives follow connective approaches of form and content. Bielenberg and Carpenter-Smith (1997) define narrative as a fusion of conflict, genre, actors, and actions. Other definitions focus on the cause-effect links of events within a spatial and temporal reality (Bordwell and Thompson, 2001), and the relationship between methods and audience to convey certain story materials (Dansky, 2006). A Proppian definition of narrative that values connections and consequential meaning is given by Elliot (2005) as *"[…] to organize a sequence of events into a whole so that the significance of each event can be understood through its relation to that whole*" (p. 3). Although this definition does not explicitly mention character involvement and drama, it at least seeks a meaningful relationship in sequentiality and casuality. Elliot's definition also provides a space to think about temporality, since it offers meaning as a relationship between sequences that are not necessarily chronological. Although Labov and Waletzky (1967) state that narratives are "*a method of recapitulating past experiences by matching a verbal sequence of clauses to the sequence of events that actually occurred*" (p.

12), they do not actually need to be chronological sequences. In fact chronological editing of events can seriously and intentionally alter the meaning of any narrative (Franzosi, 1998). Chronological editing can also effect our perception of casuality. It has been suggested that inside narratives even when event sequences are not outright connected, it is accepted that they will be linked later in terms of meaning (Chatman, 1978).

Labov and Waletzyky (1997) also have provided their own structure of relational meaning in narratives. Their approach divided narrative into six elements that construct relational and cognitive interactions in creating a meaning. These elements start from an abstract which is a short version of events in the narrative as they are stored in memory; an orientation which describes the setting of the story (historical, spatial, and social); a complicating action which kicks off the narrative or struggle; a resolution which describes the finality of events; and finally a coda which comes after the resolution to transfer what has been learned or inferred from the narrative to the present time of the narratee. This structure is interesting compared to previous descriptions of narrative as it includes two distinct constructs inside the domain of the narrative; stories as they are stored (short versions we remember of narratives) and stories as they are learned from (the aftermath of the events as translated into life lessons).

Although traditional narrative theories seem not to be completely applicable to the video game medium, Consalvo (2003) concludes that; "*although there is definite merit to seeing game narratives as spatial encounters, or considering how time is a central component of games, there are also merits to seeing the more traditional narrative components as occurring in games*" (p. 332). Consalvo also underlines the importance of the positioning of players, as fans and active audience, within the consumption of game worlds and narratives.

2.2. Interactive Narrative Theories

Bailey (1999) describes three main approaches in interactive story generation; author model, story model, and world model. In author model, the generation software tries to emulate an author in writing a narrative. In story model, the narrative is generated with the structural approaches to narrative as abstract formulations. In the world model, the generation focuses on creating a coherent story world with rules and motivated characters who struggle to achieve their goals, thus creating the narrative. Bailey's trihedral model has been utilized in explaining interactive drama generation (Mateas, 2002; Szilas et *al.*, 2003), character driven story generation (Riedl and Young, 2003; 2004), and virtual intelligent narrators (Szilas, 2001). Later studies propose an addition to these approaches; the player model in which "*the members of the audience become themselves characters in the story, so the role of authorship is progressively becoming distributed between the interactors and the designers*" (Gervás et *al.*, 2006, p. 49).

As an alternative to interactive narrative, Ensslin offers the concept of literary gaming (2014). As described by him in another study, "*the term [...] spans a wide range of ludo-literary media including poetry games, literary/narrative auteur games, interactive fiction, ludic and meta-ludic types of hypertext and hypermedia, as well as more linear ludo-literary digital narratives produced in Flash, Shockwave and other interactive animation technologies, as well as navigable 3D literary environments*" (Ensslin, 2015, pp. 42-43). The ludo-narratological approach offered for these entities are that they are not narratives, but they possess narrativity (Ryan, 2004).

Mateas offers a fusion of Aristotelian drama structure with Murray's (1997) concept of agency (Mateas, 2000). This includes integrating the user inside the decision making for characters, which effectively turns the player's intentions into casuality. However this process is limited by resources and authorial plot. Tomaszewski and Binsted (2006) improves this

work by dividing the fused structure into the categories of object and medium, which describes sensory experiences and the story world. This improvement acknowledges the effects of the medium on the narrative experience, transforming the narrative experience into a symbiotical relationship between the medium and the user.

Not surprisingly, the Proppian formulation found its way into interactive narrative studies in many occasions. Grasbon and Braun (2001) used the structure as a story modelling tool inside an interactive authoring environment. Other research used the formal approach for the direction of virtual actors inside interactive narratives (Machado et *al.*, 2001). Hartmann et *al.* (2005) on the other hand offered the structure to be applicable to branching narratives. In this approach the Proppian formulas had subtrees reflecting alternative motifs (Figure 2).

$$ABC \uparrow DEFG \frac{HJIK \downarrow Pr - Rs^{0}\ L}{LMJNK \downarrow Pr - Rs} Q\ Ex\ TUW *$$

Figure 2. A branching Proppian narrative formulation by Hartmann et *al.* (2005, p. 160). Each letter corresponds to one of the 31 functions of Propp.

In contrast, Greimasian role-based structure has few applications in interactive narratives. Theune et *al.* (2004) proposed an episodic narrative structure based on short term (episodic) goals for characters based on emotional behaviour, using Gremasian structures. Bremond's improvement on the Germasian approach however had bigger use in interactive environments. Cavazza et *al.* (2001) propose a character driven interactive narrative approach, that uses Bremond's formalism on character behaviors. Fusion of the structures of Bremond and Barthes have also been used as an emotional basis to understand the real time reactions to narratives in new media (Zagalo et *al.*, 2004).

From a published dialogue of Mary Fuller and Henry Jenkins, Consalvo (2003) reasons that "*[video game] narratives are much more*

about spatial progression or exploration rather than story telling" (p. 323). The story of a travel, hardships met on the way, and overcoming those hardships seem to be the common structure for a traditional narrative. In this light, video games do not contradict with traditional narratives in terms of travel, exploration, and progression. However Herz (1997) proposes that in order for the travel to be meaningful, the events along the way need to irreversible, and thus laden with risks and consequences. It seems agreable to extend this criticism on the main characters of a video game as they have the ability of coming back from death many times. However, irrevocable changes happen in video game narratives quiet often, too. Such as the death of important characters (and sometimes even the main character, in which case the lead role is passed onto another one). In this regard, interactivity is not an obstacle on the way of meaning making *per se*, however the main discussion would be whether the construction of such unalterable moments be arranged only by real authors or also by implied authors (such as AI or code generating stories). Additionally, a consequent discussion would be if these segments can become decision points at which events build up to and players have control over the results. Poole (2000) argues that, video game narratives which (1) were authored during production and (2) players have no control over, might lose their legitimacy of being called interactive narratives. Let us assume that a lead character is scripted to die at a certain point inside the game narrative. If this death can be prevented by in-game actions, then the moment might lose its meaning making ability as a narrative segment. If this death cannot be prevented by the choices made by players, then the narrative becomes non-interactive in its nature. Here again, the dichotomy of content and context arises once more. On the one hand, meaning making might be hidden inside all the action parts that lead to this segment, making the player an accomplice in bringing the narrative to this point. On the other hand, inevitability may not prevent the player from going back and looking for alternatives that might produce a different outcome, thus creating interactivity where there is none.

2.3. Linking Traditional and Interactive Narratives in the Context of Video Games

When translated into video games, certain traditional narrative elements have different representations of conveying meaning (Cameron, 1995). For example, the mysteries might be presented in the form of real puzzles that players have to overcome. The synchronous or asynchronous use of interactive segments and puzzle solving might signify pacing. Similar to problems in the pacing of a film or novel, there may be problems in the balance of interactive and passive segments of video games that effect its pacing.

As traditional narratives are offered to have story time and discourse time (Chatman, 1990), video games also have their own approach to time. Narrative games will typically employ a story time (the period of time that the story's events take place), but they will also have play times (the expected total time which a game might be finished in) that becomes very important in players' perception of the game (Jenkins, 2004). A discourse time on the other hand infers the emphasis given inside the narrative in dwelling on certain content. In this light session times (an average time of play between two meaningful ludic points, such as puzzles, battles, scenes, etc.) might be offered as a parallel to discourse time.

The closure of a video game is based in its consumption – a narrative game with a beginning and an end might present closure by reaching the ending, while a video game with no predetermined ending might supply closure by (sometimes player devised) achievements, such as getting all upgrades, beating a certain score, etc. Theoretically, the games that do not provide a closure have the potential to be played indefinitely. As Brooks' (1977) adaptation of *Freud's Masterplot*, the player creates episodic sessions of play during which she becomes more skillful and better at the game. However narrative games will rarely offer the motivation for replays – apart from a passionate small group of fans (if any), most of the players will prefer to move on to the next narrative game after they have the closure

for the purpose of “postponement” (Kinder, 1991, p. 111) and the seek for another closure.

Carr’s (1997) approach of first order and second order narratives have interesting significations inside video game medium. While first order narratives signify stories that individuals create about themselves and their experiences, second order narratives are individuals telling stories of other people’s experiences. Inside video games first and second order narratives are fused together to create a meta narrative. From the viewpoint of the player there is a two layered first order narrative; as much as the player embodies a character and acts the events that happen to it, she also creates a personal narrative of herself living that experience. From the viewpoint of the developer of the game there is also a double layered second order narrative; the developer designs the limits of the narrative that the actors of the game go through, yet they also try to design the narrative of the player experiencing the game (for example the developer may aim to surprise or frighten the player at a certain point). This distinction is also similar to Somers and Gibson’s (1994) representational vs. ontological narratives. While the narrative content embedded inside the games create representational experiences, the playing of the game itself creates an ontological narrative. In the age of *YouTube* playthroughs and *Twitch* streaming, the process of playing is not an ontological experience for the self alone but additionally becomes a social projection. This projection becomes a discursive *play and show* that fuses representation, self, and public together.

2.4. Summary

This chapter summarized many narrative theories, attempting to discern between formal and contextual facets of the concept. The nature of narratives as a part of human culture was underlined. However to better identify how narrative was adapted in media, more structural approaches were also discussed. The chapter then looked into the theories of interactive story generation, literary gaming, and spatial storytelling. Finally, both

factions were discussed together to discover the link from traditional narrative theories to interactive ones.

The next chapter will give a comprehensive overview of player type research inside game studies, merging all proposed player types into a single matrix, to create a snapshop of findings.

3. Video Game Engagement and Player Type Research

This chapter brings together 19 qualitative and quantitative research findings that proposed categories of how and why individuals interact with video games. The aim of this extensive literature review is to expose a discordant player type that has been included in many of these studies; the "narrative" gamers.

Meeting the needs of the target audience is a critical goal for the producers of any media. However research is still limited when it comes to understanding what players bring to the narrative aesthetics of a video game. Often, positive video game experiences are associated with having fun, which is a concept that is open to variety of interpretations. The concept is even more vague in terms of narrative performance of the medium. Moreover it is unclear whether the motivation to play a game is in parallel to the motivation to follow and consume its narrative elements.

The purpose of the current study is to investigate the possible links between theoretical positions held by video game narrative theorists with empirical data that focus on the motivations and in-game behaviour of video game players to establish a set of player profiles. Many player type studies are avaliable but they tell so little of how players approach narrative content.

3.1. "Disbelieved or Challenged?": Re-thinking Immersion

The concept of immersion has a duality in its approach; one traditional and one modern. The traditional approach comes from Coleridge's (1983, original print 1817) *Biographia Literaria* as the "*willing suspension of disbelief, [a] poetic faith*" (p. 6). Film seems to be the prevalent medium for Coleridge's definition, as the form requires suspension of disbelief on various levels such as temporally, spatially, and contextually. A modern approach to immersion comes from

Csikszentmihalyi (1996) as the flow which is described as "*activities in which there is a match between high challenge and high skills*" (p. 30). Csikszentmihalyi describes the conditions of flow state that will create an engagement with everyday life as to result in happiness. The prevalent medium for Csikszentmihalyi's flow seems to be video games, as the conditions of flow state are easily applicable to video game experience (Şengün, 2013a);

- Clear goals: Inside video games the players can easily understand what their goals are and must be done to achieve them.
- Immediate feedback: The players can see and understand the results of their actions and performances.
- Challenges matching skills: Video games employ a learning curve that challenge them as the game progresses.
- Deep concentration: Most of the time video games require the player to focus and concentrate.
- A feeling of control: Also called the agency inside the game.
- The sense of time is altered: The players losing the track of time.
- The activity is intrinsically rewarding: Video games award the players intrinsically for the recognition of their performance.

Coleridge's definiton of immersion (suspension of disbelief) and Csikszentmihalyi's definition of immersion (flow) are not at odds yet they are clearly not the same kind of experience. Ermi and Mayra (2007) redefine these immersion types as challenge-based immersion (which seems to match Csikszentmihalyi's flow) and imaginative immersion (which seems to match Coleridge's suspension of disbelief). Moreover they add a third kind of immersion to the mix; the sensory immersion. The sensory immersion points to the visual and aural world that the medium creates. According to this new kind of immersion, it is not possible to discuss the immersion of *Half-Life* (which has 3D colorful graphics) versus *Nethack* (which has black and white, ASCII graphics) on the same level, as they

differ in sensory immersion. Yet as a part of video game medium they both offer challenge-based immersions.

Bizzochi (2007) criticizes Murray's (1997) work *Hamlet on the Holodeck* for the reason that it presents immersion as a confusing combination of suspension of disbelief and flow. He claims that since the concept of immersion was not defined clearly this caused "*confusion that obscured critical distinctions between games and story*" (p. 2). However this issue is not seemingly exclusive to Murray as many scholars have used the concepts of flow, absorption, presence, engagement, and immersion interchangeably and intertwined (Witmer and Singer, 1998; McMahan, 2003; Brown and Cairns, 2004; Agarwal and Karahanna, 2000) (Table 4).

Table 4. Definitions of engagement in terms of video games medium

Concept	***Research***	***Definitions***	***Uses***
Flow	Csikszentmihalyi (1996)	"a state of consciousness that is sometimes experienced by individuals who are deeply involved in an enjoyable activity" (Pace, 2004, p. 327)	Ludologic immersion in mechanics and actions
Presence	Jennett et *al.* (2008), Cairns et *al.* (2006)	"*the person's cognitive and perceptual systems [...] tricked into believing they are in a tangible place*"	Narrative and audiovisual immersion

		(Patrick et *al.*, 2000, p. 2)	
(Psychological) Immersion	Murray (1997), Witmer and Singer (1998), Slater and Wilbur (1997)	"*[entering] a make-believe world as if it is real*" (Coomans and Timmermans, 1997, p. 284)	Narrative and audiovisual immersion
(Agency) Immersion	Desurvire et *al.*, 2004	"*[percieved] sense of control and impact onto the game world [that] reacts to the player and remembers their passage through it*" (Desurvire et *al.*, 2004, p. 1511)	Narrative and agency immersion (control as both being able to change the world, and being able to embody and control an actor)
(Simulative) Cognitive Absorption	Agarwal and Karahanna (2000)	"*a state of deep involvement with software*" (Qin et *al.*, 2009, p. 113)	Ludologic immersion in mechanics and rule simulations
(Pyschological) Absorption	Douglas and Hargadon (2001), Zimmermann and Salen (2003)	Disregarding the effect of hardware, pyschological absorption occurs on the cognitive and perceptive levels	Narrative, audiovisual, and agency immersion
Telepresence	Minsky (1980), Sheridan (1992), Held and	The concept of telepresence defines	Agency immersion

	Durlach (1992)	technological sensory inputs that are defined as indistinguishable from our own bodily senses	
(Hierarchical) Involvement	Brown and Cairns (2004)	"*involvement moves along the path of time and is controlled by barriers [...] each level of involvement is only possible if the barriers to the level are removed*" (Brown and Cairns, 2004, p. 1298).	Describes three levels of engagement that form involvement; engagement (investing time and effort), engrossment and immersion
Involvement (as a Player Model)	Calleja (2011)	Calleja offers all levels of immersion in terms of involvement; - Kinesthetic or physical - Spatial or investigative - Shared or social - Narrative - Affective or emotional - Ludic or decision making	
Narrative Involvement	Douglas and Hargadon (2000), Sweetser and Wyeth (2005), Blythe	Much like Ermi and Mayra's (2007) imaginative immersion, narrative	Narrative immersion

	and Hassenzahl (2005)	involvement is the state of being invested in the story, characters, and locations	

3.2. Uses and Gratification Theory as a Cognitive Approach to Media Engagement, and as an Introduction to Player Research

From a communication perspective, video game use have been scrutinized utilizing several dominant media engagement theories. One such example, the uses and gratification theory, discern that individuals select media depending on their personal profiles and needs (Katz, 1973; Rubin, 1994; Ruggiero, 2000). Uses and gratification theory ties media use with the purpose of its utilization by individuals. This approach infers that the inherent characteristics of a medium may or may not be perceived by the user if her need of using the medium lies in an entirely different context. The primary intent of the interaction between the media offerings and the user needs is to "*satisfy a user's need to maintain pysiological and pscyhological balance*" (Vorderer and Hartmann, 2009, pp. 544-545). It is suggested that this interaction may have two main purposes; intrinsic satisfaction and extrinsic utility (Atkin, 1985). Extrinsic utility is mostly associated with information seeking and learning, while instrinsic satisfaction is associated with short term desire for fun. Since video games are not primarily played for learning or information, intrinsic satisfaction seems to be the driving force behind their use. Sherry's (2004) media flow theory merges Csikszentmihalyi's (1996) flow theory and uses and gratification theory by stating that; "*individual [experiencing] entertainment from a particular media message is a function of the individual's ability to reach the flow state by using that medium*" (p. 336).

Rosengren's (1974) advancement of the uses and gratification theory, presents an eleven level structure on media gratification. According to this structure (1) the basic needs of an individual (2) combined with personal characteristics and (3) social values, allows the individual (4) to define individual problems as well as (5) their perceived solutions and (6) motivations to solve them. The individual then proceeds to solve these problems through (7) media, or (8) other sources, leading to (9) different combinations of media effects on both (10) the individual and (11) the social level. This structure suggests that a universal pattern of media use reasons and effects is unlikely to exist, as it changes with individual characteristics, media, genres, and culture.

Early uses and gratification research about video games may said to have been initiated by studies about video game arcades in early 80s. These examples can also be qualified as the first player type studies made for video games medium. Malone (1981) interviewed arcade players to answer the question, what makes computer games fun? His findings indicate five early factors; (clear) goals (much like flow theory), scoring (social competition), audio effects (sensory immersion), randomness, and speed. Selnow (1984) also researched the youth frequenting the video game arcades in the 80s. Not taking into account the home console gaming, the results were focused on social aspects of the arcades. The research found five factors explaning arcade play; that social play teaches about other individuals while being more fun than socially interacting with them, and that it provides companionship, escape, and activity. In another similar research Wigand et *al.* (1985) discovered three main gratifications on interpersonal level for playing video games; excitement, satisfaction (of success), and tension reduction.

In 1984, Greenfield brought interactivity into the equation for the video games as seen from media uses and gratification theory. The inclusion of interactivity was seemingly one of the main reasons why video game research has diverted from traditional media research. Although more early

approaches utilized previous media theories as enriched with interactivity (Laurel, 1991; Darley, 2000) to explain video games, contemporary video game and player research have created their own modals for elucidating video game engagement.

3.3. Composing a Type Cluster for Player Research

Player research is a main branch of video game studies that tries to explain the rationel behind players' engagement with video games in general and certain video games in particular. Many research approaches have been utilized in the area; theoretical approaches (Calleja, 2011), methodological approaches (Drachen et *al.*, 2013; Kim et *al.*,2008), and hybrid ones (Lynn, 2013; Nacke and Lindley, 2008).

While some studies focus on applying previous research models on video game players to explain their in-game behaviours – such as Spronck et *al.* (2012) applying Wiggins' (1996) *Five Factor Personality Model* on video game players – some studies specifically focus on categorizing video game players into certain types. For the purposes of understanding the player behaviours inside video games, this study will focus on some selected player type research and the category of players that they introduce.

Player Types of Bartle (1996, 2005)

Bartle's (1996) original player taxonomy predominantly focused on MMORPG players. The original player types graph had two dimensions; acting vs. interacting and players vs. World (Figure 3). *Achievers* were the players who wanted to act (consume, beat, own) on the game world, while *Killers* wanted to act (beat, be better, win against) on other players. On the other side, *Explorers* wanted to interact (explore, find) with the game world, while *Socializers* preferred to interact (socialize, learn about, converse) with other players.

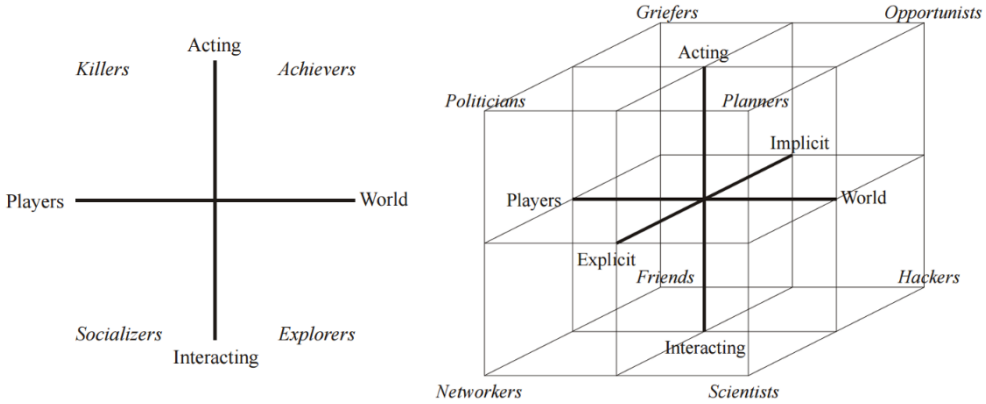


Figure 3. Bartle's original player types graph (left, 1996) vs 3D player types graph (2005).

In 2005, Batles upgraded his model to a 3D approach, adding a third dimension to the already existing two; explicit vs. implicit (Figure 3). He redefined the existing four types into explicit and inplicit groups (Table 5).

Table 5. Player types of Bartle (2005)

Explicit	Implicit
Achievers	
Planners; Players who are good at setting goals and planning to achieve them.	Opportunists; Players who move from idea to idea, grabbing whatever is available on their way
Explorers	
Scientists; Players who experiment and have a methodical approach to gaining knowledge about the game	Hackers; Players who employ an intiutive sense of the game world and rules, directed by fancy
Socializers	
Networkers; Players who are ready to expand their social network with players they do not know	Friends; Players who rather stick with people they know, making slower friends but also having a deeper understanding of them
Killers	
Politicians; Players who compete	Griefers; Players who compete with

with others for reputation	others for grief making, and bad reputation

Bartle's model also recognizes that all of these player types are actually road stops of player growth scenarios inside online games. He proposes that players do not exclusively stay inside a certain player type, they rather trancend between behaviours relating type to type.

Player types of Bateman and Boon (2005)

In their book *21st Century Game Design*, Bateman and Boon (2005) create several taxonomies to define the video game players. Their preliminary approach is based on marketing and consumer audience models. Initially the main divide offered between the video game players is hardcore vs casual split. While hardcore gamers buy more games, crave challenge, and play as a priority, the casual players buy few games (but may play them more), and crave relaxation or passing of time. The book also introduces the EA's audience model (as reported by Richard Leinfellner, during *Grand Prix Washington 2003*) which adds a third dimension of gamers between hardcore and casual; cool gamers. Cool gamers are characterized as an intermediate group who are not as passionate about games as hardcore gamers, yet more literate about the medium than casual gamers. A final and a bit more comprehensive divide reported is *International Hobo's* audience model (Bateman, 2007), which divides the gamers into four categories; hardcore gamers, testosterone gamers (whether hardcore or casual, a male dominated segment that is drawn to games about sports, cars, and guns), lifestyle gamer (close to EA's cool gamer), and family gamer (parents buying games for or playing games with their children).

However the most important contribution of Bateman and Boon to player type research, comes from their interpretation of *Myers-Briggs Type Indicator* (MBTI) inside the medium of video games (Myers and Myers, 2000, original print 1980 as Myers and Briggs). The MBTI is created to

understand and explain how individuals perceive the world. Based on four dichotomies MBTI define 16 personality types. Depending on MBTI, Bateman and Boon theoretically identify four players types; conqueror (thinking, judging), manager (thinking, perceiving), wanderer (feeling, perceiving), and participant (feeling, judging) (Table 6).

Table 6. Player types of Bateman and Boon (2005)

Type	***Characteristics***
Type 1 Conqueror (TJ)	Players with the MBTI codes; ISTJ, INTJ, ESTJ, and ENTJ*. These players are prone to achievements, learning and overcoming rules, and competition.
Type 2 Manager (TP)	Players with MBTI codes; ISTP, INTP, ENTOP, and ESTP*. These players are prone to management, planning, and building.
Type 3 Wanderer (FP)	Players with MBTI codes; INFP, ENFP, ISFP, and ESFP*. These players are prone to exploration, casual play, and discovery.
Type 4 Participant (FJ)	Players with MBTI codes; ESFJ, ISFJ, ENFJ, and INFJ*. These players are prone to creating, and social play.

***** These abbreviations are based on; (I)ntroversion vs (E)xtraversion, (S)ensing vs (I)ntutition, (T)hinking vs (F)eeling, and (J)udging vs (P)erceiving.

The research also acknowledges that "*the four play types are not mutually exclusive; one or more can be enjoyed by each individual player*" (p. 56).

Player types of Carr et al. (2006)

In their book *Computer Games: Text, Narrative and Play*, scholars Carr, Buckingham, Burn, and Schott (2006), examined the interaction between narrative and ludic contents of video games, which they define as

"*an established cultural form, with their own history and their own place in the broader landscape of modern culture*" (p. 3). This theorethical work characterizes three types of players based on their interaction with MMORPGs (Table 7), while underlining that these types are interrelating, meaning instead of a player belonging to a certain type, she can actually move between types on daily basis based on her current motivation.

Table 7. Player types of Carr et al. (2006)

Type	***Characteristics***
Representational Motivation	Players motivated by audiovisual aspects of a game, as well as its narrative, characters and the world
Ludic Motivation	Players motivated by gaining skills, statistics, rules, and objectives presented inside the game
Social Motivation	Players motivated by online relationships, communication, and communal activities

Player types of Drachen et *al.* (2009)

Using game metrics, Drachen, Canossa, and Yannakakis (2009), introduce four different player types. The research gathers game metrics from a multiplayer version of *Tomb Raider: Underworld*, such as causes of deaths, total number of deaths, completion time, and help-on-demand. The data is clustered into four segments, as named by the researchers;

Veterans are the players who die little, with fast completion time and who ask for very little help or no help at all.

Solvers are the players who die a lot (mainly from envriomental hazards), who explore much, but still who ask for very little help or no help at all.

Pacifists are the players who die a lot at the hand of other players, and who take high time to complete the game.

Runners are the players who die a lot at the hand of other players as well as enviromental factors. Runners take short time to complete the game.

Player Types of Hamari and Tuunanen (2014)

Presenting a meta-research on player type studies, Hamari and Tuunanen (2014) merge the results from 12 previous player type studies to come up with their five players types.

- **Achievement:** Single oriented players focusing on in-game success.
- **Exploration:** Players focusing on exploration, solving, and rationalism.
- **Sociability:** Players who are keen on making positive connections with other players.
- **Domination:** Players who are deemed as competitive, aggressive, and provocative.
- **Immersion:** Players who seek fantasy, story, and altered states.

Player Types of Hartmann and Klimmt (2006a)

As an extension of media theory approaches, Hartmann and Klimmt (2006a) utilized media choice and selective exposure theories to understand the behaviours of video game players. Media exposure theories merge media choice actions with higher-order cognitive processes (Zillmann and Bryant, 1985; Webster and Wakshlag, 1983). Building on previous research about personality and media choice (Buss, 1987), Hartmann and Klimmt propose seven personality tendencies that effect video game choice (Table 8).

Table 8. Player types of Hartmann and Klimmt (2006a)

Type	***Characteristics***
General Aggressive Tendencies	Players who "*demand aggressive, fast-paced acting*" (p. 118). Slater et *al.* (2003) previously suggested that aggressive youth particularly tended

	to expose themselves to violent media which created a spiral model between the media and the individual.
General Competitive Tendencies	Player who like to engage in competitive practices against AI or other players. In a different quantitative study, Hartmann and Klimmt (2000b) found that female players were less likely to have competitive tendencies than male players.
General Risk, Challenge, and Achievement Tendencies	Players who seek sensation within their play experience. Behaviorally and biologically sensation seeking has a strong literature in terms of gambling (Zuckerman, 1994). Sakamoto (1994) proposes that video games might offer safe environments for demonstrating challenge and achievements skills.
General Fantasy and Escape Tendencies	Players who utilize video games for escaping reality and for being immersed in fantasy.
Frustration (In)Tolerance	Players who have low tolerance for boredom. Previous quantitative research have also confirmed that heavy video game players had lower frustration tolerance (Kestenbaum and Weinstein, 1985).
Skills and Efficacy Beliefs	Players' beliefs about themselves regarding their skill and efficacy regarding video games.

Player Types of Hunicke et *al.* (2004)

In their influential MDA model, Hunicke, LeBlanc, and Zubek (2004) propose an eight item taxonomy on what makes a game fun (Table 9). Although the typology is not about explaining players, but about categorizing games, it is possible to assume that each aesthetic would have specific player types that would be drawn to the specific aesthetical

approach. The study also acknowledges that the proposed taxonomies can merge together to define games (players).

Table 9. Game Aesthetic Taxonomies of Hunicke et al. (2004, p. 2)

Type	***Characteristics***
Sensation	Game as sense-pleasure
Fantasy	Game as make-believe
Narrative	Game as drama
Challenge	Game as obstacle course
Fellowship	Game as social framework
Discovery	Game as uncharted territory
Expression	Game as self-discovery
Submission	Game as pastime

Player Types of James et *al.* (2013)

Building a theoretical approach based on the types of rewards that the video game players pursue, scholars James, Fletcher, and Wearn (2013) create the 3 Corners of Reward diagram (Figure 4). Their work is very representative of UGT (Uses and Gratification Theory) in media, focusing primarily on gratification and rewards. The resulting diagram also has similarities to Bartle's (1996) player type matrix. Based on this diagram the research identifies six player motivations (Table 10).

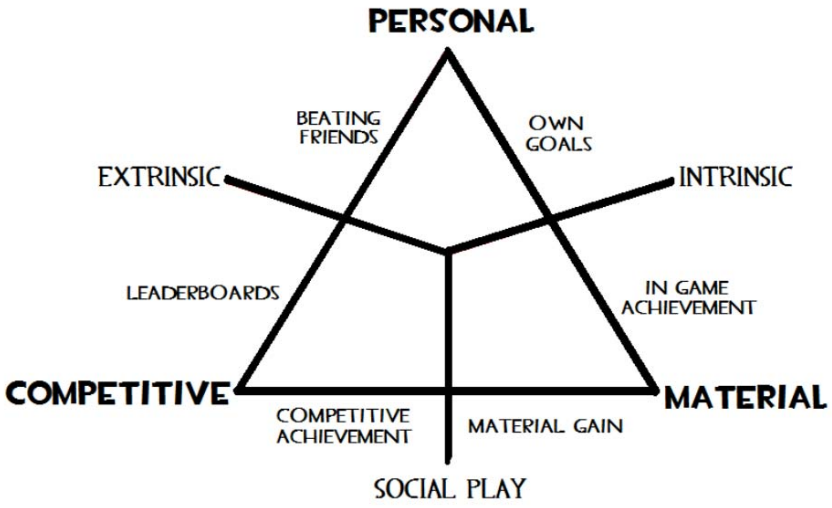


Figure 4. The 3 Corners of Reward diagram by James et *al.* (2013, p. 2).

Table 10. Player types of James et al. (2013)

Type	***Characteristics***
Social Competitive Achiever	Players motivated by comparing their achievements to other players
Personal Achiever	Players motivated by personally earning in game achievements
Social Gain	Players motivated by online relationships, communication, and communal activities
Competitive Score Player	Players motivated by comparing their scores to other players
Acquintence Competitive Player	Players motivated by comparing their scores to their own friends
Own Goals	Players motivated by using the game to their own needs

Player Types of Kallio et *al.* (2011)

Combining statistical data and in-depth interviews Kallio, Mäyrä, and Kaipainen (2011) present a pretty large game engagement model called InSoGa (INtensity, SOciability, and GAmes) (Figure 5).

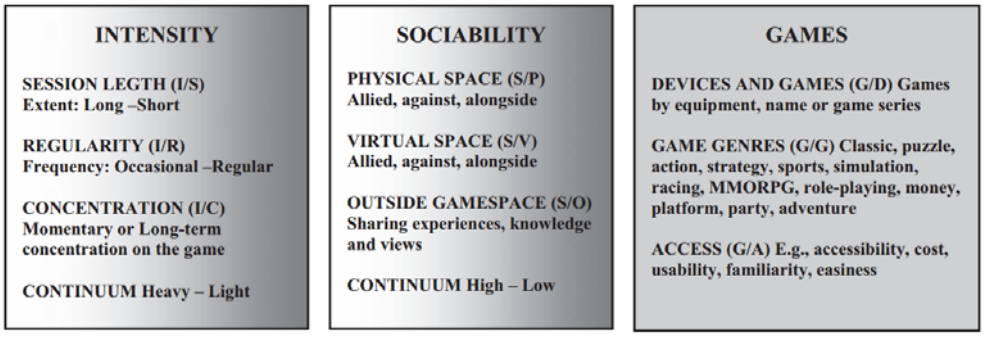


Figure 5. Three components of gaming mentalities by Kallio et *al.* (2011, p. 337).

The research then applies the InSoGa model to define three subgroups in three mentality profiles.

Social Mentality

- Gaming With Kids (I: Light, S: Very High, G: Access)
- Gaming With Mates (I: Moderate, S: Very High, G: Access)
- Gaming For Company (I: Quiet Light, S: Very High, G: Access)

Casual Mentality

- Killing Time (I: Varies, S: Very Low, G: Access + Device)
- Filling Gaps (I: Varies, S: Very Low, G: Access + Device)
- Relaxing (I: Varies, S: Low, G: Access + Genre)

Committed Mentality

- Having Fun (I: Heavy, S: Quiet High, G: Genre)
- Entertaining (I: Quiet Heavy, S: Varies, G: Genre + Access)
- Immersing (I: Heavy, S: Very High, G: Genre)

As a result the research proposes that "*[...] the 'mainstream' of digital gaming is not formed by the casual gamers who only play to kill time, nor is it populated by their opposites, the committed game hobbyists [- it is] rather the fluid continuity of different people who play to relax, socialize, have fun and entertain themselves who form the majority of the digital gaming culture and who provide the backbone for the emerging 'ludic society'at the moment*" (p. 347).

Player Types of King and Delfabbro (2009)

In a quantitave survey done with 399 participants, King and Delfabbro (2009) divide game play motivations into three main motivational groups; intrinsic, extrinsic, and amotivation. Within the intrinsic and extrinsic groups they also define three more subgroups each (Table 11).

Table 11. Player types of King and Delfabbro (2009)

Type	***Subtype***	***Characteristics***
Intrinsic	Knowing	Players who seek to learn, explore, and understand
	Accomplishing	Players who seek to overcome, finish, and improve skill
	Experiencing Stimulation	Players who seek excitement and pleasure
Extrinsic	Introjected	Players who seek the release of tension, guilt, and other negative feelings
	Identified	Players who seek social recognition
	External Regulation	Players who seek rewards, items, achievements
Amotivation		Players who play apathetically, out of boredom, and with little meaning

The study proposes that intrinsic stimulation, extrinsic identified, and amotivational play types can be deemed as problematic for individuals, in terms of addictive behaviour and psychological troubles.

Player Types of Klug and Schell (2006)

Based on their industry experience and theorethical approach, Klug and Schell (2006) offer six propositions on why players play games (Table 12). Additionally within their first proposition they also offer ten sub players types. Although there are several paradigms that repeat themselves and redundancy in their elaborative approach, the work still has merit in terms of type identification.

Table 12. Player types of Klug and Schell (2006)

Type	***Characteristics***	
Thesis I: Players who play to meet their needs	Players are offered as combinations of several play types that suit their needs	
	The Competitor	Plays to be better than others
	The Explorer	Plays to discover boundries
	The Collector	Plays the acquire the most
	The Achiever	Plays to attain ranking
	The Joker	Plays for fun
	The Director	Plays to be in charge
	The Storyteller	Plays to create narratives
	The Performer	Plays for show
	The Craftsman	Plays to build and solve
Thesis II: Players who play to control	Players who want to enact on their environment, actively participating in its realization	
Thesis III: Players who play for experience	Players who are interested in a universe that they are not part of (historical and sports context are two examples) and want to simulate being a part of it	

Thesis IV: Players who play to escape	Players who wish to escape to alternate narratives, who wish to be living elsewhere and elsewhen
Thesis V: Players who play to compete	Players who are drawn to competitive setups
Thesis VI: Players who play to explore social bonds	Players who are looking for safe and risk free ways to explore social ties, embodiment, and fantasy

Player Types of Lazzaro (2004)

Lazzaro's (2004) research is mainly based on the feelings players feel during game play. The hybrid research model embraces different methods such as interviewing and analyzing the video transcripts of play sessions of 30 adults who played a large list of video games, to a total of 45 hours of game play time. Based on reaction and facial expression analysis, and questionnaire responses, the research identifies four main categories of player experience; hard fun, easy fun, altered states, and the people factor (Table 13).

Table 13. Player types of Lazzaro (2004)

Type	***Characteristics***	***Feelings***	***Games***
Hard Fun	Beating the game, strategy rathen than luck	Frustration, Fiero (personal triumph)	Mario Kart, EverQuest, Halo
Easy Fun	Exploring, adventure, story, character embodiment, building	Wonder, Awe, Mystery	Myst, Civilization
Altered States	Clearing mind, avoiding boredom	Excitement, Relief	Tetris, Collapse, Crosswords
The People Factor	Excuse to socialize, spending time with friends, like to watch	Schadenfreude (happiness over the misfortune	EverQuest, Dark Age of Camelot

	and not play	of others, Naches (pride at the success of a child, mentee)	

The research underlines the difference between single player and multi player environments, stating that "*players in groups emote more frequently and with more intensity than those who play on their own*" (p. 7).

Player Types of Olson (2010)

Based on a survey that gathered the response of 1,254 schoolchildren, along with focus groups, Olson (2010) introduces three main motivations about kids playing video games;

Social Motivations. Social motivations for playing video games included hanging out with friends, competing with other kids, teaching each other how to play games, making friends, and opportunity to be a leader in social play situations.

Emotional Motivations. Emotional motivations focused on the feelings of relaxation and flow state.

Intellectual and Expressive Motivations. This group includes many different motivational approaches such as mastering the game, using the game as a creative outlet, experimenting with avatars, and world exploration.

Player Types of Raney et *al.* (2006)

In their psychological approach Raney, Smith, and Baker (2006) propose five appeals that draw players to video games (Table 14). Merging theorethical research on psychological gratification and focus group study done with video game players, Raney et *al.* outline the five appeals, not as player type typologies but as gratification types. These are; pleasure and

enjoyment, excitation and arousal, mood enchancement and management, mastering the challenge, and social appeal.

Table 14. Player types of Raney et al. (2006)

Type	***Characteristics***
Pleasure and Enjoyment	A literature on the concept of fun in relation to video games have already been provided within this study. However it is important to note that previous quantitative research have also found relationship with enjoyment and gameplay (Phillips et *al.*, 1995). Although the definition of the concept of enjoyment may be in discourse, the players point it out as the primary reason why they play games.
Excitation and Arousal	In regards to biological data gathered within their research Segal and Dietz (1991) propose that video game playing might be similar to mild exercising in terms of biological response.
Mood Enhancement and Management	Players who use video games to achieve positive mood. In regards to mood-management theory different media have been proposed to improve mood (Oliver, 2003).
Mastering the Challenge	Players who are drawn to games due to cognitive or physical challenges (such as motor skills). It has been suggested that players are not only interested in beating the challenges offered by the game, but they also constantly try to out-score themselves (Morlock et *al.*, 1985).
Social Appeal	Players who are interested in social interactions or social competition. It has been reported that adult players valued social aspects of the games more than teenage players (Griffiths et al., 2004).

Player Types of Sherry et al. (2006)

Based on a research build upon uses and gratification theory, Sherry, Lucas, Greenberg, and Lachlan (2006), initially performed focus group interviews with 96 participants, and utilizing data gathered from the focus groups, surveyed 1,265 students about their motivations to play video games. The research defined six main motivational factors for playing video games; Arousal, Challenge, Competition, Diversion, Fantasy, and Social Interaction (Table 15).

Table 15. Player types of Sherry et al. (2006, p. 218)

Type	***Characteristics***
Arousal	*"I go crazy when I'm playing video games, sometimes. I'm jumping up and down. Yelling and screaming. Things like that."*
Challenge	*"I like it because it's a challenge and I like competition. I keep playing until I complete a level or win the game."*
Competition	*"We always play in all house (fraternity) tournaments. We used to put money down."*
Diversion	*"I like it because it's a break from studying and it's relaxing."*
Fantasy	*"It's like you're in another world. You're in a TV, you know. You're in it."*
Social Interaction	*"I can't play by myself. I always want someone to play with me."*

As a conclusion it is stated that; "*For many, it is not enough to win the game; one's exploits must be known amongst one's friends*" (p. 221).

Player Types of Sirlin (2006)

In his book *Playing to Win: Becoming the Champion*, Sirlin (2006), based on observations and theorethical research, defines six player types based on their play styles (Table 16). This reference research is different from other player type taxonomy presented here as it does not rely on psychology or gratification, but personality type.

Table 16. Player types of Sirlin (2006)

Type	***Characteristics***
The Turtles	Players who play defensively and restrain from taking risks
The Attackers	Players who play offensively and takes risks and challenges
The Obssessed	Players who obssess on certain aspects of a game, primarily focusing on that aspect
The Snakes	Social players who utilize social connections as chances of distruption and even abuse
The One True Style	Well balanced players
The Invincible / The Beast	Players who play to master a game to its fullest and become unbeatable

The style of turtles vs attackers were also scrutinized in later studies, in relation to promotion and prevention focused play styles (Öztürkcan and Şengün, 2016a; 2016b) (Figure 6). According to this approach prospect theory of Kahneman and Tversky (1979) and Higgins' (1997) expansion of it into regulatory focus were offered as explanations of defensive vs offensive behaviours in video games. Additionally Higgins' concept of regulatory fit (2000; 2005; Higgins et *al.*, 2001) was also explained as relevant to in-game behaviour, as certain actions inside video games had inherent characteristics of being promotional or preventional.

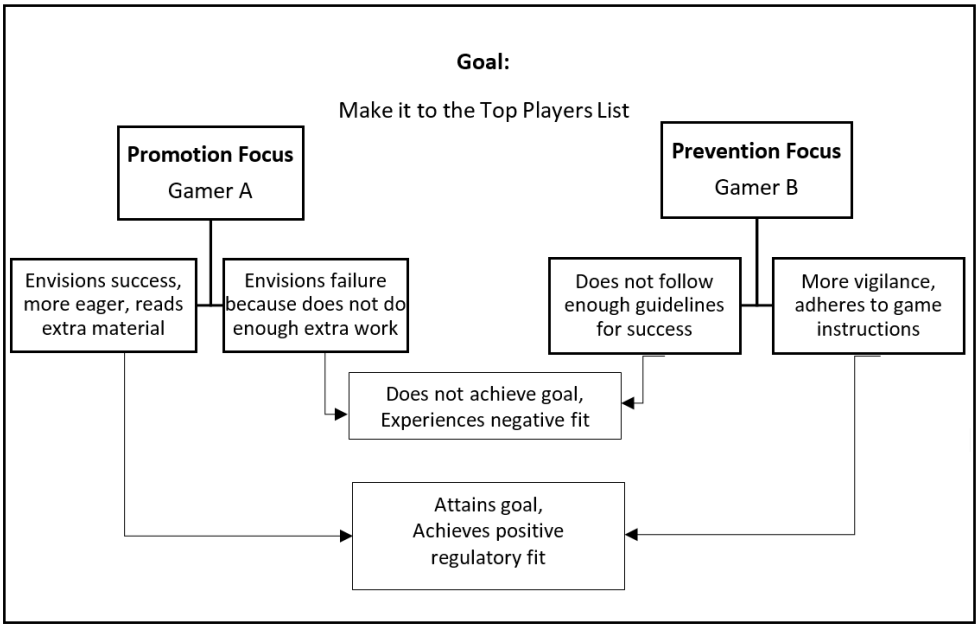


Figure 6. Two ways to achieve a goal for a gamer by Öztürkcan and Şengün (2016b, in print).

Player Types of Tseng (2011)

In a quantitative research, Tseng (2011) explored online gamer motivations within two factors; the need for exploration and the need for aggression. The results were able to explain three significantly different player groups; **the aggressive gamers** who scored high on aggression and low on exploration, **the social gamers** who scored high on exploration and low on aggression, and finally **the inactive gamers** who scored lowest on exploration but average on aggression.

Player Types of Wu and Holsapple (2014)

Although not entirely a player type research, the study of Wu and Holsapple (2014) approach video game use from the perspective of pleasure-oriented IT usage (hedonic consumption) theories, which incorporate the constructs of perceived usefulness (PU) and perceived ease of use (PEOU) (Brown and Venkatesh, 2005; Sun and Zhang, 2006) (Table 17).

According to their research the behavioral intention to play a game is the result of the fusion of two main components; imaginal experience, emotional experience, with control variables (subjective norm, playfulness, ease of use, and usefulness).

Table 17. Playing motivations of Wu and Holsapple (2014)

Type	***Subtype***	***Characteristics***
Imaginal Experience	Fantasy	"*[providing] relief for people imagining a world in which they are better placed than they are in reality*" (p. 83)
	Escapism	Escaping problematic realities by occupying one's mind
	Role Projection	Embodiment of characters or roles
Emotional Experience	Emotional Involvement	Having an emotional immersion with the activity
	Enjoyment	The emotional involvement state which results in joy and pleasure
	Arousal	The emotional involvement state which results in excitement and alertness

Player Types of Yee (2006)

In 2006, Yee published an influential survey on the motivations of MMORPG players to play video games. The significance of the study relied on data achieved over a period of 3 years from an impressive sample size of 30,000 players. As a result Yee has identified five models of user motivations; Achievement, Relationship, Immersion, Escapism, and Manipulation (Table 18).

Table 18. Player types of Yee (2006)

Type	***Characteristics***
Achievement	Being best inside the game, accumulation of power and virtual assets
Relationship	Interacting with other, creating relationships that purveys real life insight
Immersion	Enjoying a fantasy world embodying another persona
Escapism	Using the virtual world to escape real world troubles, avoiding issues waiting to be solved in real life
Manipulation	Using the game or other players to one's own satisfaction, scamming, dominating, and beating them in competition

Yee also tested for three additional motivation factors; Leading Others, Solo vs Group Play, and Learning. However these models proved to be inconclusive within the research results. Lee concludes that these factors were either "*an effect and not a cause for using MMORPGs*" or "*seemed to describe how people behave in MMORPGs rather than why they use MMORPGs*" (p. 332).

3.4. Combining Typologies: The Odd One Out

The findings and player types discussed in this section can be combined to create a summarization of the research area so far (Table 19). It is possible to conclude that many similar typologies appear with common ideas and motivational types. The summary provides the types as they were presented in the relevant studies, yet then attempts to translate them into a single conceptual typologies for the sake of argument.

Before creating this combination, it seems fruitful to acknowledge the several weaknesses of player type studies. Initially as some of the studies underline, the player types are not rigid structures in which a player should be entirely a member of a single type and lack transitivity. In reality, players are a combination of these behaviors and move between typologies depending on time, occasion, and game. That being said it is questionable whether these studies could be placed side by side and compared, since they are based on different theorethical and analytical approaches. This study accepts that tentatively their results can be presented together for the purposes of outlining the positioning of narrative players within the field.

The combined typology covers the majority of explained player types under nine categories. The core argument of this thesis lies in the observation that the Narrative / Fantasy player type stands as the odd one out, since all other player types have behavioral implications, while it is pretty unclear how players enjoy narrative. In the first glance, it might be accepted that “to be narrated” or “to live in a fantasy world” might be the behaviors associated with this player type, however that does not seem to be the case when other player types are associated with narrative consumption. For example, dominating narrative (accessing all the content of a game) vs participating in narrative (instead of consuming, bypassing the ready made content and creating one’s own), are possible behaviors. Consequently it is possible to say that “narrative / fantasy” player type is heavily underexplained in terms of their in-game behaviors and how they interact with the narrative components of the games.

3.5. Summary

Bringing together, the 19 research presented in this chapter, it seems possible to compress player types inside nine behaviours (Table 19); to achieve / to be challenged, to socialize, to be immersed, to escape / to create a diversion, to compete / to dominate, to explore, to be aroused / to take risks to express / to participate, and finally narrative / fantasy. It has been

suggested that while all other types are associated with actions, it seems underdeveloped what the narrative type players do inside games.

The next chapter will pickup from Chapter 2, and construct a cluster of concepts that constitute narrativity.

Table 19. Combining typologies; the state of player type research so far

	Barlle (2005)	*Bateman et al. (2005)*	*Carr et al. (2006)*	*Drachen et al. (2009)*	*Hamari et al. (2014)*	*Hartmann et al. (2006a)*	*Hunicke et al. (2004)*	*James et al. (2013)*	*Kallio et al. (2011)*	*King et al. (2009)*	*Klug et al. (2006)*	*Lazzaro (2004)*	*Olson (2010)*	*Raney et al. (2006)*	*Sherry et al. (2006)*	*Sirkin (2006)*	*Tseng (2011)*	*Wu et al. (2014)*	*Yee (2006)*
To achieve / to be challenged	★	★	★	★	★	★	★	★		★	★	★		★	★	☆			★
To socialize	★		★		★	★	★	★	★	★	★	★	★	★	★	☆			★
To be immersed		☆		★	★		★		★	★	★	☆	★	★				★	★
To escape / to create a diversion						★	★		★	★	★	★			★			★	★
To compete / to dominate	★	★			★	★	★	★			★	☆		☆	★	★	☆		☆
Narrative / fantasy			★	☆		★	★			☆	★				★			★	
To explore	★	☆		★	★		★			★	★						★		
To be aroused / to take risks				☆		★	★		★	★	★	☆	☆	★	★	★		★	
To express / to participate		★					★				★		★						

★: ***Explicit Type*** ☆: ***Implied Type***

4. A Joint Model for Narrative Players

Based on previously presented research and theories, this chapter will discuss the building blocks of narrative definitions and their sub-components. The aim of this chapter is to construct a narrative component cluster to be utilized inside the research that will determine which components various players seek inside the narrativity of video games.

What could be motivational about experiencing narrative in an interactive medium. Pratten's (2011) observations about transmedia storytelling might also be applicable to video game narratives. Video game narratives are not transmedia, however they are also fragmented as smaller narrative outlets inside the video game space within formats such as text, video, audio, dialogue, characters, and visual cues. Moving in the video game space, "*euphoria of collecting the pieces*" (Pratten, 2011, p. 2), and the satisfaction of bringing them together to facilitate understanding and enjoyment might be a key point in understanding video game narrative engagement. As much as puzzle solving is an important part of narrative game experiences (such as in adventure games like *Myst*, or cinematic games like *Until Dawn* in which you have to combine correct items to proceed), the idea of bringing together fragmented video game narratives can also be seen as a bigger puzzle experience. As Danesi (2002) puts it "*unraveling the solution to a mystery story or to a puzzle seems to produce a kind of 'mental catharsis', since people typically feel a sense of relief from suspense when they find the answer to the mystery or puzzle*" (p. 2).

On the other hand, contemporary commercial games (often called AAA – triple A games) and MMO games present so much content that they generate "*powerful effects on meaning, conceived here as always arising from the meeting point of existing, shared interpretive frameworks and unique, contingent circumstances*" (Malaby, 2007, p. 108). As a result, these kind of games create a large number of narrative components of so many different styles, that they become a territory of extensive possibilities, that is

very hard to classify or explain with simplistic models. Games like *World of Warcraft* ambush its players from so many perspectives of motivationals approaches, be it ludic or narrative, it becomes impractical to present a clear model of their presentation of content.

4.1. A Note on Narrative as Engagement

Narrative has been offered as an engagement point long before the video game medium. It has been suggested that individuals have the ability to imagine themselves inside narrated realities (Hilgard, 1979). During the action of reading a narrative, engagement mostly depends on emotional arousal (Oatley and Gholamain, 1997). It has also been proposed that emotional arousal plays part in selection of written narrative (books, short stories) to read, as well as during and after reading (Mar et *al.*, 2011). According to Polichak and Gerrig (2003), individuals can also engage with written narratives over characters with various psychological processes such as identification, participation, and comparison with autobiographies. Narrative has also been offered as an important element in engagement in hypermedia environments (Forrester, 1996) and hypertextual designs (McLellan, 1993).

Lee et *al.* (2006) lists four main functions of narratives in video game engagement;

- Facilitating the easy understanding of the virtual world by establishing physical connections,
- Eliminate complex cognitive processes for players in deciding what to do and how to act,
- Feeling incentivized to consume and/or finalize the narrative as a success criteria in performance,
- Creating powerful presence,

and conclude that "*the studies provide compelling empirical evidence that narratives are important for user gratification in interactive as well as noninteractive media*" (Lee et al., 2006, p. 271).

4.2. Narrative Components as Engagement

To understand what narrative type players might be seeking inside video game narratives, a cluster model for the narrative components and their content is seemingly needed. By focusing on each component then it is possible to pinpoint which players obssess on which ones, and discover a relational understanding of their sub-types.

Storyworld

Jenkins (2006) uses three concepts while describing the alternate realities a story creates; “world”, “world building” (p. 116), and “universe” (p. 128). Semantically the concept of universe implies something much larger than the world, and world building implies an ongoing action. For the sake of argument, this work adopts the concept of storyworld to describe the setting of a narrative. In video games, storyworlds consist of components more than the story script or scenario of the game. All created locales, along with NPCs (non-playable characters), dialogues, textual and visual clues of the world, and many more components could be deemed as part of the storyworld. These are all the components that are created by the game developers to enchance the coherent reality of the setting, as described by Jenkins (2004) as “*enviromental storytelling*” (p. 123).

As much as the majority of video game storyworlds are fantastic and eccentric, the inherent presentation of reality of a video game offers is also unrealistic in itself (for example dying and being reborn, to say the least). Previous research suggests that under fantastic conditions the audience of a narrative is more forgiving about realism (Shapiro and Chock, 2004), especially if there is a heavy element of comedy instilled inside the storyworld (Shapiro and Chock, 2003). It has also been suggested that inside virtual environments one of the most prominent attribute of storyworlds is attention to contextual detail (Shapiro and McDonald, 1992). Since video game players constantly need to focus their attention inside the game, they

seem to be more likely to catch and internalize details about the storyworld implanted inside the various aspects of the game.

On the other hand, video games do not need to present narrative-wise coherent worlds to their audience. In fact "coherent world" is a category suggested by Juul (2005) for describing the storyworld of a video game. His other four categories are; abstract, iconic, incoherent, and fused (different game worlds nested inside each other). These categories range from worlds that do not rely on any kind of coherent rules of realism (such as the world of *Super Mario Bros*), or rely only on abstract or iconic likeness (such as *Battle Chess*).

Embodiment and Empathy

Carter et *al.* (2012) identifies four levels of identities inside virtual environments and video games; the user (the real-world identity of the player), the player (the persistent characteristics of a user inside video games), the character (the virtual persona embodied by the player inside the virtual world), and the avatar (the visual representations that refer to the character). Building on this approach it could be suggested that a user might have multiple player identities depending on the genre and type of game she is playing. For example, a player might prefer support (sometimes called healer) type characters inside MMO games while another might be inclined to play stealth type characters. Moving onto another genre, the same player might have different tastes. A player who plays healer type characters inside a MMORPG game, might be playing more Machiavellian type characters inside single player RPGs.

Consequently, the emphatical relationships between user / player and character / avatar dualities are bound to have effects for the impact of narratives. Building on Grodal's (1997) mental model of empathy and identification, Juul (1999) suggests that the user / player never assumes that she has become the character / avatar. Instead the user / player finds herself in a position to "*evaluate the relevant goals, wishes and threats*" (Juul,

1999, p. 44) of the character / avatar. Moreover he inserts that; "*in a game like Space Invaders [the player do not] cognitively identify with the small green spaceship [...] and since a space ship is presumably neither intelligent or capable of emotions or perception [the player] do not try to create a mental model for it*" (p. 44-45). Instead the player just deems the spaceship as an asset to protect and enemy ships as disposable. Juul's interpretation works on video games that do not employ a human or an anthropomorphic central character(s). In video games with characters whose fate the player can control however it is expected for the player to emphatize with the character(s). In games like *Until Dawn* or *Gods Will Be Watching*, this happens to the extent that the player is introduced to many characters and ends up deciding who lives and who dies at the end of the story. In other games like *Star Wars: Knights of the Old Republic, Mass Effect 3*, and *Dragon Age: Inquisition*, the player controls a main character, but also meets with companion NPCs during play, whose fate she also controls with the decisions made throughout the story. Yet again building on Grodal's and Genette's (1983) approaches of point of view and knowledge possession, Juul (1999) concludes that these cases still do not constitute enbodiment, and the idea of the body is missing from the games.

A similar approach is also specified by Cunningham (1997), where she offers that the selection and evolution of video game characters are not really based on narrative concerns but rather on pragmatic expectations of game play. Fleming (1996) also asserts that as characters get more abstract (as in many video games) the role of identification transforms into spectatorship, and the player, instead of identifying with the character, starts to see herself as a hand of god that intervenes in the events on behalf of the character. Montfort (2007) suggests that the video game character is a navigational tool and what matters more is its place and relation within the storyworld. This approach suggests that unlike some traditional or previous media narratives, video game narratives are not about character exploration but rather about the storyworld and spatial navigation. In this light one can

see a video game character much as a puppet (Westecott, 2009; Klevjer, 2006), rather than an identified entity.

There are also opposite views. Skirrow (1986) proposes that the player and the character become a split subject, especially inside first person 3D games. The character becomes a window through which the player gains the ability to look through into another reality. Schneider (2004) proposes that the game's narrative (storyworld) effects the process of identifying with the character and as a result the identification effects the arousal and fun gained from the game.

In previous media (such as TV, film) it has been suggested that identification was a process of moral conduct of the characters (Zillmann, 1988a; 1988b). By comparing the moral values of characters with their own, individuals were able to identify with them, wishing good outcomes for them as well as fearing harm. The same approach also works inside the video game medium, moreover there seems to be an additional opportunity; the decisions and the experimentality of the player who can decide the moral conducts of the character and the outcome associated with it.

This study accepts a compromising view, as stated by Friedman (1995) who offers that identification occurs not on the level of characters but of processes. A video game character is a two-fold entity; one of ludic and one of narrative. In fact it could be said that when making a choice about selecting or upgrading a character, the user makes a choice about the player. However, when making a choice about the fate of the character in relation to the storyworld, the player is making a choice about the character itself. So the narrative video game character is a duality; a fusion of ludic processes that is governed by the user, and narrative processes that is governed by the player. This signals a radical distinction between "the narrative character" and "the ludic character", both of which exist at the same time. In fact this distinction occurs simultaneously within the perception of the user in relation to the video game too; the user is aware when the game is proceeding ludologically and when it is progressing

narratively. In *Mass Effect 3*, the user is aware when she is making choices about the fates of the companion NPCs, so she switches to the narrative character, protecting their interests. Yet when the choices are made and the characters are back on the battlefield, the sensitivity fades away. The player advances the characters into the front lines of the battle, not caring about the harm that they are about to endure. If harm comes to the ludic characters she can heal them back, or just simply reload the game.

Linearity and Non-Linearity

Linear storytelling is a familiar, effective, and widespread form, applicable to almost all media (Sheldon, 2004). The linear storytelling in video games is sometimes referred as "*string of pearls*" (Schell, 2008, p. 264). The pearls refer to cutscenes, textual, or other visual narrative segments which the player travels from one to another inside a linear flow. Typically travelling from one pearl to another requires the player to overcome a ludic segment, a puzzle, or travel within the game space. Till the player traverses this ludic game space within the pearls, the narrative do not progress and the whole storyworld pauses (Şengün, 2013b). Miller (2004) proposes that the linear storytelling does not exist in games; the interactive nature of the video games always make their narratives non-linear, even when they employ a linear storyline.

Non-linear storytelling is not an invention of video games (Şengün, 2013c). Examples of interactive literature and interactive film existed much before the storytelling in video games. Theorethically, with the expansion of technology and processing power, it could be possible to achieve interactive narratives (or video games) that are narratively unique each time played. In fact, even now some would argue that roguelike games (games with randomly created topologies each time played) present a taste of this opportunity. An easier solution achieved today for creating interactive narrativity is presenting the player with choices and branching the story as such (Adams and Rollings, 2007). The presented choices might have deep impact on the game, or sometimes just be pseudo-choices, all ending up in

the same aftermath (Figure 7). Even more advanced interactive storytelling techniques are modular (Sheldon, 2004), and emergent models (Aylett, 1999). The modular model embraces storytelling hubs (sometimes referred as rooms) which can be traversed in varying order. The model creates an interactivity in terms of sequentiality but rarely achieves variations inside the hubs.

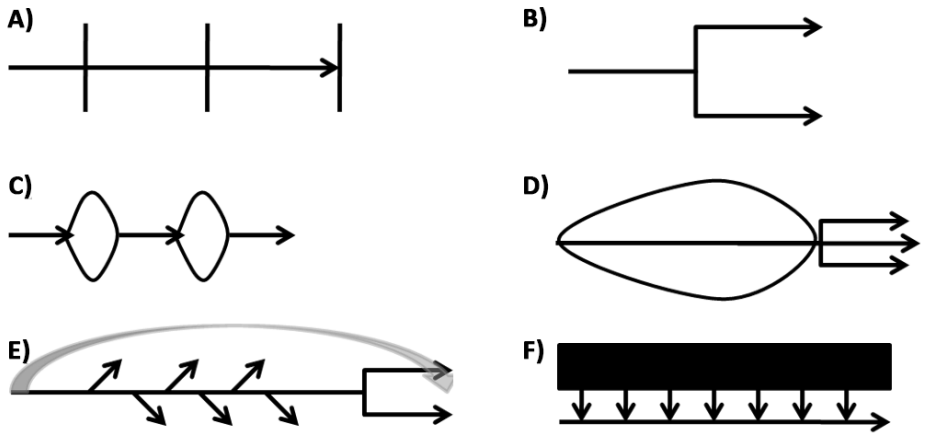


Figure 7. Different modes for linear flow. **A)** Standart linear narrative flow, interrupted by puzzles. **B)** Simple narrative branching. **C, D)** Branching narratives that merge after short intervals. **E, F)** Narrative models with a main storyline, and short narratives that diverge from the main flow, typically utilized by RPG type games.

Emergent models have several approaches. Aarseth (1997) defines emergent narratives as teaching software and machines to tell stories – turning the model into a computational phenomenon. In this approach the software reacts to user's decisions and directs the narrative into coherent outcomes. Jenkins (2004), on the other hand, turns to players to create meanings. In his approach the emergent narrative (video games in this case) presents a structural playground to the player – somestimes called a sandbox – and it is up to the player to generate her own narrative inside.

It should also be noted that many of these forms of non-linearity works best inside single player environments. Multiplayer non-linearity is a

much more complex phenomenon, where not only the computational aspects or the personal efforts of the player is in question, but the participation of other players come into play. A game like *Journey* can enrich its relatively short play time by randomly bringing other players inside an individual's game, with limited options to communicate between them, thus creating a different experience each time the game is played. In *Dark Souls 3*, the game space of the player is randomly "invaded" by other players, turning the game sessions into unpredictable ordeals.

Juul (2010) underlines that aspects of casual games (such as the interaction of rules and narrative) are presented in a distinctive way, especially in mobile gaming where short, simple, and flexible play times are expected to create fast meanings. In these casual games the story hubs or pearls in the narrative string are almost miniscule with play time between them being short and sometimes negligible.

Finally, Zimmermann (2004) approaches non-linearity in terms of freedoms offered to the player. He asserts that narrative needs to be designed to be an effective experience, however this design needs to be balanced with freedoms given to the player to constitute the feeling of play. Zimmermann's definition presents a delicate balance between linear and non-linear elements for the narrative to emerge.

Agency

As described by Murray (1997) agency is the satisfaction an individual gets from meaningful interactions, and observing the results of her decisions inside the video game space. Since video games have been offered as experimentative spaces, players are keen on making decisions and seeing the outcomes of distinctive curious and moral choices.

The concept of agency is in line with Csikszentmihalyi's (1996) flow theory described previously in this work. Csikszentmihalyi's flow also underlines the importance of feedback in creating meaningful experiences. In contrast with flow theory though, narrative agency may not employ

instant feedbacks. The narrative agency may employ long time investments in terms of seeing the results and consequences of choices. On the far side of the spectrum, *Silent Hill 2* was offered as a defiant example that obscured agency and gained recognition for it (Şengün, 2013a). As observed in the game; "*Silent Hill 2, decides the ending by examining the obscure actions taken by and the overall attitude of the player during the game play – especially when the player was unaware that he was making a decision*" (Şengün, 2013a, p. 183). This implies that the formula for agency is open to interpretations and experimentations, different approaches to agency might have varied impact on the audience.

Cutscenes and Scripted Video

Cutscenes are described as "*short movies designed to situate the player in the game world and context"* (Squire, 2008). They employ "[...] *effects and styles and usual conventions of a film industry alike*" (Říha, 2014). There has been a love-and-hate relationship between cutscenes and academics who study video game narratives. Typically cutscenes are employed by many games in relation to progressing its story segments. Even the earliest games like *Donkey Kong* utilize primitive cutscenes to establish a coherent, relatable story (in *Donkey Kong*'s case, the cutscene shows the kidnapping of *Jumpman*'s girlfriend, who will later be named *Mario* and *Peach* respectively). The fast adoption of cutscenes in the video game medium is not surprising, since visual culture has traversed through film and TV within the same century. Moreover the early industry employed storytellers and narrators, previously were working for film and television.

Obviously cutscenes present a non-interactive segment within the medium, which is supposed to be the pinnacle of interaction. Sheldon (2004) underlines that "*gameplay is an active experience; storytelling in cut scenes becomes passive, just like other media*" (p. 184). He also reasons that dividing the play experience into playing and watching, might be helping narrative, since interactivity during narrative segments hurt the narrative itself. Imagine game developers creating a scripted narrative event in a

certain part of the game; if the player is not looking at that space, the event might get wasted. However clever game and narrative design may come up with ideas that bypasseses this hardship. Within a much cherished opening segment, *Half-Life* players are travelling inside a cable car, free to look around at the events occuring around them. Although the player has the possibility to miss much of what happens, aural clues direct her to look at certain places at certain times. Other scripted events that kick off when players approach a certain space have also been employed.

Despite many similar criticism for disrupting the interactive nature of video games (Glassner, 2004; Klevjer, 2002; Falstein, 2005), it is vague if the audience of the medium is really complaining about them. For some game designers, cutscenes are effective rewards for players in regards to completing game segments and achieving game endings (Hancock, 2002; Molka-Danielsen et *al.*, 2010; Říha, 2014). For some companies like *Blizzard*, even the revealing of game's cutscenes before the release of the game, becomes a huge event for players (Blizzard Entertainment, 2015).

Text and Prompts

As a result of a qualitative analysis done with ten video games, Ip (2004) observed 12 forms of narrative in video games (p. 121);

1. Narrative as passive game screen
2. Narrative as on-screen text
3. Narrative as cut scene
4. Narrative as cut scene combined with on-screen text
5. Narrative as combination of gameplay, cut scene, and on-screen text
6. Narrative as combination of gameplay, sound, and textual cues
7. Short game prompts (mission hints or pointers) as on-screen text
8. Short game prompts as a cut scene
9. Short game prompts simultaneously as cut scene and on-screen text

10. Short game prompts as an integral part of gameplay
11. Short game prompts as gameplay, sound, and textual cues
12. Credit roll and/or ending sequence

This observation supports that text is still a big part of video game narrative. Apart from on-screen text presented on screen during play or cutscenes, in many games players are also able to find text entries (in terms of virtual notes, notebooks, lists, etc.) that support or enrich the backstories of the storyworld (Myers, 2014; Rollings and Adams, 2003).

Spatiality

Many scholars observe that game design and narrative in video games are a lot about world building and architecturing of space (Jenkins, 2004; Aarseth, 2000; Poole, 2000). As designers orchestrate narrative, they also forge storyworld, infusing it with visual cues that help convey the story, as well as facilitating expectations from the created story universe. As Jenkins (2004) confirms, players are accustomed to exploring game space in detail, looking for secrets, connections, metaphorical clues, and backstories. Poole (2000) observes that the spatiality in video game space inevitably replicates the spatial techniques of the real world space. Although there are some contemporary example games that utilize impossible geometries (*Monument Valley, Hocus*), this still seems true today.

Game worlds embody both ludic spaces and narrative spaces, since they are capable of displaying many different narrative components in a meaningful fashion. Consequently video game spaces possess the ability to become stages where story enactments become possible. By designing encounters, background animations, and aural cues, the video game space becomes a constantly moving stage for performance. Additionally video game space can host emergent component for players to find and construct their own stories. Their heavy emphasis on visuality might register their abilities of complex and refined sense of spatial storytelling, however games are also very capable in audible storytelling. Since this virtual world is also

interactive each player will discover its own way of interacting, owning, or exploring the space – but even more importantly the narrative space itself. This approach indicates that as much as there are different players in their ways of interacting with the game world, there must be distinctively different ways players also reason with the narrative world.

Temporality and Sequentiality

According to Labov and Waletzky (1967) narrative is "*a story which follows a chronological sequence. The order of events moves in a linear way through time and the order cannot be changed without changing the inferred sequence of events in the original semantic interpretation*" (p. 21). Sequentiality is a recurring theme in the definitions of narrative (Young, 1987; Labov 1972). However Aarseth (2003) identifies the existence of various types nonsequential storytelling before and after digital media as "*forking, linking / jumping, permutation, computation, and polygenesis*". Based on Genette's (1983) three part structure of story, narrative, and narrating (histoire, récit and narration), it has been suggested that the seemingly unsequential nature of video game narrative could be understood (Şengün, 2013c). Although the structure of a single video game might contain many possibilities of narrative flows, a single play through session creates a single instance of these possible outcomes. In this regard, story (histoire) becomes the totalness of all narrative possibilities in the game, while narrative (récit) is the single story created during the play process. Finally narrating (narration) is the process of creating the narrative (récit).

However this raises another concern about interactive narrativity, the issue of recounting and temporality, as several definitions focus on narrative's characteristic of being about the reporting of past events (Labov, 1972; Brown, 1987; Lowe, 2000; Ryan, 1997, 2001). Juul (2001) goes as far to say; "*there is an inherent conflict between the now of the interaction and the past or 'prior' of the narrative. You can't have narration and interactivity at the same time; there is no such thing as a continuously interactive story*" (p. 9). Reverting back to Genette's structure, interaction

seems to a part of the process of narrating (narration). The fact that the process has interactive characteristic does not negate the result, which forms the narrative (récit).

Studies made about message processing on TV and radio have indicated that there are limits to cognitive processing of visual and aural content such as images, audio, dialogue, and scene changes (Lang, 2000; Bolls; 2002, Bolls and Lang, 2003). While some of these material could be processed automatically, an abundance of stimuli have the capacity to push the viewer out of the experience. Consequentially pacing becomes an important part of the overall process, both narrative wise and ludologically.

4.3. Summary

This chapter defined and focused on eight categories of components that shape the context of narratives; storyworld, embodiment and empathy, linearity / non-linearity, agency, cutscenes and scripted video, text and prompts, spatiality, and temporality and sequentiality. Each category was discussed in detail and sub-concepts were identified.

The next chapter will outline the research method that will be followed to determine the variant behaviours inside the narrative player type.

5. Research Method for Uncovering the Motivations of Narrative Players

This chapter will define the step-by-step method that will be utilized in this research to better define narrative player types. The method will utilize textual analysis along with valence analysis to underline which components were valued by narrative players and what sentiments they felt towards them.

Several researchers conclude that the only effective research method in game studies is actually playing the games (Aarseth, 2004; Konzack, 2002; Mäyrä, 2008). To gain a better insight into the material it is recommended that all researchers experiment with the games first hand. Other studies have suggested various frameworks for game analysis that may or may not involve play exprience (Malliet, 2007; Hunicke et *al.*, 2004; Consalvo and Dutton, 2006).

Game experiences can be quantified with various hardware applications as to provide data to quantitative research (Nacke and Lindley, 2008; Tychsen, 2008; Feltwell et *al.*, 2012). These methods usually utilize special play environments where the users are connected to specific hardware setups which produce numerical data of the interaction of the player with the game. As these data collection methods are performed under laboratory conditions, the behaviours performed by users may or may not reflect their natural attitudes, thus lowering the research findings external validity. There are conflicting approaches regarding the persuasiveness of the theoretical results achieved with low (Cook and Campbell, 1979; Calder et *al.*, 1982) and high external validity (Campbell and Stanley, 1966).

Leading methods in qualitative research in game studies seem to be interviews and focus groups (Mäyrä, 2008; Poels et *al.*, 2007; Paavilainen et *al.*, 2014). Depending on data gathered from these interviews and focus groups, several researchers have offered theoretical frameworks to analyze

players' experiences of game play (Korhonen et *al.*, 2009; Arrasvuori et *al.*, 2011).

Aarseth (2004) also takes into account the secondary data of playing experiences of other people as research material. This might range from observation of the playing process, to reviews, walkthroughs, playthroughs, and recorded videos of them. Since each play process places the existence of a player in its center, all of these second order data present personal ordeals, that constitute segmented tendencies. Consalvo (2003) proposes that the analyzed reviews are not specific play segments but heavily edited experiences derived from one or many play experiences. However even this opens up new possibilities for analysis. Buried inside the fabric of review process, the reviewer is aware of an invisible audience to whom the review is targeted. For indie games, which are games released from small development companies, the reviewer could guess that the producers of the game will actively be reading and contemplating on the reviews, as well as other players who will utilize the reviews for purchase decisions. This outlook pushes review writing for video games into a co-creative process that has the ability to transcend the wider social and cultural context of the game at hand. Gamers often seek walkthroughs, reviews, talk with friends, and watch *YouTube* videos of other players playing the game. As identified by previous research, video games do not only efffect us during the play process only, but also have effects when the game is off (Stevens et *al.*, 2008). The review writing process is the result of this "off" time, a product of the negotiation of the game's content and context, with the personal perspectives of the player.

User reviews has been suggested as effective sources of information in other areas like film (Dellarocas et *al.*, 2007), books (Chevalier et *al.*, 2006), and retail (Zhang et *al.*, 2010; Ghose and Ipeirotis, 2010; Park et *al.*, 2007). Previous research on video game player reviews are particularly scarce. Zhu and Zhang (2010) suggest that the user reviews were more effective in purchase decisions when the games and its producers were less

popular and known in the industry. As the awareness of the game and the production company increased, the players consulted the reviews of other players less and less. Pinelle et *al.* (2008) gathered the user reviews of 108 games, performed a content analysis on them to identify common heuristic usability problems in video games. Several studies also employed textual analysis of player reviews to determine the situation of gender representation in video games (Ivory, 2006; Ogletree and Drake, 2007).

To achieve a higher external validity than survey conditions, this study employed textual analysis of player reviews as secondary data. The textual analysis aimed to infer relations regarding the consumption of narrative components as well as players' dispositions towards them. Likewise, the proximity of similar valence conditions towards similar narrative components enabled the formation of distinctive narrative player types.

5.1. Textual Research on Player Reviews to Identify Narrative Player Types

Consalvo (2003) offers that "*construction of games as narrative is underscored by comments of gamers themselves, who often remark on the relative merits of stories in games, often praising RPGs in particular for their interesting, extended, and grand story lines*" (p. 331). To understand which narrative components, narrative players value and interact with inside games this study will utilize the player reviews of selected video games. Quantitative methodologies will be employed for various levels of analysis including semantic clusterization, cluster analysis, and valence analysis. Specifically, semantic clusterization will be used to identify which narrative components were mentioned in game reviews and proximity analysis will draw a picture of their relation to each other. Finally a valence analysis will be performed on each semantic cluster to understand the affection towards the use of narrative components.

Selection of Data Set

As of 2015, it has been reported that three out of every four PC games sold were being distributed by the Steam platform[1] (Tyson, 2015). Accordingly various video game studies have been conducted using data from Steam platform (Hamari and Eranti, 2011; Becker et *al.*, 2012; Sifa et *al.*, 2015). Consequently this study also utilized the Steam reviews to gather data. Methodological toolkit presented by Gunter (2012) in quantitative media studies research, supports sample sets acquired from thematic theory based areas. Since the research is about the attitudes of players towards narrative components, the theory based sampling of meaningful data needs to come from narrative game reviews.

In 2014, Steam platform allowed users to tag games as they saw fit (Ravenscraft, 2014). As of February 2016, the extremely popular platform had 323 tags to define games (Appendix A). To create an inclusive and unbiased selection of games, and to avoid self-selection bias (Heckman, 1990), 4 experts (2 academicians studying video games and 2 game developers) have been asked to select 10 Steam tags each which they thought would be best to "*discover narrative games*". Out of those tags that they have chosen, the study picked those that were selected by at least %75 of the participants (Table 20-21).

Table 20. Selection of Steam tags for discovering narrative games - I

	Dev*. #1	***Dev*. #2***	***Res*. #1***	***Res*. #2***
Adventure	✓			✓
Atmospheric		✓		
Based on a Novel		✓		
Choices Matter	✓			✓
Choose Your Own Adventure	✓	✓		✓
Cinematic		✓		

[1] http://store.steampowered.com/

Drama	✓	✓		
Dynamic Narration	✓	✓		✓
Episodic		✓		
Interactive Fiction	✓	✓		✓
Multiple Endings	✓		✓	
Narration	✓	✓	✓	✓
Noir			✓	
Point & Click				✓
Psychological Horror			✓	
RPG			✓	✓
Sandbox			✓	
Simulation			✓	
Story Rich	✓	✓	✓	✓
Strategy RPG			✓	
Visual Novel	✓		✓	✓

* Dev: Developer, Res: Researcher

Table 21. Selection of Steam tags for discovering narrative games – II

Steam Tag	***Selection Percentage***
Choose Your Own Adventure	75%
Dynamic Narration	75%
Interactive Fiction	75%
Narration	100%
Story Rich	100%
Visual Novel	75%

The result was the selection of six tags; Narration and Story Rich (by 100% selection), Choose Your Own Adventure, Dynamic Narration, Interactive Fiction, and Visual novel (by 75% selection).

As of March 2016, the three top-rated games in each six tags were noted, to a total of 18 games. If there was a recurrence in the game (a game

appearing in the top list of two or more different tags), the second appearance of the game was omitted and the next game in the list was selected. As a result a very diverse selection of games took shape, ranging from indie titles to AAA releases, from RPGs to platform games, from new releases to iconic games (Table 22).

Table 22. Video games used in this study

Choose Your Own Adventure	1	The Wolf Among Us	7	The Town of Light	13	Hand of Fate
		Steam Game ID: 250320		Steam Game ID: 433100		Steam Game ID: 266510
Dynamic Narration	2	The Stanley Parable	8	Read Only Memories	14	Bastion
		Steam Game ID: 221910		Steam Game ID: 330820		Steam Game ID: /107100
Interactive Fiction	3	To The Moon	9	Choice of Robots	15	80 Days
		Steam Game ID: 206440		Steam Game ID: 339350		Steam Game ID: 381780
Narration	4	Thomas Was Alone	10	That Dragon Cancer	16	The Beginner's Guide
		Steam Game ID: 220780		Steam Game ID: 419460		Steam Game ID: 303210
Story Rich	5	Hyperdimension Neptunia Re;Birth1	11	The Elder Scrolls Online: Tamriel Unlimited	17	Fallout 4
		Steam Game ID: 282900		Steam Game ID: 306130		Steam Game ID: 377160
Visual Novel	6	BlazBlue: Chronophantasma Extend	12	The Next World	18	NEKOPARA Vol. 1
		Steam Game ID: 388750		Steam Game ID: 427860		Steam Game ID: 333600

The Steam pages of each game contains (apart from detailed information and media about the game) a customer reviews section. This section has six tabs; Summary, Most Helpful, Recent, Positive, Negative, and Funny. *Positive* and *Negative* tabs list the reviews that give the game thumbs up and thumbs down, while *Recent* tab mixes these reviews. Additionally other users can rate each review as helpful, not helpful and funny, which moves them to the *Most Helpful* and *Funny* sections.

The dataset consisted of at most 100 customer reviews from each video game, to a total of 1690 customer reviews. The selection of reviews followed these rules;

- The ratio of *Positive* to *Negative* reviews were replicated in the sample review set. For example if a video game had 9000 positive, and 1000 negative reviews (10% ratio of negative to total), the sample 100 reviews also had 90 positive and 10 negatives (Figure 8 and Table 23).
- The reviews were selected starting from the newest and moving backwards in date.
- *Early Access Reviews* were omitted, due to the likelihood that these players did not experience the final release of the game.
- Reviews shorter than 800 characters or 13 lines were omitted. This is the "READ MORE" limit for Steam reviews. Reviews shorter than 800 characters or 13 lines can be read completely from the game page without clicking the "READ MORE" link. To upkeep the data density quality, the short reviews were eliminated. An alternate approach would have been to acquire review data based on character count and not review count. However this method was also presumed to possess the ability for unbalanced data sets between video games (Figure 9-10).
- External links were omitted and not followed. Occasionally reviews had external links (such as "to read the full review click here") that sent the readers to full reviews or personal websites of

the reviewer. The data from these links were not involved in the data sets.

- Reviews containing large amounts of non-contextual content were removed manually (such as reviews consisting of big ASCII art, and little text).
- If the game does not have a total of 100 reviews that fit the above rules, the empty slots were filled with the remaining reviews that did not. External links were still not followed.
- If the game has less than 100 reviews that did or did not fit the rules, all the reviews were taken into the data. External links were still not followed.

Table 23. Positive vs Negative Reviews in Data Set

Game	***Positive***	***Negative***	***Total***
The Wolf Among Us	99	1	n=100
The Stanley Parable	91	9	n=100
To The Moon	97	3	n=100
Thomas Was Alone	95	5	n=100
Hyperdimension Neptunia Re;Birth1	84	4	n=88
BlazBlue: Chronophantasma Extend	74	5	n=79
The Town of Light	67	22	n=89
Read Only Memories	88	12	n=100
Choice of Robots	98	2	n=100
That Dragon Cancer	90	10	n=100
The Elder Scrolls® Online: Tamriel Unlimited	70	30	n=100
The Next World	24	10	n=34
Hand of Fate	92	8	n=100
Bastion	97	3	n=100
80 Days	93	7	n=100
The Beginner's Guide	84	16	n=100

Fallout 4	76	24	n=100
NEKOPARA Vol. 1	98	2	n=100

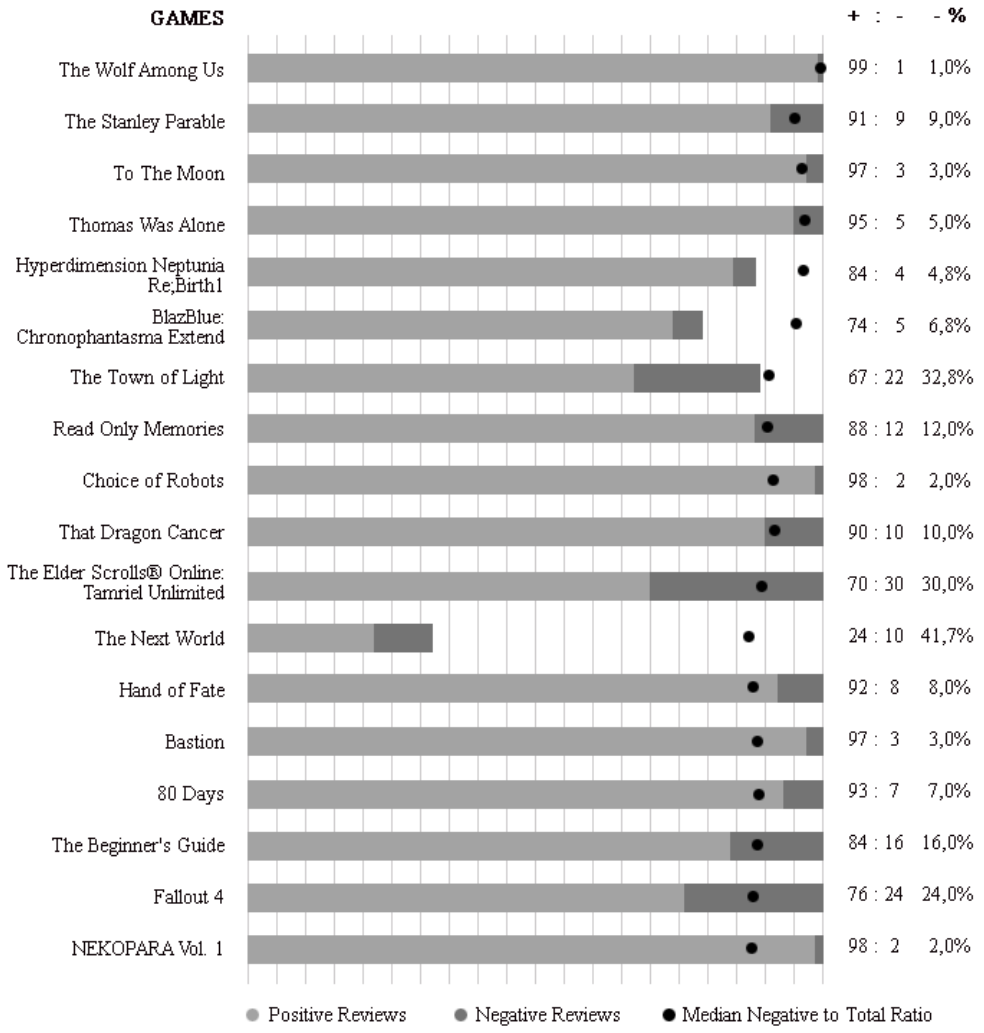


Figure 8. Positive vs negative reviews in each game (the ratio replicates the overall positive vs negative review ratio in Steam).

By exploring the reviews semantically, it is aimed to construct an empirical framework for transtextuality of the valence of narrative components. The narrative player types will then be explained utilizing these variables; valence, the semantic valuation of narrative components, and proximity of players who demonstrate similar valence towards similar context. Consequently it is expected that players will display their own

narrative flavour, and by examining differences and affordances, ultimately certain player types will emerge.

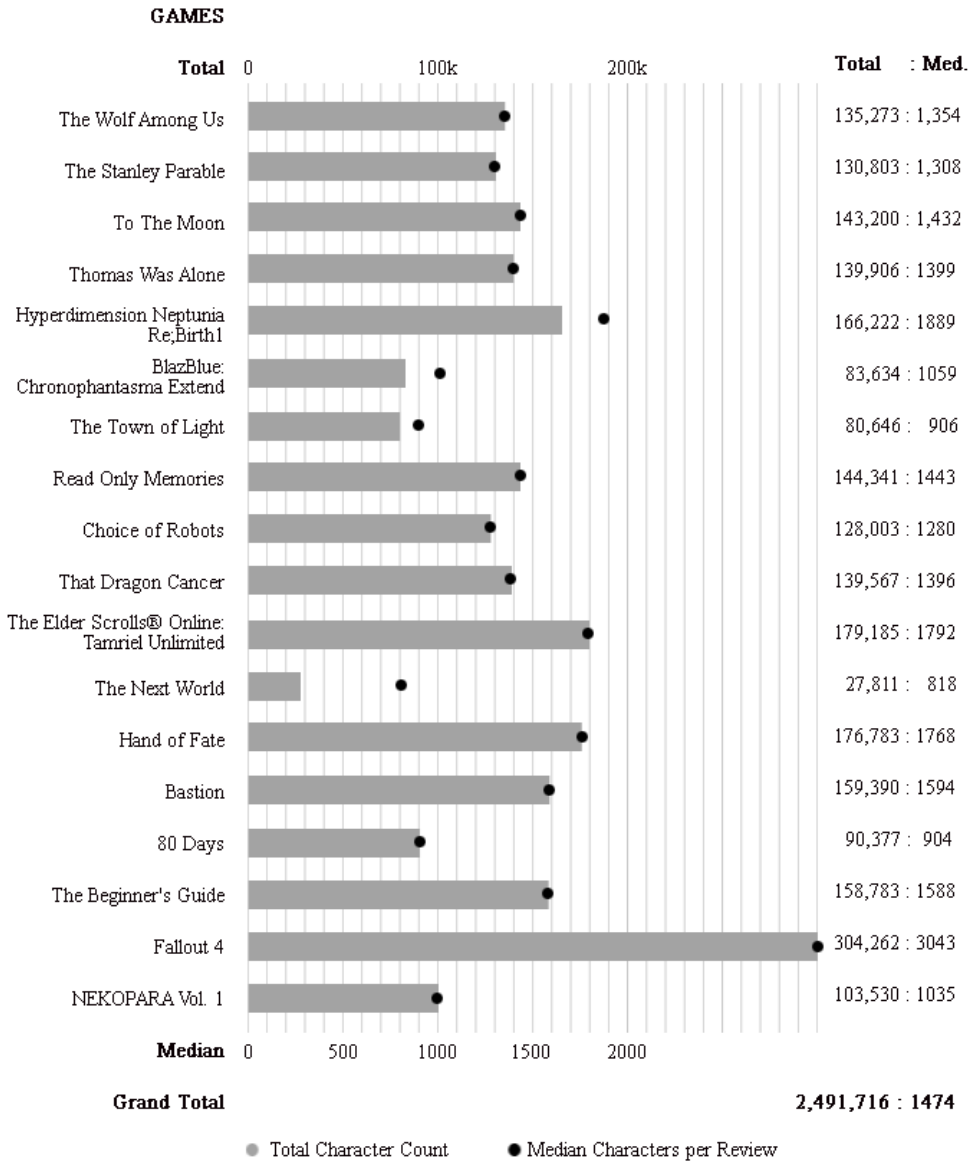


Figure 9. Total character counts, median character counts and grand total for reviews in each game.

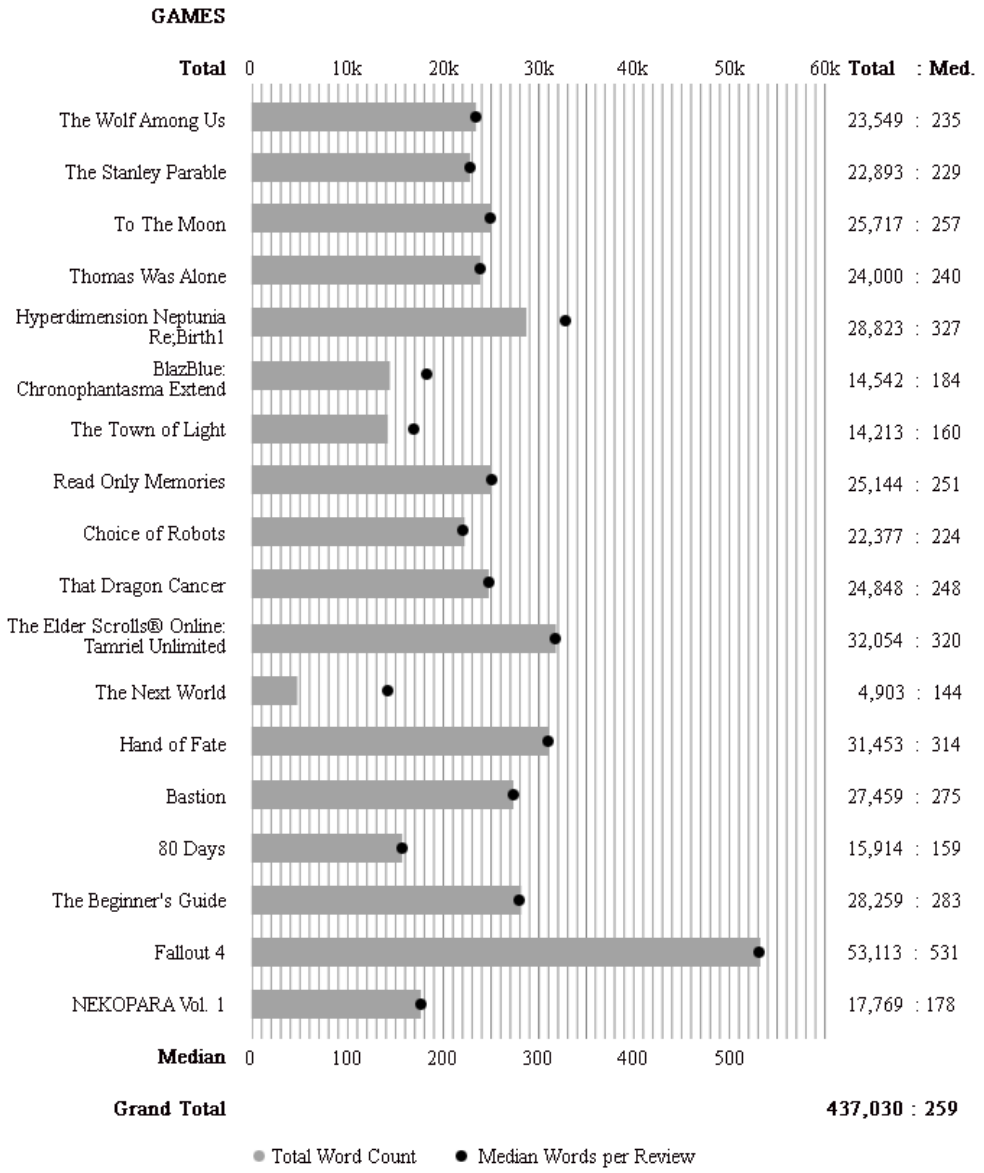


Figure 10. Total word counts, median word counts and grand total for reviews in each game.

Textual Analysis of Narrative Clusters

According to the literature review presented in section 4.2 of this study, a semantic word cluster that represents narrative components of video games was created. Initially the definitions of each player types and narrative components were read and re-read to "*capture the essential quality*" of the definitions (Smith and Osborn, 2008, p. 68). The significant and dominant components were identified and noted. Subsequently these

components were elaborated into more concise subthemes. The themes that emerged were distributed into contextual clusters. Each cluster was given a leading keyword, as well as subkeywords to capture the nature of the component (Table 24, Figure 11). Finally, utilizing these word groups, a textual cluster analysis was performed on the data set.

Table 24. The first three layers of narrative clusters used in the study

Main Cluster	***Sub-Cluster***	***Leading Keywords***
Storyworld	Story	Story *Stories, Storywise, Story-wise*
		Script *Scripts, Scriptwise, Script-wise*
		Scenario *Scenarios, Scenariowise, Scenario-wise*
		Storyline *Storylines, Story-line, Story-lines*
		Storytelling *Storytellings, Storytold*
		Narrative *Narratives, Narrativewise, Narrative-wise*
		Narration *Narrations, Narrationwise, Narration-wise*
		Narrator *Narrators*
		Spoil *Spoiling, Spoils*
		Written
		Writing
		Tale *Tales*
		Screenplay *Screenplays*

		Novel *Novels*
		Adventure *Adventures*
		Reference *References, Referencing*
		Trope *Tropes*
		Backstory *Backstories, Back-story, Back-stories*
		Literature
	World	World *Worlds, Worldbuilding, World-building, Realm, Realms*
		Universe *Universes, Universebuilding, Universe-building*
		Detail *Details, Detailed*
		Realistic *Too Real, Realism*
		Extras
		Atmosphere *Atmospheric*
		Ambiance *Ambient*
		Creative
		Setting *Settings*
Embodiment / Empathy	Character	Character *Main, Leading, Customization*
		Avatar *Avatars, Main, Leading, Customization*
		Toon *Toons, Main, Leading, Customization*

		Identify *Identified, Identifies*
		Upgrade *Upgrades, Upgraded, Upgrading*
		Voice *Voice Acting, Voice Over*
		Dub *Dubs, Dubbing*
		Animation *Animations, Movement, Movements*
	Companion	Companion *Companions*
		NPC *NPCs*
		Characters *Other Characters, Suppoting Characters, Support Characters*
Linearity / Non-linearity	Linear	Linear *Linearity, Non-linear, Non Linear, Nonlinear, Non-linearity, Nonlinearity, Non Linearity*
		Choice *Choices, Choose, Choosing, Chosen, Chose*
		Emerge *Emerging, Emergent, Emerges, Dynamic, Randomized, Random*
		Branch *Branching, Branches*
		Fork *Forking, Forks*
		Diverge *Diverges, Divergent, Diverse*
		Path *Paths, Pathing*
		Route

		Routes
		Variation *Variations, Varied, Various*
	Ending	Ending *Endings, Ends, Concludes,* *Conclusion, Conclusions, Closure*
		Sandbox *Open World*
		Freedom
		Replay *Replayable*
Agency	Agency	Agency
		Decision *Decisions, Decide, Decided*
		Result *Results, Resulting*
		Consequence *Consequences, Consequential*
		Engage *Engages, Engaging, Engaged*
		Immerse *Immerses, Immersing, Immersede,* *Immersive*
		Experience *Experiences, Experienced,* *Experiencing*
		Impact *Impacted, Impacts*
	Control	Control *Controls, Controlled, Controlling*
		Gameplay *Game play*
		Non-game
		Walking Simulator
Cutscene / Scripted	Cutscene	Cutscene *Cutscenes, Cut scene, Cut scenes,*

Video		*Cut-scene, Cut-scenes*
		Video (-Game) *Videos*
		Film *Films*
		Intro *Intros*
	Scripted	Scripted
		In-game
Text / Prompts	Dialogue	Dialogue *Dialogues, Dialog, Response, Responses*
		Speech *Speeches*
		Conversation *Conversations, Converse*
	Text	Text *Texts, Textual*
		On-screen
		Hint *Hints*
		Pointer *Pointers*
		Journal *Journals, Journal Entry, Diary, Diaries, Notes*
		Read *Reading*
Spatiality	Environment	Environment
		Architecture *Building, Buildings, City, Cities, Town, Towns, Village, Villages*
		Scene *Places, Background, Backgrounds, Scenery*
	Audiovisual	Graphic

		Graphics
		Visual *Visuals, Visually*
		Music
		Soundtrack *Tracks*
		Audio
		Soundscape
	Camera	Camera
		First Person
		Third Person
		Pespective *From eyes, From the eyes*
Temporality / Sequentiality	Pacing	Pacing *Pace, Paces*
		Time *Hour, Hours, Week, Weeks, Month, Months, Year, Years, Minute, Minutes, Casual*
		Finish *Finishes, Finished, Ended, Complete, Completes, Completed*
	Chronology	Chronology
		Sequence *Sequences*
		Session *Sessions*
		Playthrough *Playthroughs, Play-through, Play-throughs*
		Progression *Progresses*

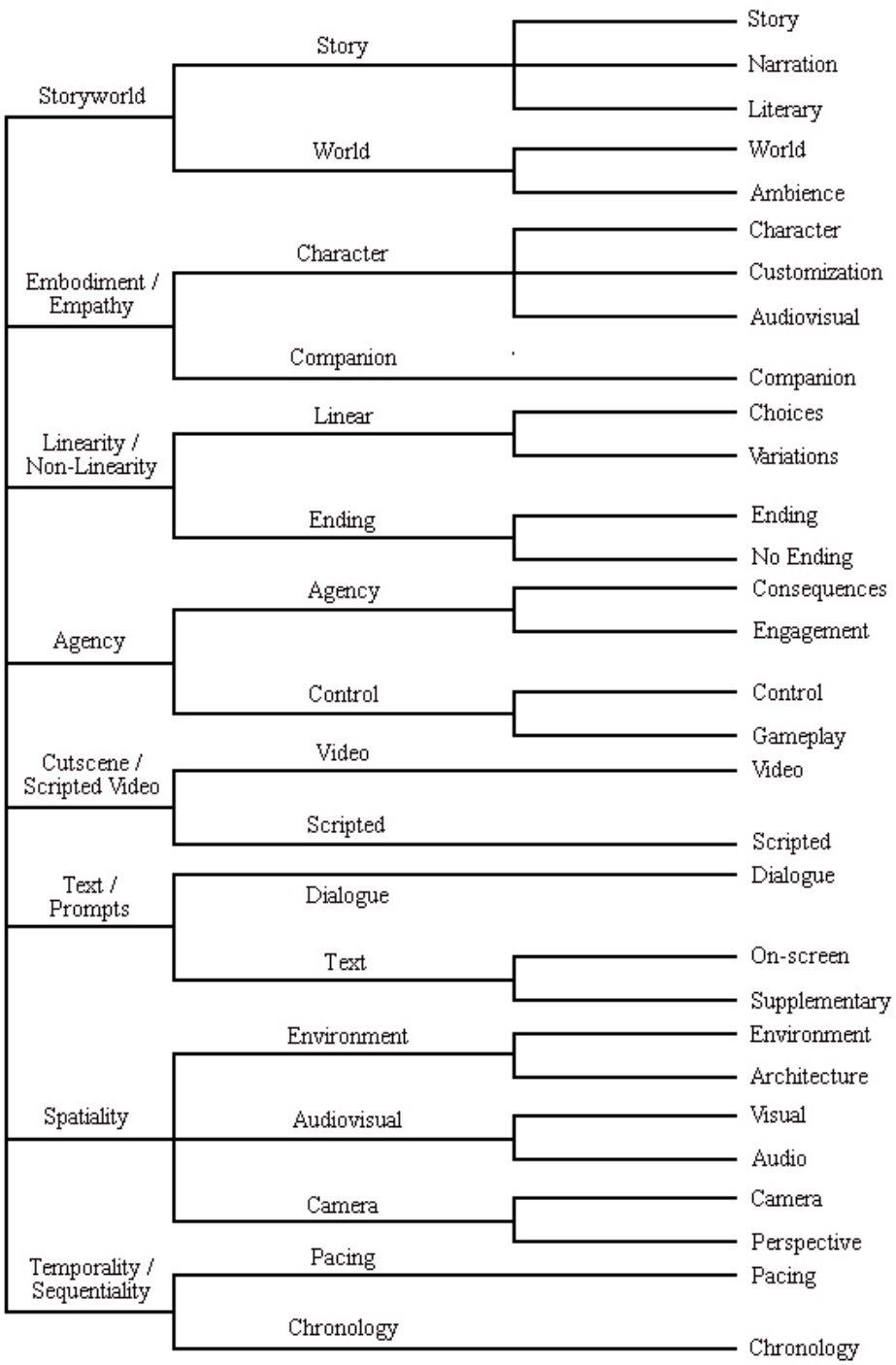


Figure 11. Cluster view for video game narrative components

Several researchers underline the many limits of textual analysis in regards to game studies (Carr, 2009; Consalvo and Dutton, 2006). Their outlook relies on the over-emphasis of audiovisual, story, and character elements and little emphasis on gameplay. The research cluster used in this study takes into account a larger set of elements that are in synergy with each other. The cluster divides each component into narratologic and ludic parts; such as narrative character and customization, consequential agency and controls, etc. It is aimed to determine how each cluster acts in its own as well as how they create an overall experience as a whole.

The data analysis was performed using Provalis Research's qualitative data analysis software; QDA Miner[2]. According to its website QDA Miner can be used to analyze "*interview or focus group transcripts, legal documents, journal articles, speeches [...and] books*" (Provalis, n.d.). Several review studies rate the software purposive and useful (Lapan, 2013) concluding that it is ideal for qualitative analysts who "*lack the necessary mathematics training and computing skills [...as well as...] machine learning and artificial intelligence [skills]*" (Lewis and Maas, 2007). QDA Miner has proven applicable in various research areas, such as; analysing the content of retail trade journals (Anderson et *al.*, 2007), semantic comparison of TV channel content regarding Iraq War (Harmon and Menchen, 2009), interview analysis conducted for understanding brand attitudes (Arora and Stoner, 2009), content analysis of *Global Road Safety Partnership* and *WHO Road Traffic Injury Prevention* reports (Davies and Roberts, 2014), and finally, semantic analysis of user reviews of consumer drugs (Hughes and Cohen, 2011). According to these examples it seems possible to conclude that QDA Miner has a wide range of analytical capacity regarding qualitative data, as well as consumer reviews.

[2] http://provalisresearch.com/products/qualitative-data-analysis-software/

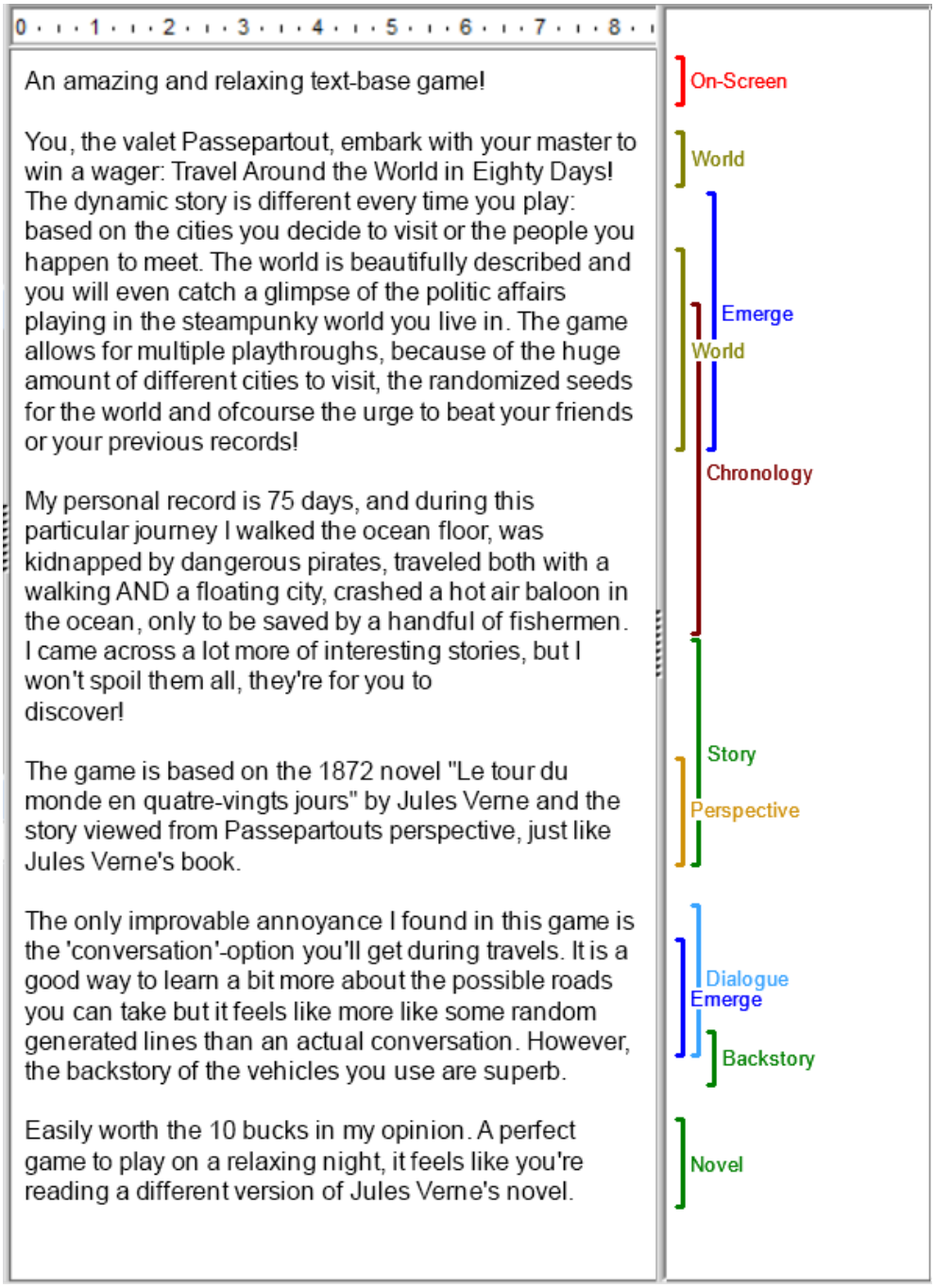


Figure 12. Sample #1 for code analysis of a review written for the game *80 Days*. Analysis made by QDA Miner.

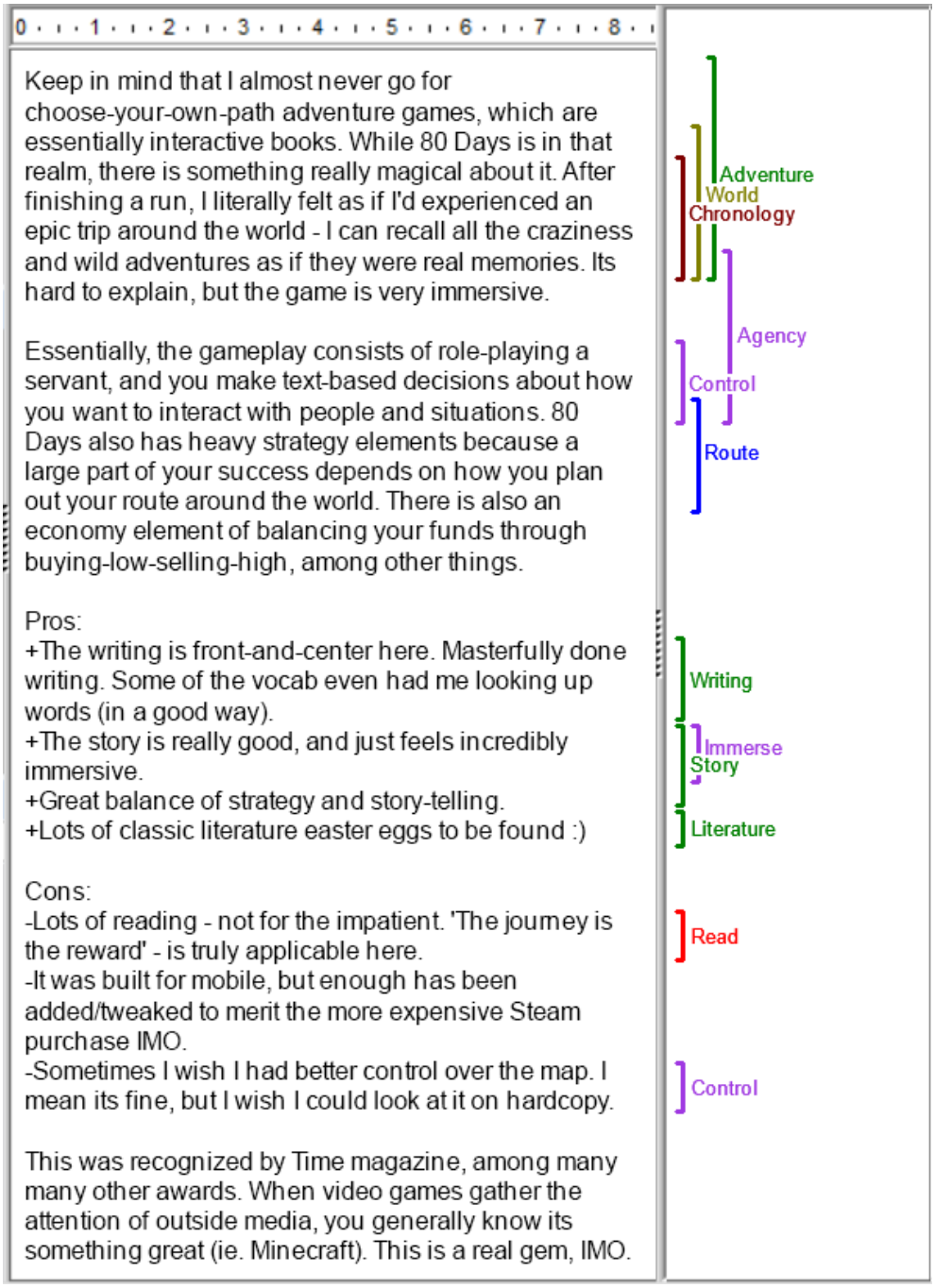


Figure 13. Sample #2 for code analysis of a review written for the game *80 Days*. Analysis made by QDA Miner.

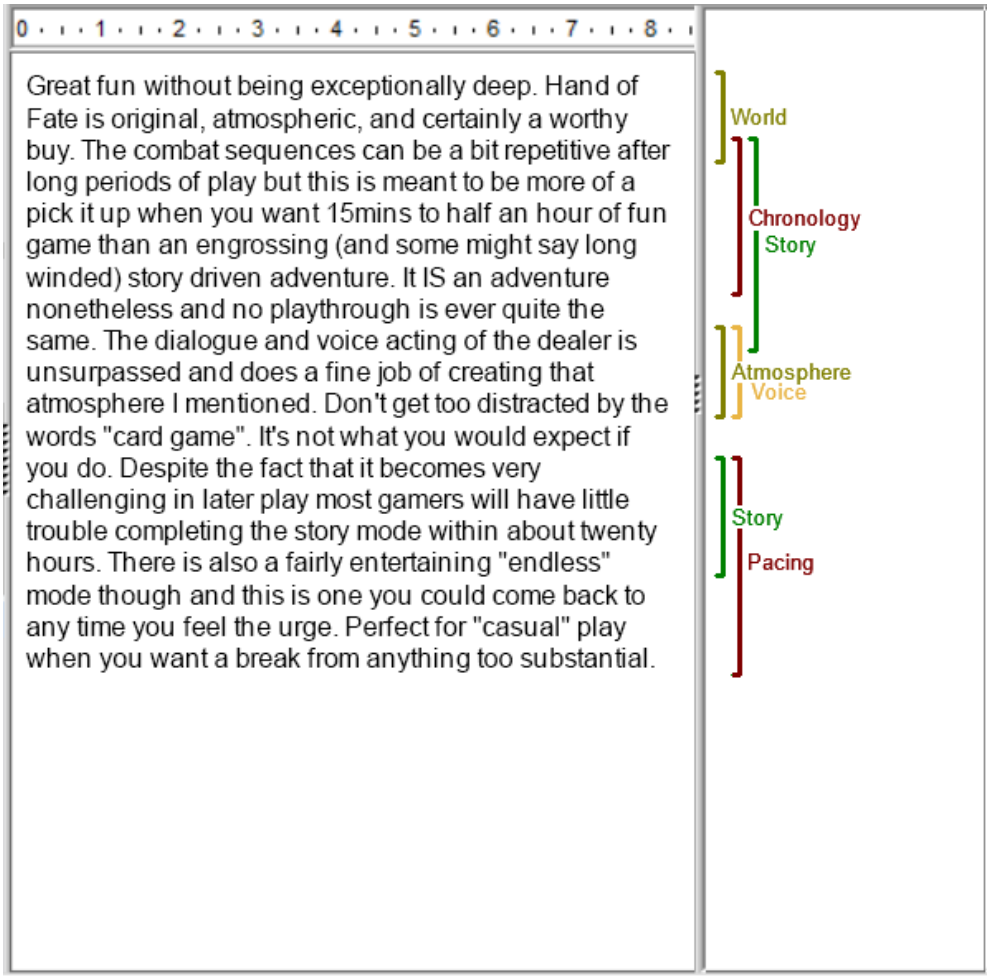


Figure 14. Sample #3 for code analysis of a review written for the game *Hand of Fate*. Analysis made by QDA Miner.

According to supplied reviews and word cluster, QDA Miner analysis indicated relative frequencies of code segments (Figures 12-14). Overall this analysis provides which narrative components were most mentioned and talked about in relation to single games. However this information does not indicate the context the component was mentioned in. For example, when it is mentioned that “story” was the most talked about cluster for a game, this might not be very explanatory since it is unknown if this was in a negative or positive way. To calculate the attitude of reviewers towards the narrative components, valence calculation will be utilized.

Calculating Valence

Various methods have been offered as ways to identify positivity vs negativity in written product reviews, such as heuristics analysis (Dave et *al.*, 2003) and sentiment classification (Cui et *al.*, 2006). An alternative method for semantic analysis is offered as valence analysis. According to Abraham (1978) valence "*plays a key role in [...] the syntact classification of verbs and adjectives, a necessary link to morphological markings necessary for decoding and encoding grammatical relations*" (p. XI-XII). Rfiéicka (1978) describes three kinds of valence; syntactic, semantic, and pragmatic. This study will utilize the semantic valence of language to identify how reviews approached narrative components. Several studies confirm that it is possible to assess sentiment using contextual valence analysis (Shaikh et *al.*, 2007; Barrett, 1998). This analysis have the power to provide the researcher, the opinion, affection or emotion regarding the entities within the text.

Valence analysis have been used before to classify the sentiments towards media products. Kennedy and Inkpen (2006) presents two different valence analysis methods to be used in analyzing movie reviews. Johnson and Taylor (2010) apply valence analysis to news articles and point out that the language used in news reporting can effect the political attitudes of readers.

Finn Årup Nielsen from Technical University of Denmark have created a valence analysis word base to be used in content feeds like Twitter and other microblogs (Nielsen, 2011; Hansen et *al.*, 2011). The word base (named AFINN-111), includes 2477 words rated for valence with an integer between minus five (negative) and plus five (positive). The word base is available for free online[3] (Appendix B). This study will utilize the AFINN-111 word base to calculate valence values for narrative clusters within the data sample (Table 25).

[3] http://www2.imm.dtu.dk/pubdb/views/publication_details.php?id=6010

Table 25. Calculation of valance of sample sentences in relation to AFINN-111 (Appendix B).

Sample Sentence	**Scores by AFINN-111**	**Valence Score**
“Great music, I fell in love with the soundtrack.”	“Great (+3) music, I fell in love (+3) with the soundtrack.”	+3,0
“But the overall story is enjoyable thanks especially to the interesting atmosphere of the characters and town.”	“But the overall story is enjoyable (+2) thanks (+2) especially to the interesting (+2) atmosphere of the characters and town.”	+2,0
“I was very reluctant to give this game a negative review because I have mixed feelings about it, but ultimately, I would not recommend it to anybody else, especially not for it's full asking price.”	“I was very reluctant to give this game a negative (-2) review because I have mixed feelings (-1) about it, but ultimately, I would not recommend (-2) it to anybody else, especially not for it's full asking price.”	-1,7
“They know very well they screwed up and that's why they added Stylish mode since CS, which is in my eyes just an acknowledgement of failure in creating an accessible game.”	“They know very well they screwed up (-6) and that's why they added Stylish mode since CS, which is in my eyes just an acknowledgement of failure (-2) in creating an accessible game.”	- 4,0
“The overall flow is very reminiscient of, say, Dragon	“The overall flow is very reminiscient of, say, Dragon	-3,0

Pass, but all the decisions have been reworked to punish the player for everything; as a result, everything feels bad and the game ends in a consistiently boring fashion of 'sorrie, you ran out of a thing'."	Pass, but all the decisions have been reworked to punish (-2) the player for everything; as a result, everything feels bad (-3) and the game ends in a consistently boring (-6) fashion of 'sorry (-1), you ran out of a thing'."	
"First of all, the way difficulty increases is absolutely irritating - new 'event' cards become a lot more difficulty in terms of randomness or difficulty of combat."	"First of all, the way difficulty (-1) increases is absolutely irritating (-6) - new 'event' cards become a lot more difficulty (-2) in terms of randomness or difficulty (-1) of combat (-1)."	-2,2

While calculating valence three set of identifiers were also taken into account; negators, intensifiers, and diminishers (Zhang et *al.*, 2012; Maheswari, 2012; Carrillo-de-Albornoz and Plaza, 2013).

Negators: Negators are commonly sentences with "not". Negators reversed the shifter of the valence scores from positive to negative, and from negative to positive. For example, the word "enjoyable" has +2 valence score, however if the sentence has a negator in it (eg. "wasn't enjoyable") this score became -2.

Intensifiers: Intensifiers are words like "absolutely", "extremely", "very", etc. Intensifiers doubled the valence scores of the clauses. For example, the word "irritating" has -3 valence score, however if it is used in a clause with an intensifier (eg. "absolutely irritating") this score became -6.

Diminishers: Diminishers are words like “barely”, “somewhat”, “hardly”, etc. Diminishers halved the valence scores of the clauses. For example, the word “boring” has -2 valence score, however if it is used in a clause with a diminisher (eg. “somewhat boring”) this score became -1.

Utilizing the above method, valence was calculated for each cluster of each review, as well as general cluster scores for narrative components for each game. It was also possible to determine which valence scores were majority in reviews, without calculating a median.

5.2. Research Significance and Section Summary

This chapter outlined the research methodology that was utilized in this research. The methodology begins by selecting popular games that include narrative components. By textually analysing the user reviews written for the games, the research splits the reviews into the parts mentioning components, and then calculates valence for each cluster to determine what kind of sentiments the players indicate.

The results of this study will present theoretical and empirical benefits. The study exemplifies a novel look into how players engage with the narrative components of video games, identifying relations between player types and narrative component types, while also introducing new approaches for the analysis of the contribution of narratives components to the overall effect of the narratives. The findings of this study possess a high degree of external validity, since it analyzes a wide range of user reviews from a wide range of games with strong narrative influence. The external validity might even be strengthened with enlarging the analyzed review samples, fine tuning the transitive nature of narrative player types. The player type research to date suggests that, the more the player type studies provide detailed segmentation, the less well they age. As the industry of video game production is progressing in full speed, divergent pieces that do not fit into models arise rapidly.

6. Results and Discussion

This chapter presents the results of the research. The distribution of narrative clusters for each game will be presented along with valence analysis of each cluster. A proximity analysis will be used to determine the patterns of behaviours of narrative players.

6.1. Results for Narrative Clusters

Frequency analysis have been offered as a prominent method for qualitative text analysis (Mervis et *al.*, 1976; Rayner and Duffy, 1986; Stemler, 2001). Initially frequency analysis have been used to determine the results of the clustering. The contribution of each game to cluster analysis can be observed below (Figure 15). The median contribution expected per game would be 5,56%, however games like *The Next World* and *The Town of Light* had less review data and narrative mentions than the others. *Fallout 4, The Wolf Among Us, The Stanley Parable, Bastion* and *Read Only Memories* had the power to make their players talk about their narrative content. Surprisingly although *The Elder Scrolls Online* had full number of reviews, the users did not talk so much about the game's narrative.

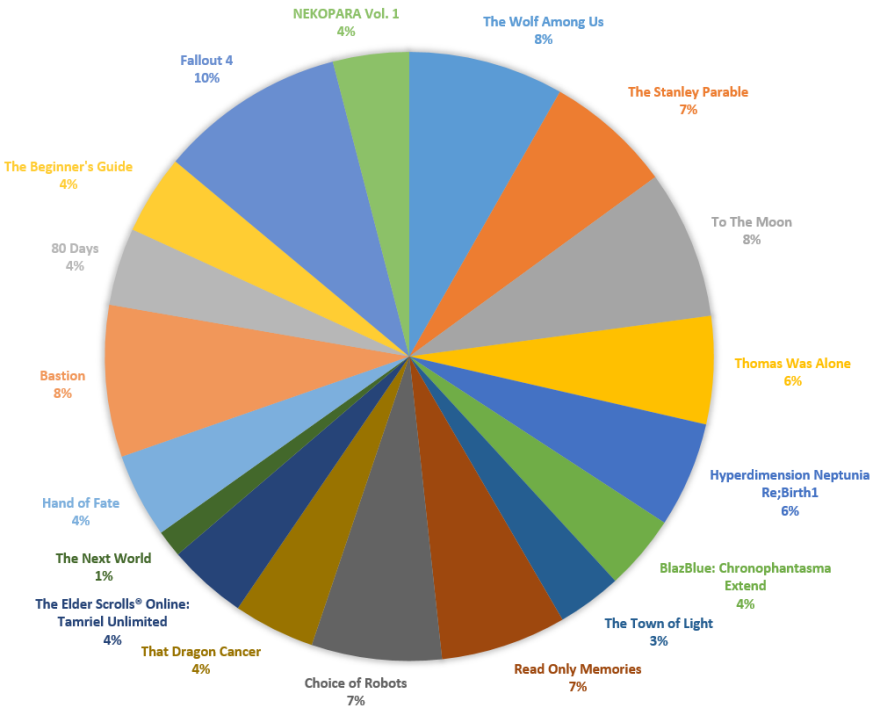


Figure 15. Contribution of each game to the distribution of cluster codes.

Comparing these percentages with the percentage of word count per game compared to the overall word count, it is possible to identify several games that stand out (Figure 16). *Bastion, To The Moon, The Stanley Parable, Choice of Robots* and *The Wolf Among Us*, had lower contribution to the total word count than their contribution to the narrative cluster. This means that although they had shorter reviews, narrative components took a larger part in them. These games made their reviewers talk about their narratives more. On the reverse side, *The Begginer's Guide, Hand of Fate, Fallout 4, The Elder Scrolls Online*, and to a degree *That Dragon Cancer*, and *Hyperdimensia Neptunia*, made their users talk more about their ludic components (or non-narrative components) than their narrative components. *Nekopara vol.1, 80 Days, The Next World, Read Only Memories, The Town of Light, Blazblue: Chronophantasma Extend*, and *Thomas Was Alone* had a balanced combination of narrative vs non-narrative review context.

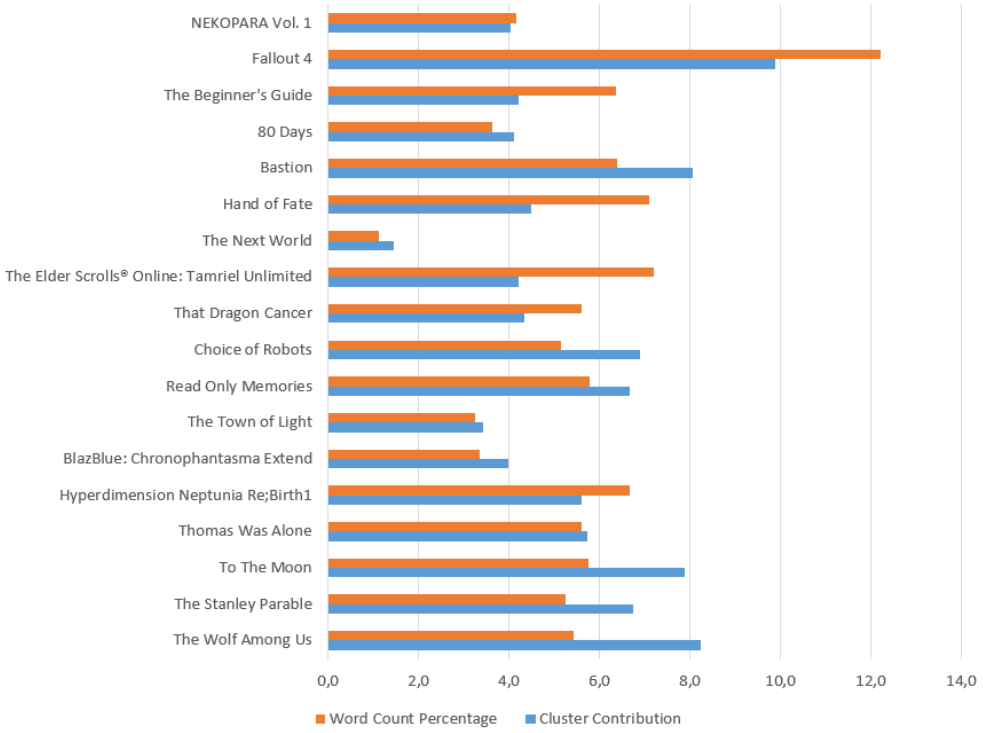


Figure 16. Percentage contribution of each game to the distribution of cluster codes vs percentage contribution of each game to the total word count.

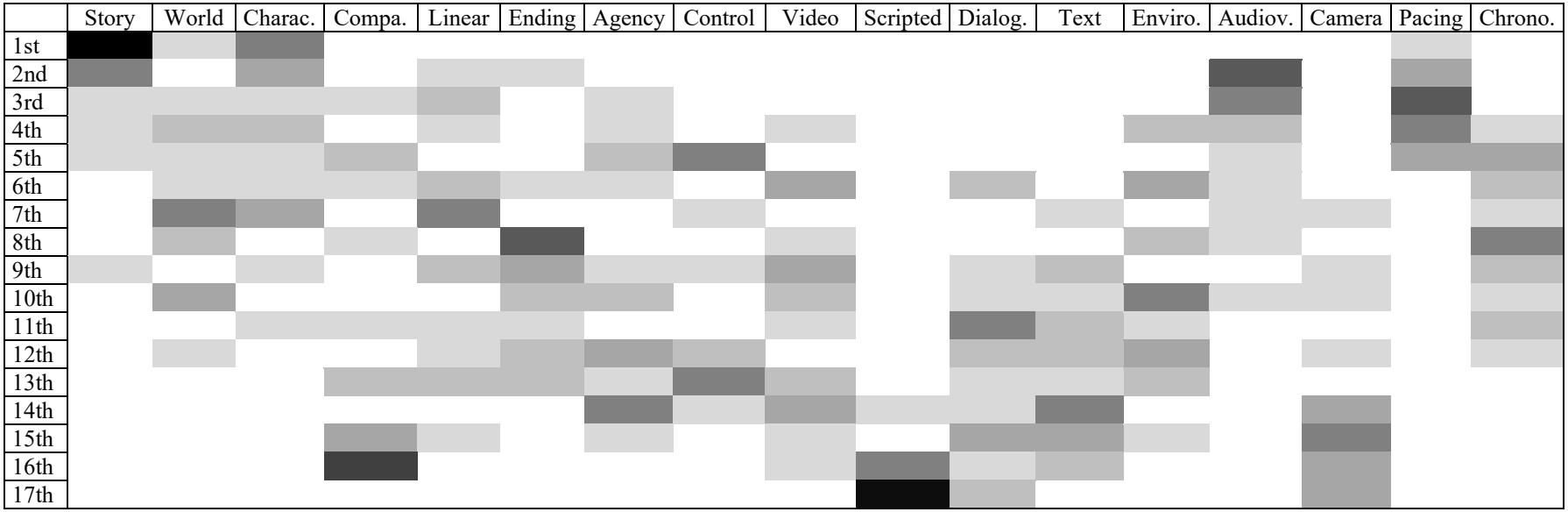
Table 26. Percentage distribution of codes (frequency)

	Story	World	Charac.	Compa.	Linear	Ending	Agency	Control	Video	Scripted	Dialog.	Text	Enviro.	Audiov.	Camera	Pacing	Chrono.
The Wolf Among Us (n=1024)	23,2	4,7	14,4	0,0	13,0	2,6	12,0	1,1	0,9	0,0	2,0	0,3	2,6	8,9	0,2	11,0	3,1
The Stanley Parable (n=838)	10,0	2,4	31,6	0,8	11,8	14,1	0,5	2,3	3,6	0,0	1,0	0,4	2,5	3,6	0,0	13,0	2,5
To The Moon (n=981)	34,7	1,6	7,2	5,9	0,9	2,5	0,6	2,0	2,1	0,1	2,1	0,3	3,0	19,5	0,1	14,8	2,6
Thomas Was Alone (n=712)	26,4	3,4	23,4	0,1	0,6	2,4	0,4	6,0	2,0	0,0	0,4	0,6	1,6	14,6	0,4	13,4	4,1
Hyperdimension Neptunia Re;Birth1 (n=697)	15,3	4,3	26,6	0,1	0,7	4,7	0,4	6,0	3,0	0,1	3,0	1,9	1,9	10,0	0,6	18,6	2,9
BlazBlue: Chronophantasma Extend (n=496)	22,6	2,2	23,4	13,8	0,8	1,4	0,6	1,0	1,8	0,0	0,6	0,8	3,0	13,6	0,4	12,0	2,0
The Town of Light (n=426)	31,0	2,0	4,0	0,3	1,5	0,8	1,5	1,5	4,3	0,0	0,0	0,5	7,5	20,0	1,0	18,0	6,3
Read Only Memories (n=830)	19,3	6,1	23,9	0,6	4,9	4,8	4,5	1,0	1,0	0,1	5,1	2,5	2,1	12,9	0,3	9,6	1,4
Choice of Robots (n=859)	21,9	5,3	5,8	1,3	15,6	4,9	13,2	1,2	0,7	0,1	0,2	5,5	0,4	3,4	0,7	12,7	7,1
That Dragon Cancer (n=538)	32,2	2,2	2,2	0,0	0,4	1,4	0,6	6,0	4,2	0,0	1,6	2,8	9,4	13,6	3,8	15,8	3,8
The Elder Scrolls® Online: Tamriel Unlimited (n=525)	11,0	13,8	22,2	6,0	4,4	2,2	3,0	3,8	0,8	0,2	1,6	0,4	4,4	14,0	1,2	8,0	3,0
The Next World (n=179)	22,0	7,0	6,5	0,0	12,0	6,0	8,0	1,0	2,5	1,0	1,0	2,0	2,0	15,5	0,0	10,5	3,0
Hand of Fate (n=558)	17,1	2,4	9,5	0,7	4,9	2,0	5,3	5,8	1,5	0,0	2,2	0,9	1,8	11,8	2,5	26,7	4,9
Bastion (n=1002)	35,7	11,1	4,5	0,4	2,0	2,4	1,4	2,8	1,7	0,1	0,1	0,4	1,9	19,2	0,4	11,9	4,0
80 Days (n=512)	17,2	27,0	5,0	0,2	5,2	2,2	5,4	1,0	1,0	0,0	2,0	4,4	1,6	4,8	0,4	14,0	8,6
The Beginner's Guide (n=525)	43,0	3,6	3,2	0,2	4,8	3,6	0,8	0,4	6,6	0,0	1,0	0,2	0,8	7,0	1,8	16,4	6,6
Fallout 4 (n=1230)	14,8	10,3	14,7	6,2	7,7	3,5	1,6	1,8	0,3	0,0	7,8	2,0	3,3	8,6	0,6	14,5	2,5
NEKOPARA Vol. 1 (n=503)	22,2	2,2	15,6	10,0	3,6	1,3	1,1	0,9	1,5	0,0	0,5	0,7	5,3	18,7	0,4	13,3	2,7

Table 27. Ranking hierarchy of clusters for each video game

The Wolf Among Us (n=1024)	Story	Charac.	Linear	Agency	Pacing	Audiov.	World	Chrono.	Ending	Enviro.	Dialog.	Control	Video	Text	Camera	Compa.	Scripted
The Stanley Parable (n=838)	Charac.	Ending	Pacing	Linear	Story	Video	Audiov.	Enviro.	Chrono.	World	Control	Dialog.	Compa.	Agency	Text	Scripted	Camera
To The Moon (n=981)	Story	Audiov.	Pacing	Charac.	Compa.	Enviro.	Chrono.	Ending	Video	Dialog.	Control	World	Linear	Agency	Text	Scripted	Camera
Thomas Was Alone (n=712)	Story	Charac.	Audiov.	Pacing	Control	Chrono.	World	Ending	Video	Enviro.	Linear	Text	Agency	Dialog.	Camera	Compa.	Scripted
Hyperdimension Neptunia Re;Birth1 (n=697)	Charac.	Pacing	Story	Audiov.	Control	Ending	World	Video	Dialog.	Chrono.	Text	Enviro.	Linear	Camera	Agency	Compa.	Scripted
BlazBlue: Chronophantasma Extend (n=496)	Charac.	Story	Compa.	Audiov.	Pacing	Enviro.	World	Chrono.	Video	Ending	Control	Linear	Text	Agency	Dialog.	Camera	Scripted
The Town of Light (n=426)	Story	Audiov.	Pacing	Enviro.	Chrono.	Video	Charac.	World	Linear	Agency	Control	Camera	Ending	Text	Compa.	Scripted	Dialog.
Read Only Memories (n=830)	Charac.	Story	Audiov.	Pacing	World	Dialog.	Linear	Ending	Agency	Text	Enviro.	Chrono.	Control	Video	Compa.	Camera	Scripted
Choice of Robots (n=859)	Story	Linear	Agency	Pacing	Chrono.	Charac.	Text	World	Ending	Audiov.	Compa.	Control	Video	Camera	Enviro.	Dialog.	Scripted
That Dragon Cancer (n=538)	Story	Pacing	Audiov.	Enviro.	Control	Video	Camera	Chrono.	Text	World	Charac.	Dialog.	Ending	Agency	Linear	Compa.	Scripted
The Elder Scrolls® Online: Tamriel Unlimited (n=525)	Charac.	Audiov.	World	Story	Pacing	Compa.	Linear	Enviro.	Control	Agency	Chrono.	Ending	Dialog.	Camera	Video	Text	Scripted
The Next World (n=179)	Story	Audiov.	Linear	Pacing	Agency	World	Charac.	Ending	Chrono.	Video	Text	Enviro.	Control	Scripted	Dialog.	Compa.	Camera
Hand of Fate (n=558)	Pacing	Story	Audiov.	Charac.	Control	Agency	Linear	Chrono.	Camera	World	Dialog.	Ending	Enviro.	Video	Text	Compa.	Scripted
Bastion (n=1002)	Story	Audiov.	Pacing	World	Charac.	Chrono.	Control	Ending	Linear	Enviro.	Video	Agency	Compa.	Text	Camera	Scripted	Dialog.
80 Days (n=512)	World	Story	Pacing	Chrono.	Agency	Linear	Charac.	Audiov.	Text	Ending	Dialog.	Enviro.	Control	Video	Camera	Compa.	Scripted
The Beginner's Guide (n=525)	Story	Pacing	Audiov.	Video	Chrono.	Linear	World	Ending	Charac.	Camera	Dialog.	Agency	Enviro.	Control	Compa.	Text	Scripted
Fallout 4 (n=1230)	Story	Charac.	Pacing	World	Audiov.	Dialog.	Linear	Compa.	Ending	Enviro.	Chrono.	Text	Control	Agency	Camera	Video	Scripted
NEKOPARA Vol. 1 (n=503)	Story	Audiov.	Charac.	Pacing	Compa.	Enviro.	Linear	Chrono.	World	Video	Ending	Agency	Control	Text	Dialog.	Camera	Scripted

Table 28. Heat map of each narrative cluster according to its hierarchy among the all narrative components



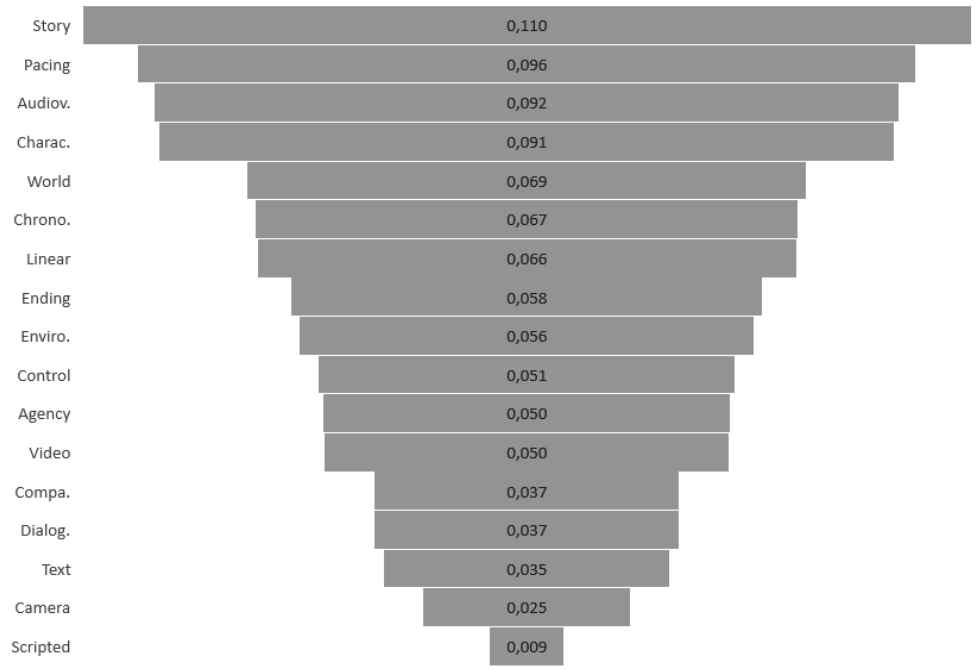


Figure 17. Weighted scores for narrative clusters.

Since analytical results for each leading keyword would be visually imperceptible, the cluster analysis was done on the sub-cluster level that was provided previously in Table 24. The leading keywords were also grouped under, and the results were scrutinized according to these categories.

According to the hierarchical sequence of each narrative component (Tables 26-28 and Figures 17-18) several implications for the overall population were present;

- Referencing of “story” was strong across all games (61% as the 1st and 22% as the 2nd), with the “story” semantic word group outweighing its closest competition, the “narrative” semantic word group to almost 59:1. The referencing to other word groups in this cluster were negligible.
- “Pacing” emerged as another prominent cluster in relation to narrative discussion. The cluster maintained an impressive 100% in the first five positions, especially pivotel as the 3rd and 4th. Majority of these referencing came from semantic word groups

related to play times, and the amount of experience offered by the game. However it must be noted that, pacing clusters often presented negative valences (6.2), implying that positive valence stories did not negate short play times, or poor pacing ludology or narrative wise.

- This was followed by the audiovisual elements referring to narrative context (%33 as the 2nd and %28 as the 3rd). Although they never rose to 1st mentions, the audiovisual discussions were healthly distributed in the rest of the top three frequency. Surprisingly, the referencing to audio elements had a precedence over visual elements to almost 1,18:1 – with the "music" semantic word group in the lead. This was unexpected, since visual stimuli was often offered as a dominant issue in video games (Nitsche, 2008; Zyda, 2005). However the research showed that in relation with narration, audio elements might have a more memorable role. Although the effects of video game sound and music design have been discussed in limited publications (Collins, 2008; Whalen, 2004), their detailed impact on video game narrative seemingly still needs deeper understanding.
- "Character", although scored 1st on 28% of games, had a tantamount distribution on the rest of the hierarchy within top 10. Rather than devaluating the evidance of empathy and embodiment with an avatar or a main character in previous research (Trepte and Reinecke, 2010; Lewis et *al.*, 2008; Şengün, 2015), it could be inferred that main character cluster remains memorable after play, but not as strong as story and audiovisual elements. Among the data the game *The Stanley Parable* had the strongest affiliation with character clusters (31,6%).
- "World", "linearity", "control", "ending", "agency", "video" and "chronology" had results that were above the median scores.

- “World” or the construction of story universe proved to have an impact on the overall attitude to narrative. Although clusters about “detail” were low in number (24:1 in overall “world” cluster), they had the strongest valence scores (Chapter 6.2).
- “Chronology” accounted for playthroughs, replays, reloads, other experimentations in timeline – while “ending” accounted for finishing the game and alternate endings. These stayed close to each other in terms of cluster scoring but not in terms of valence (Chapter 6.2), proving the need to be placed in different clusters.
- “Linearity” almost had the same scores with “chronology” although their referencing had different spreads across the games, while “linearity” having the most diverse reactions. While chronological concepts were mentioned in consistent amounts in almost all games, it seemed to matter little if the games were linear or non-linear. Whether the game was linear or non-linear, it was mentioned casually without any passionate reactions. This infers that the users do not have any strong positions regarding linearity or non-linearity in narrative games – they seem happy when it exists, but not unhappy when it doesn’t.
- The “agency” cluster referred to contextual control, while the “control” cluster referred to physical control in the game. These clusters stayed barely above or at the median limit, with usually intertwined hierarchies. The semantic word groups about immersion and engagement contributed little to the effect of agency (5,3%).
- “Video” cluster was stuck at the median limit replicating a similar surprising result in audiovisual clusters. During the analysis the term “video game” was eliminated as to be not involved here. The largest contribution to the “video” cluster was the semantic word group associated with cutscenes (73,8%). This result offers that cutscenes of a video game are sensed as a part of the story and not mentioned distinctively (eg. instead of

"game's story was good, so were the cutscenes", user would simply say "game's story was good"). This presents a problem as to dissociate between the game's story as script, and its presentation as video during review analysis. Being in the bottom of the scores, it can also be inferred that "scripted" events versus pre-rendered video had little distinctions inside the perceptions of the players.

- Finally the clusters regarding the side characters and NPCs, dialogues in the game, narrative as text, and camera/perspective performed poorly, proving to be comparatively trifle in assessing narrative inside a video game, than other clusters.

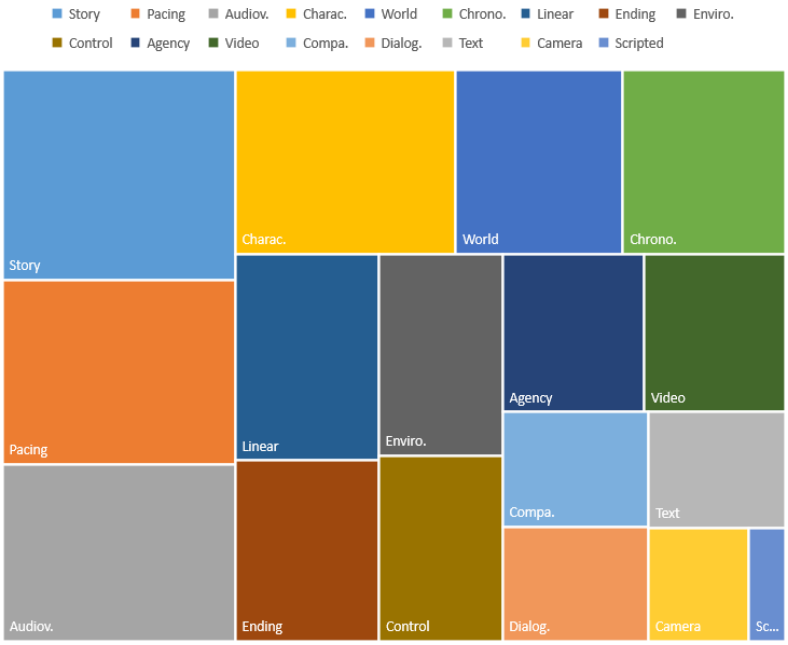


Figure 18. A tree map displaying the comparative importance of narrative clusters.

6.2. Results for Valence Analysis

The valence analysis of each game was done according to the 30 sub-clusters previously shown in Figure 11. The median valence for each cluster was calculated, as well as a heat map for all scores inside the clusters were presented (Figures 19-36, Table 29).

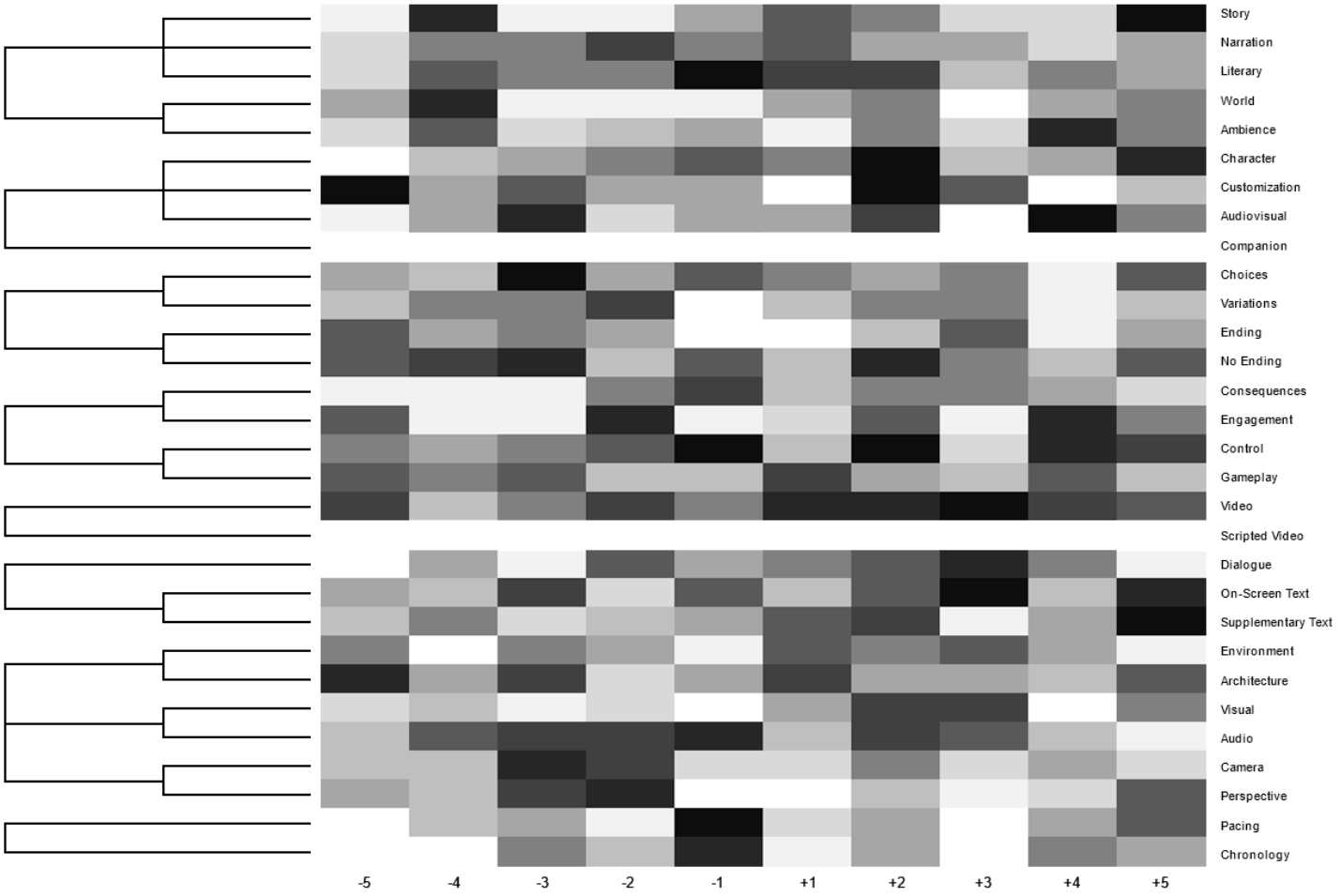


Figure 19.
Valence heatmap for The Wolf Among Us.

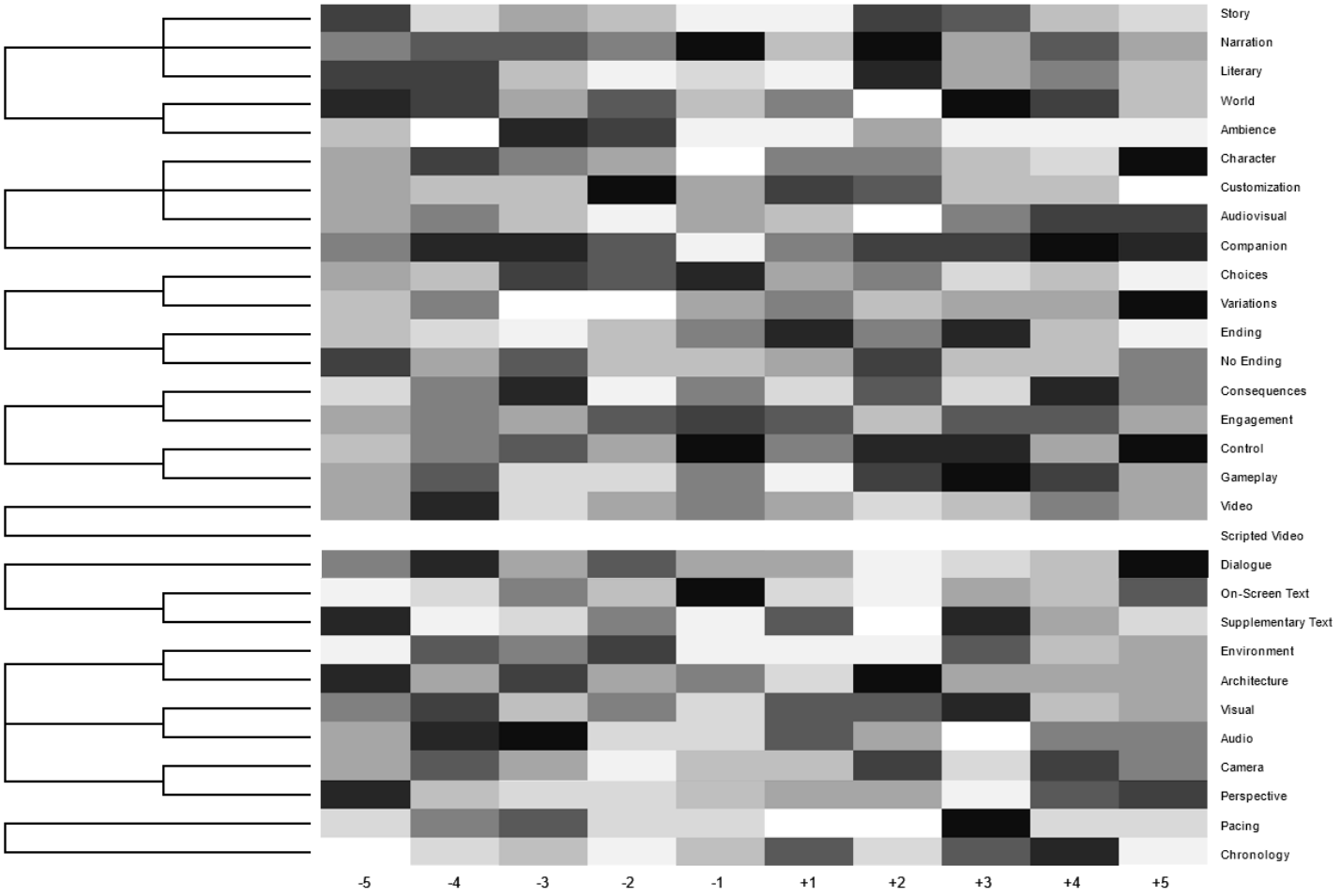


Figure 20.
Valence heatmap for The Stanley Parable.

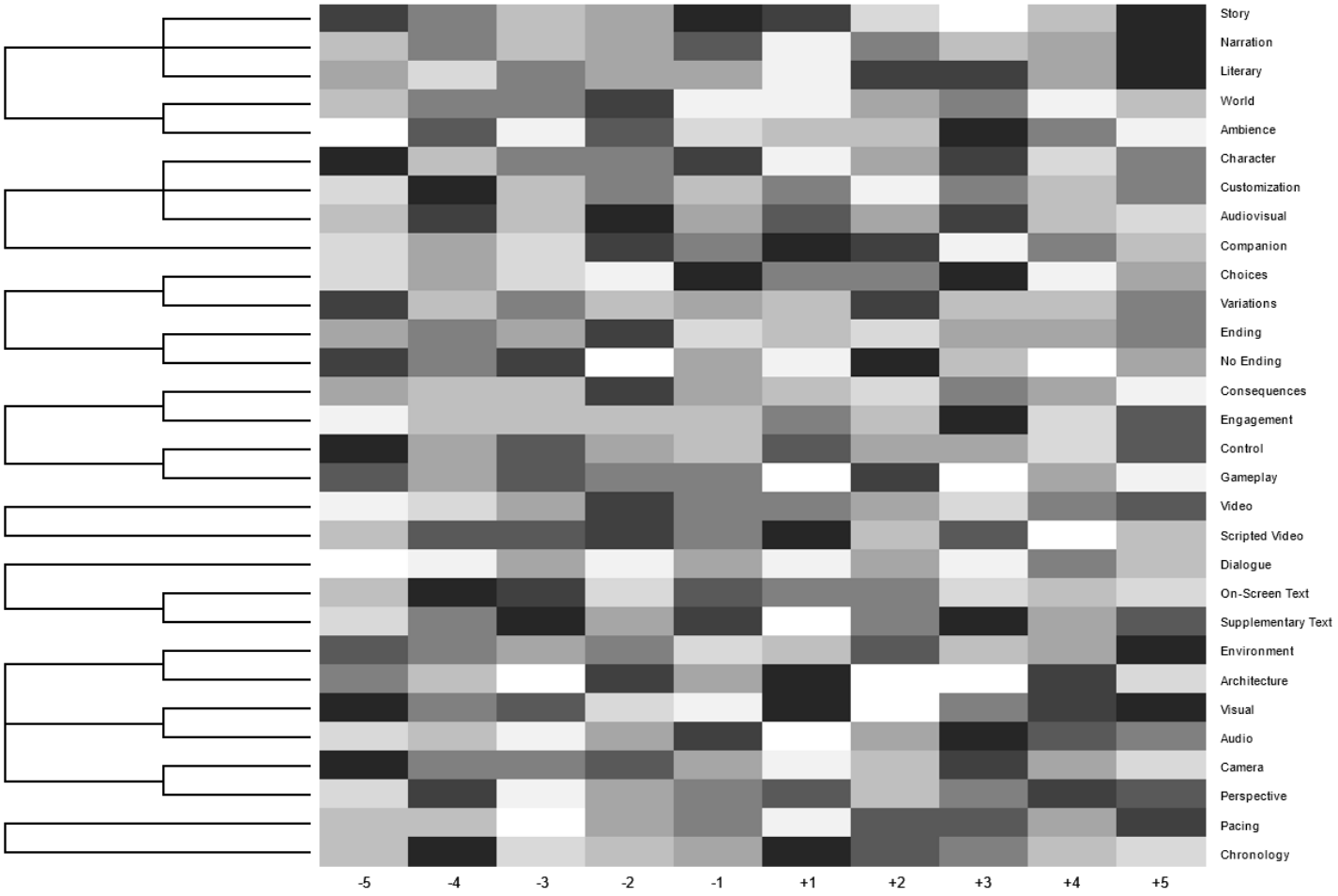


Figure 21.
Valence heatmap for To The Moon

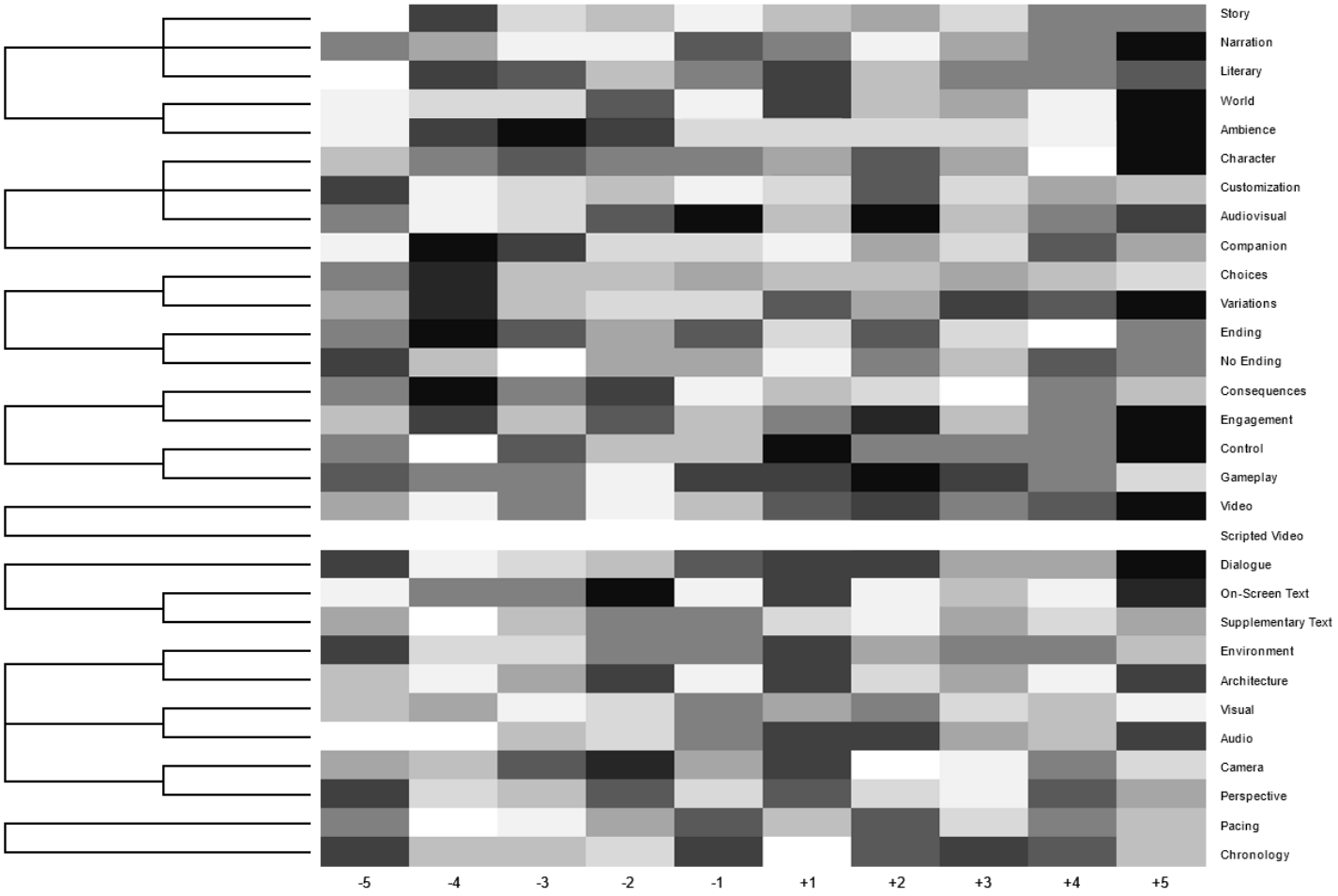


Figure 22.
Valence heatmap for Thomas Was Alone.

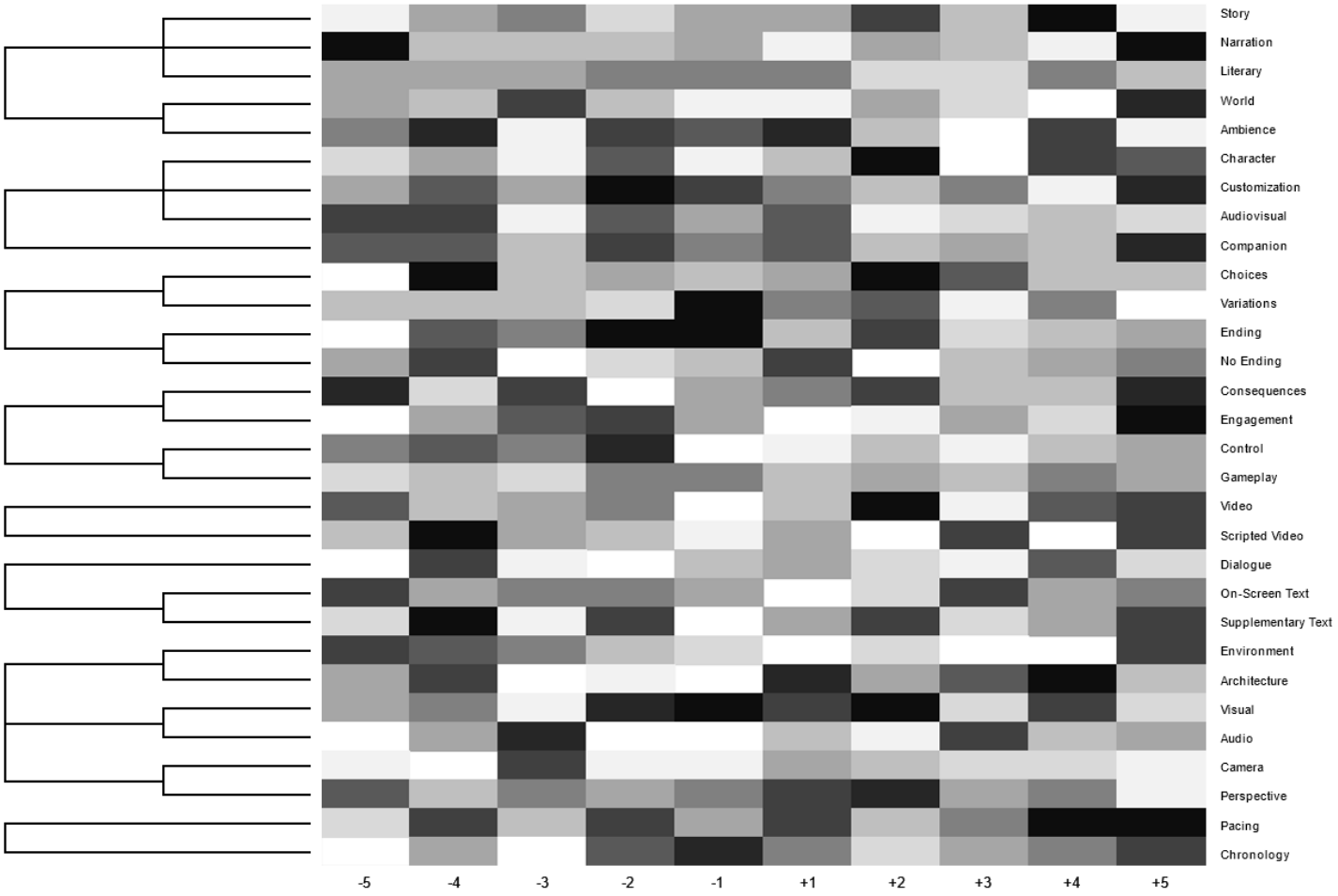


Figure 23.
Valence heatmap for Hypersimension Neptunia Re;Birth1.

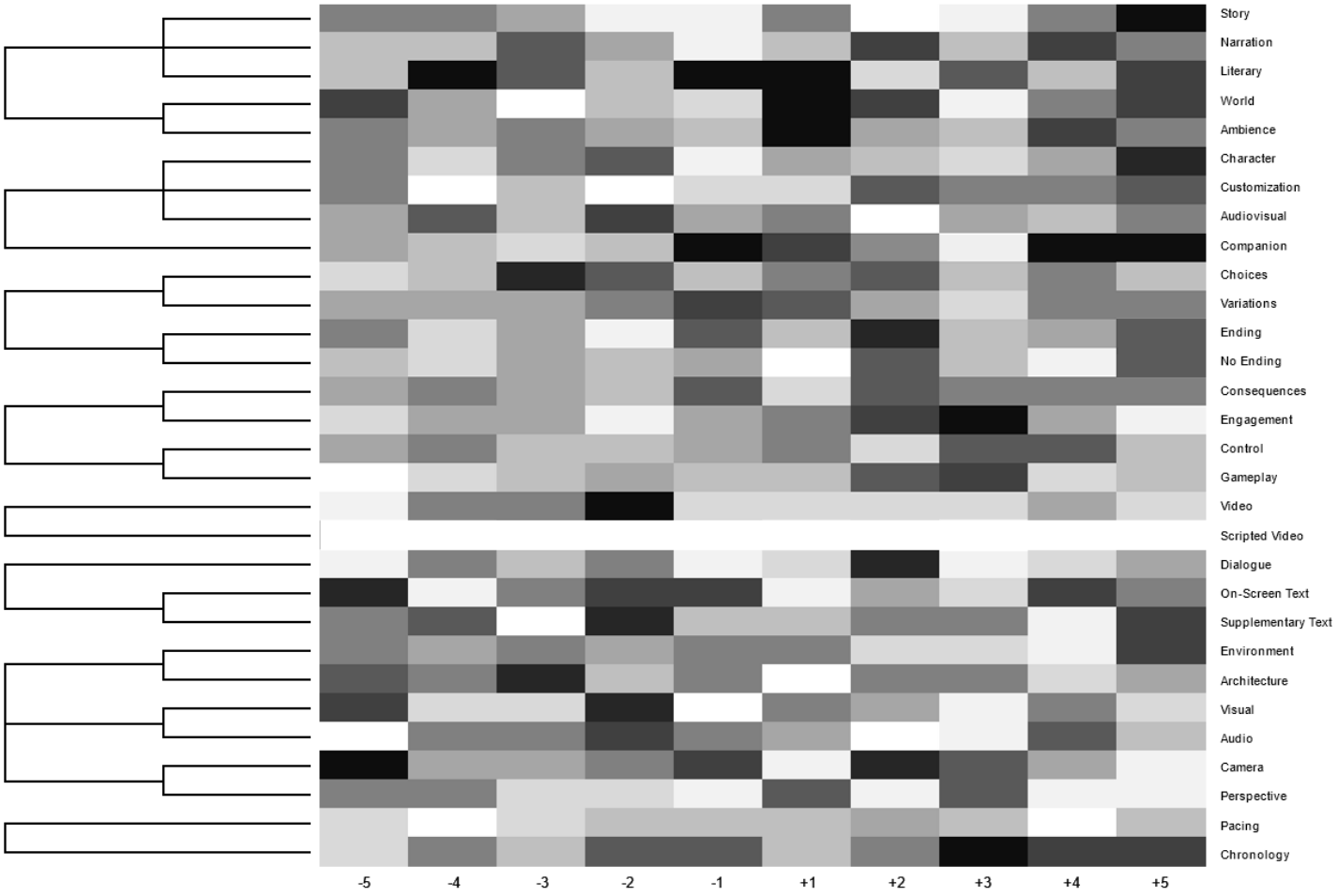


Figure 24.
Valence heatmap for BlazBlue: Chronophantasma Extend.

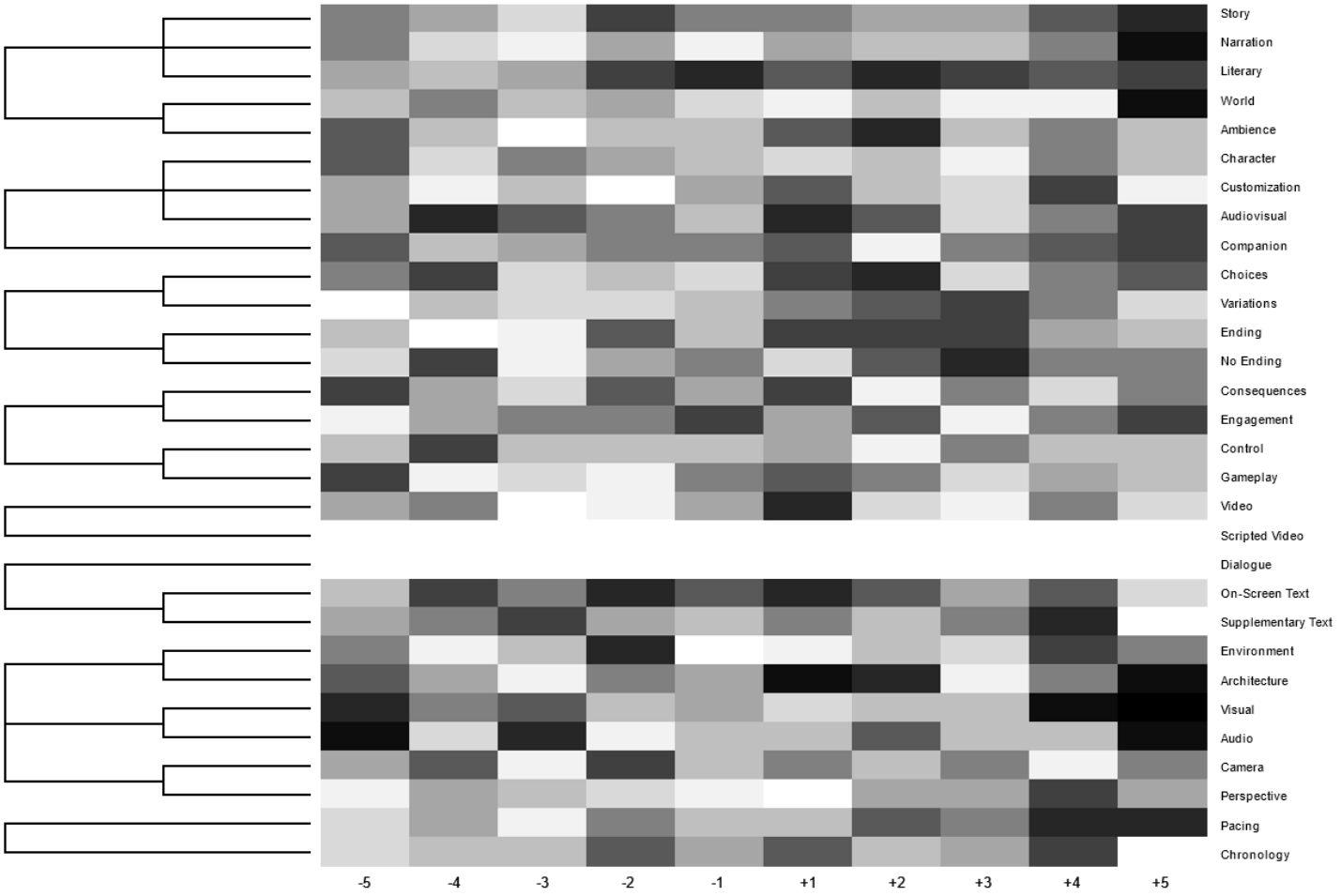


Figure 25.
Valence heatmap for The Town of Light.

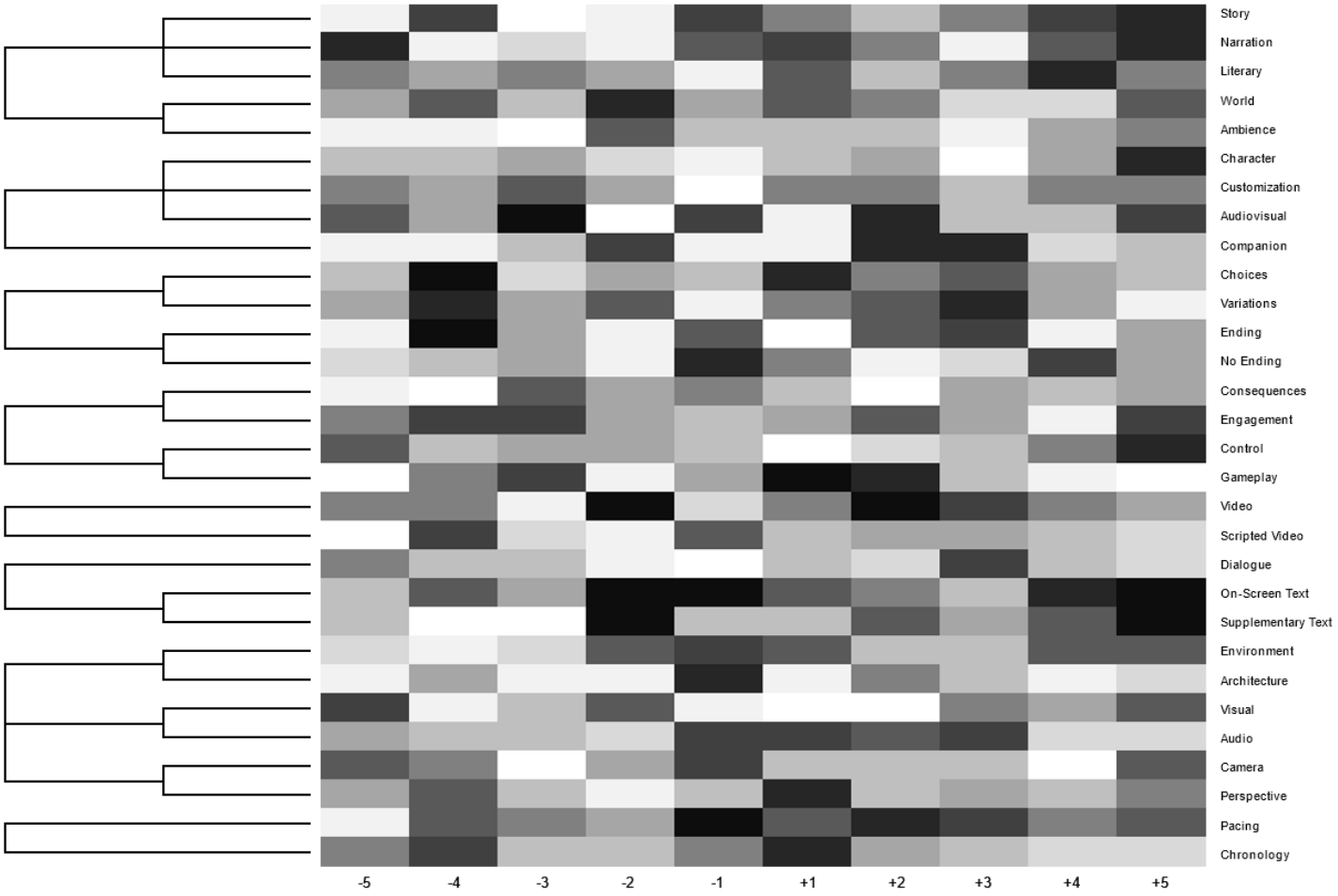


Figure 26.
Valence heatmap for Read Only Memories.

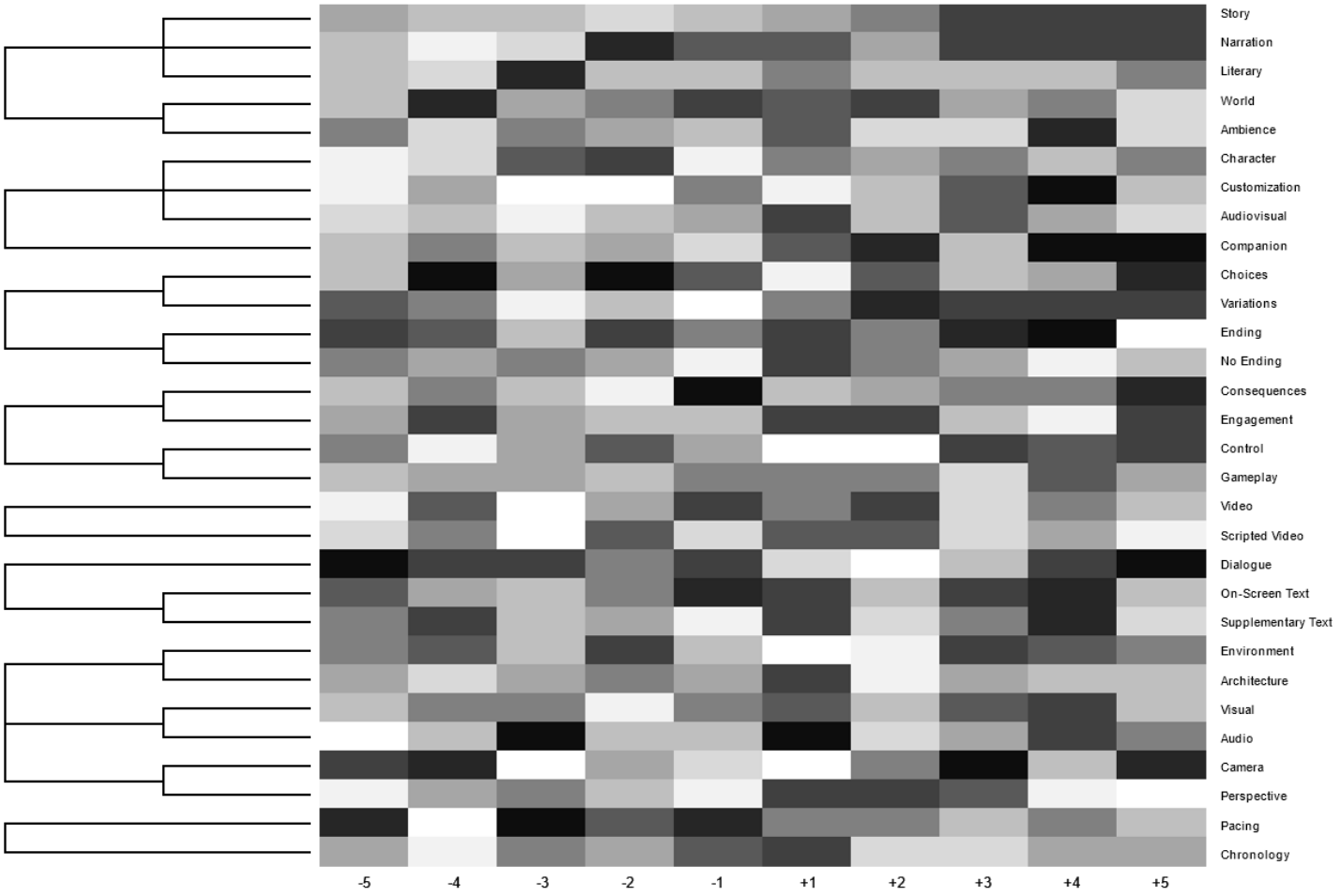


Figure 27.
Valence heatmap for Choice of Robots.

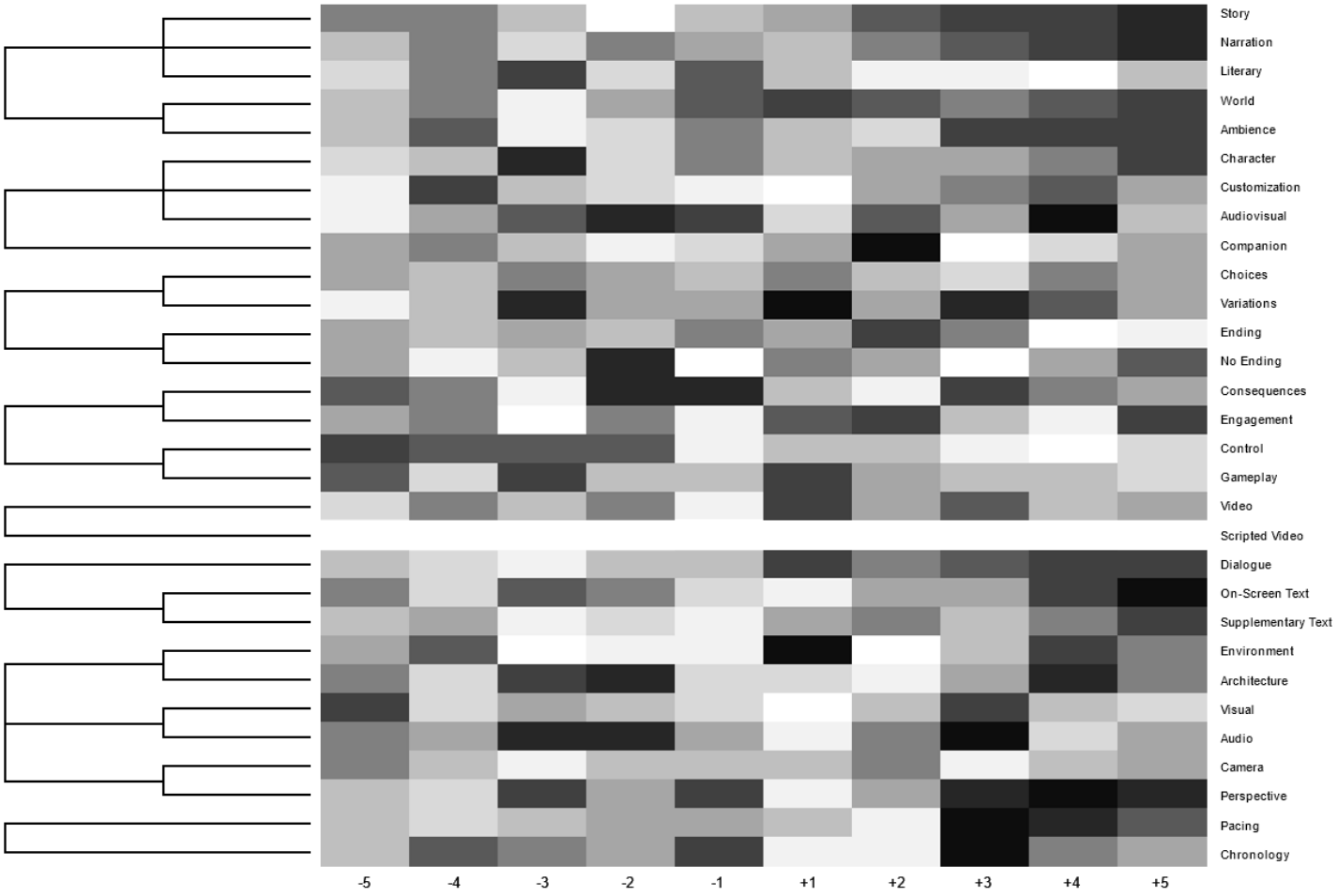


Figure 28.
Valence heatmap for That Dragon Cancer.

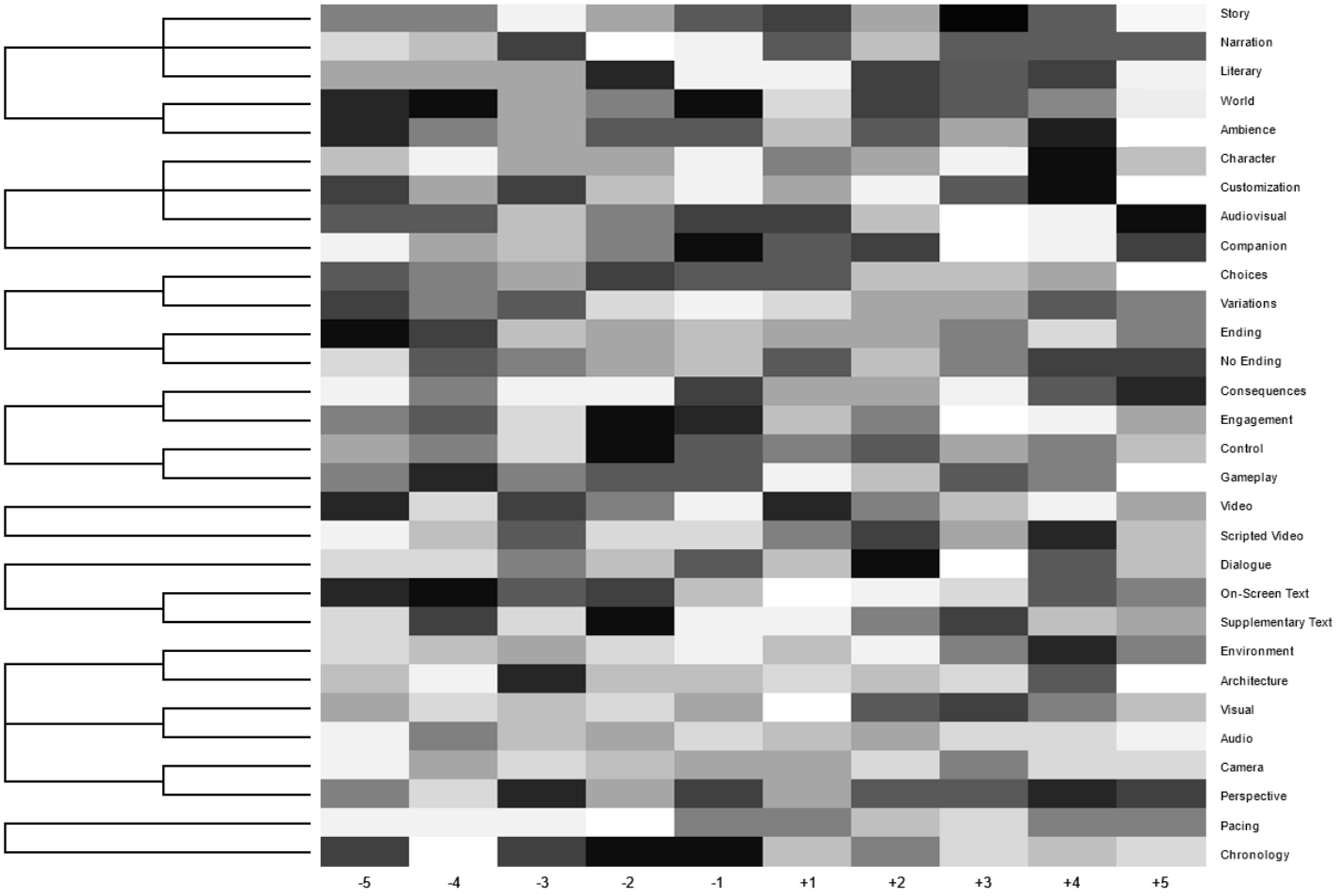


Figure 29.
Valence heatmap for The Elder Scrolls Online: Tamriel Unlimited.

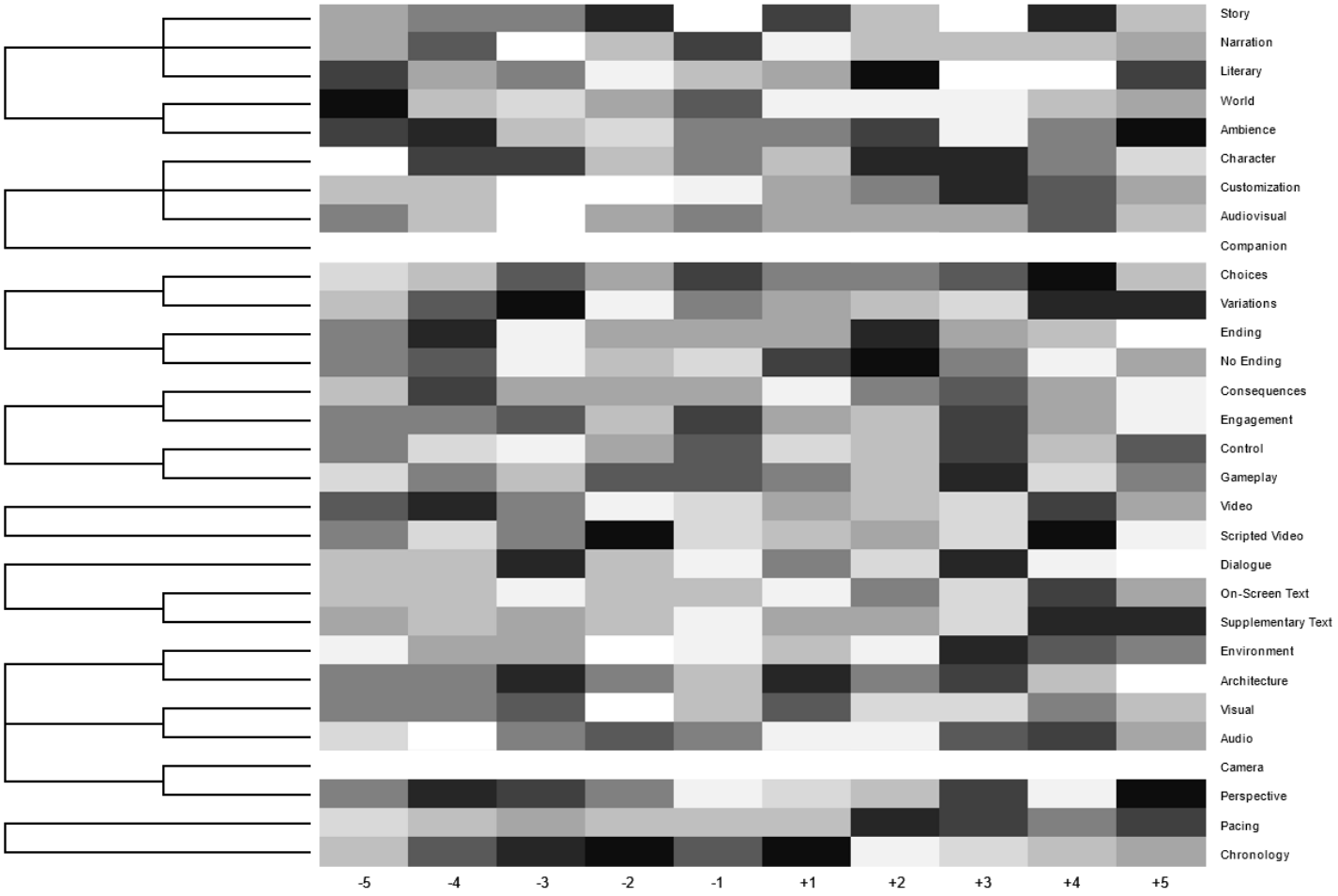


Figure 30.
Valence heatmap for The Next World.

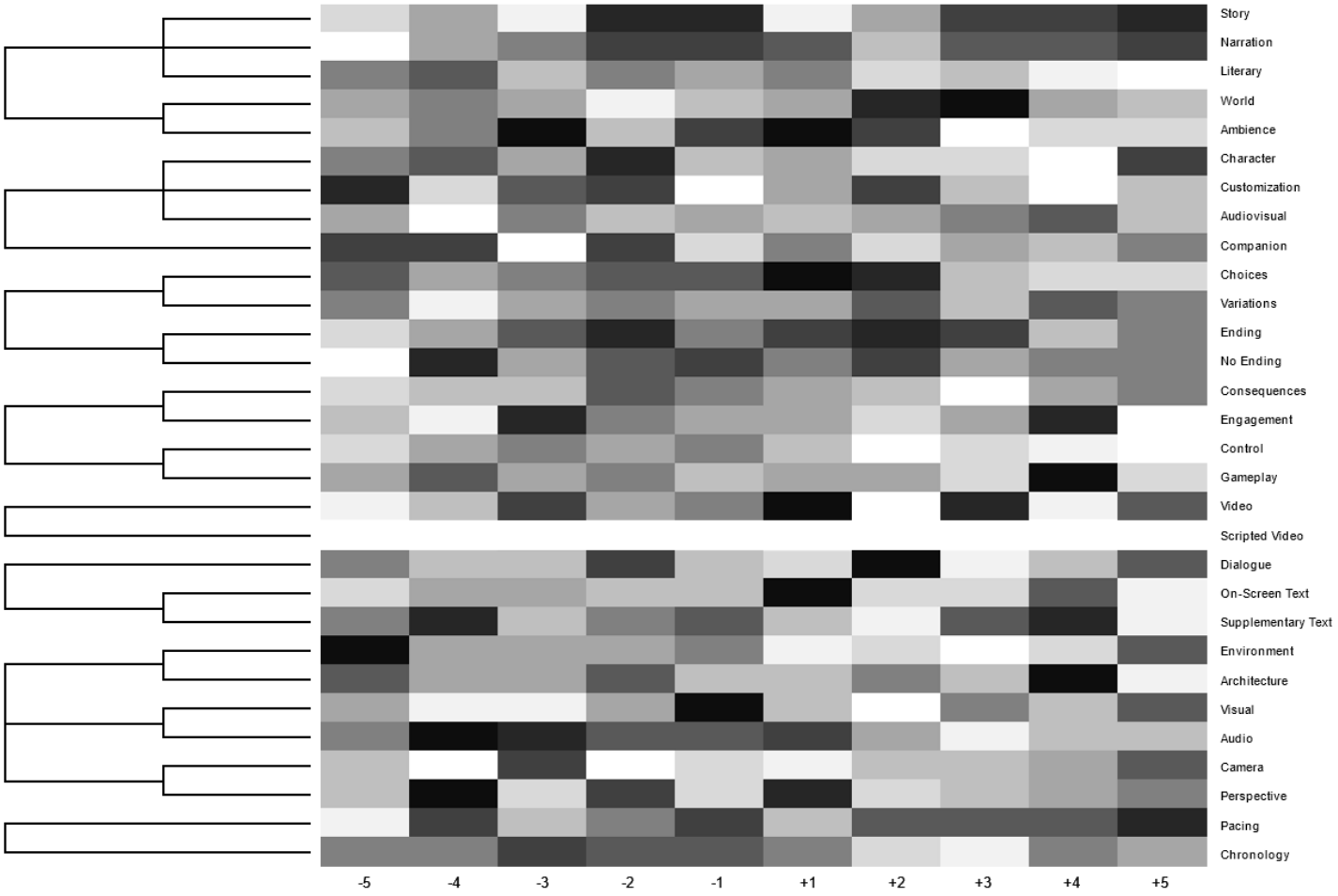


Figure 31.
Valence heatmap for Hand of Fate.

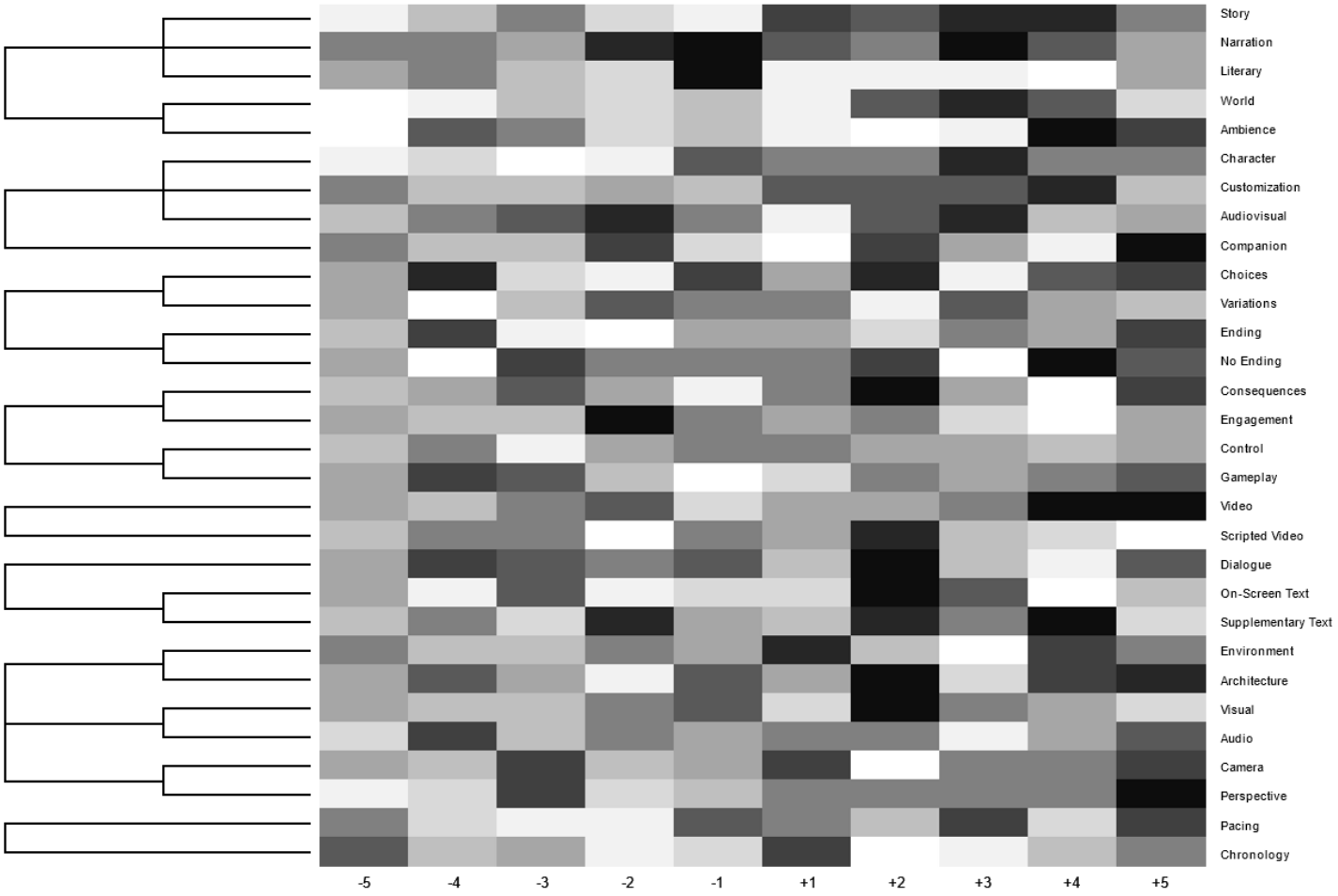


Figure 32.
Valence heatmap for Bastion.

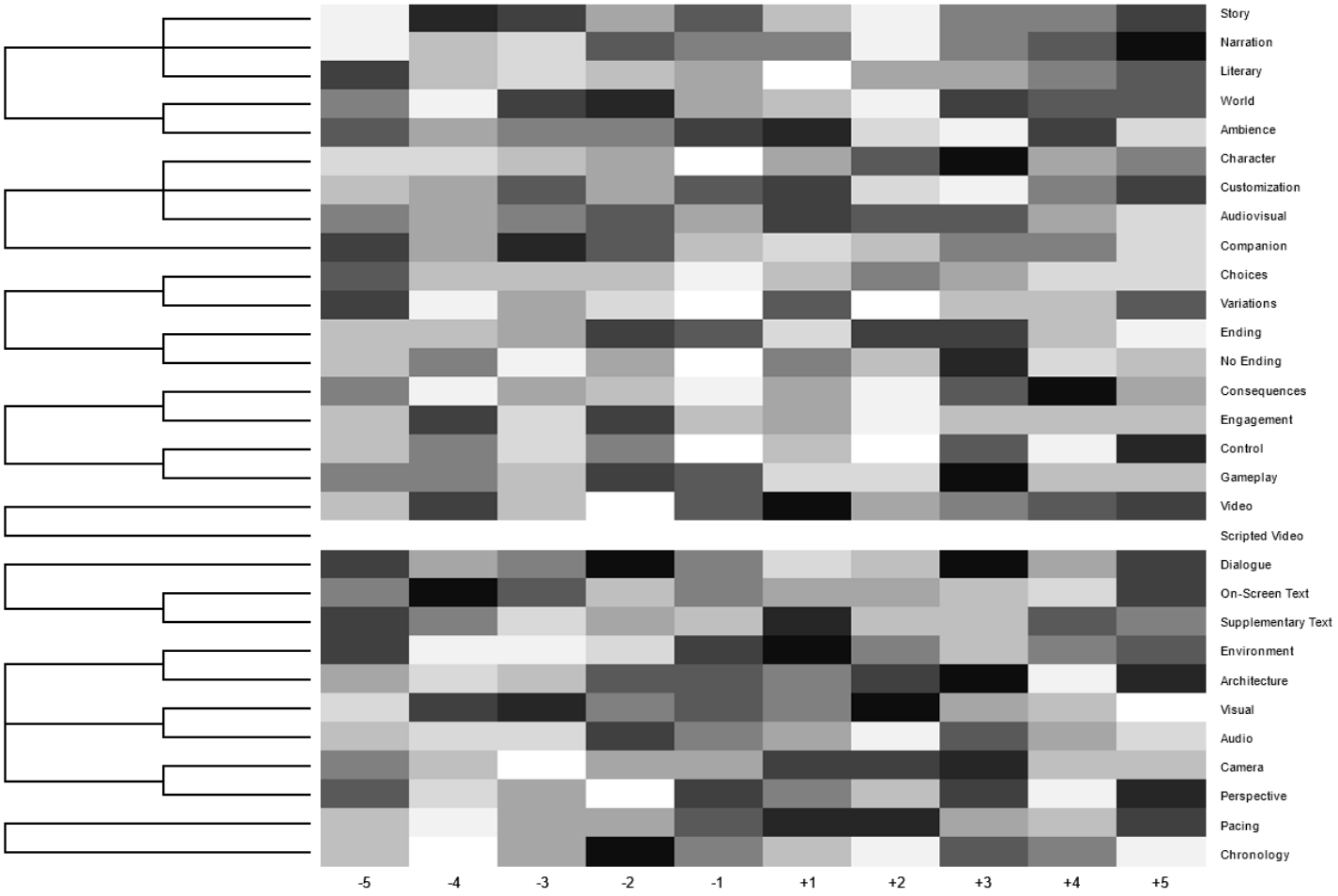


Figure 33.
Valence heatmap for 80 days.

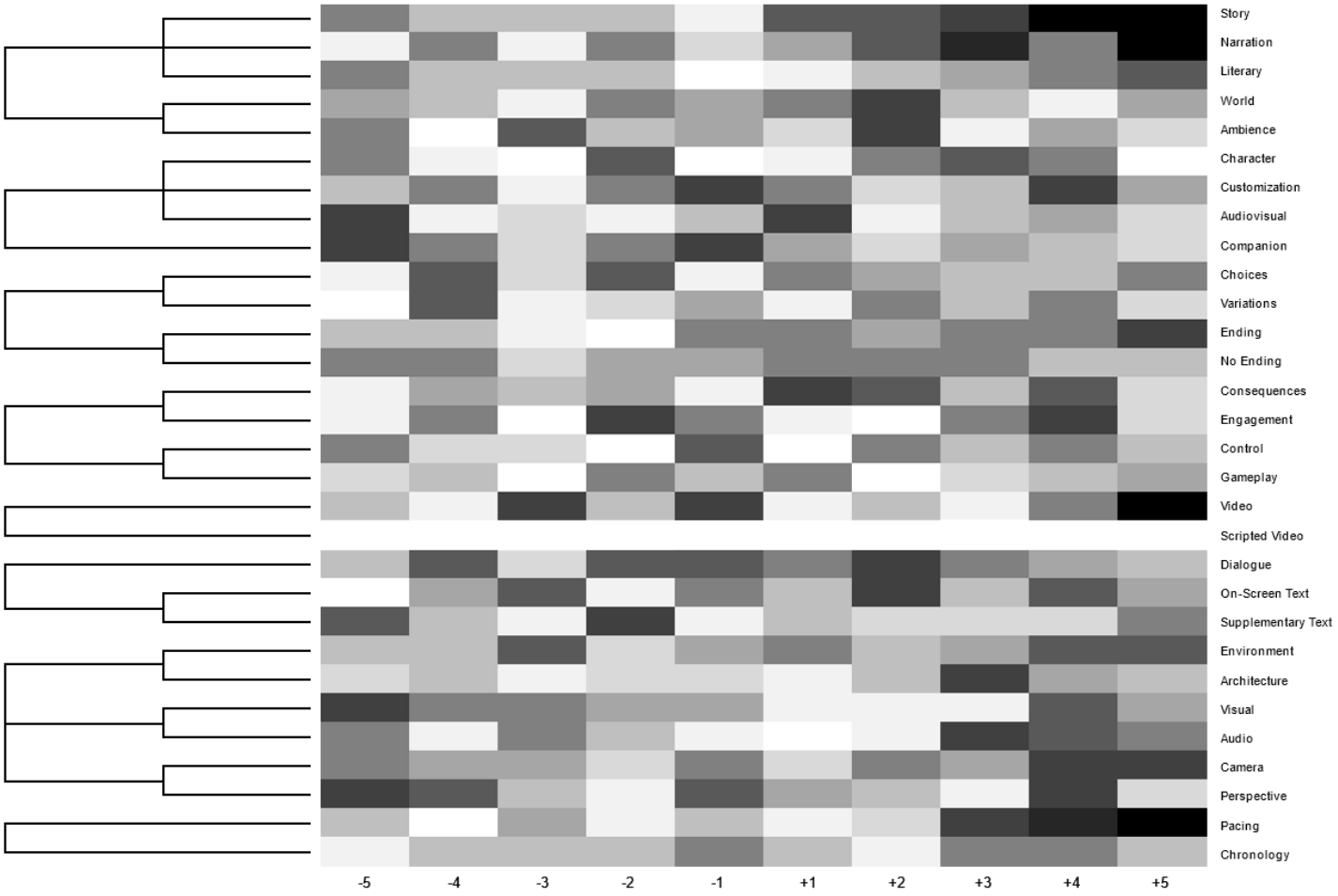


Figure 34.
Valence heatmap for The Beginner's Guide.

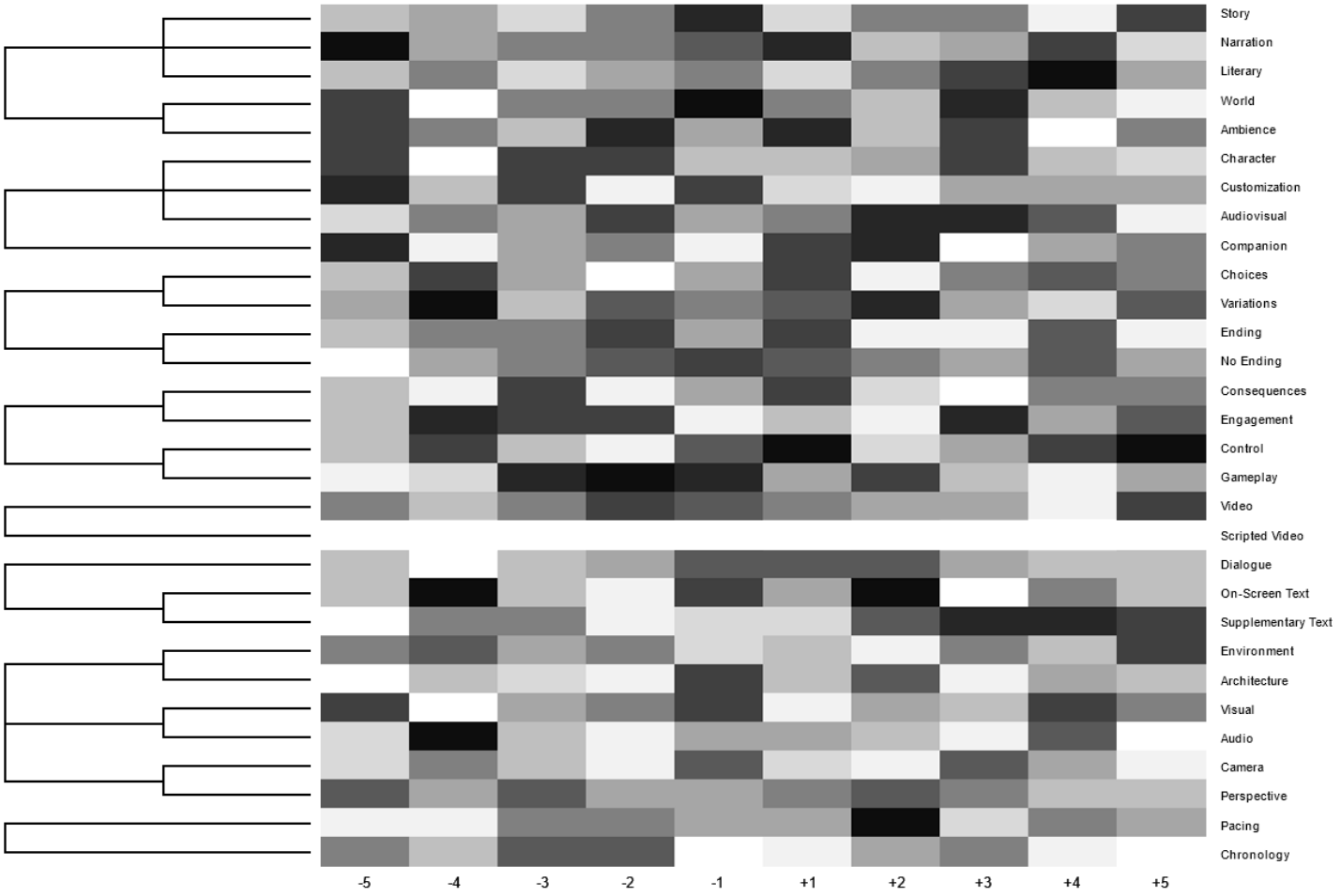


Figure 35.
Valence heatmap for Fallout 4.

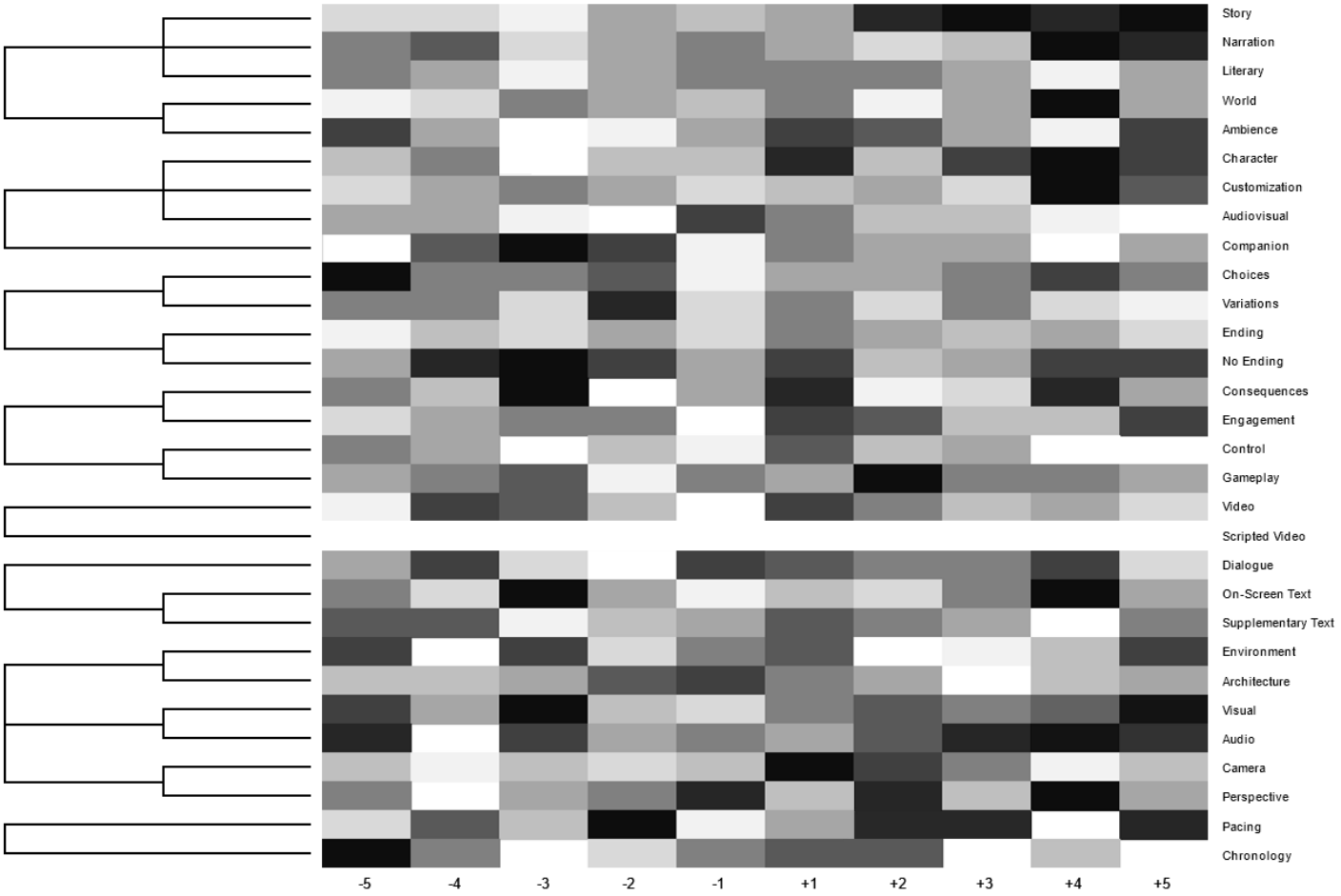


Figure 36.
Valence heatmap for NEKOPARA Vol. 1.

Table 29. Valence medians for games per main narrative clusters, along with comparative heat map of cluster hierarchy

	Storyworld	Embodiment/Empathy	Linearity/Non-Linearity	Agency	Cutscene/Scripted Video	Text/Prompts	Spatiality	Temporality/Sequentiality	Storyworld	Embodiment/Empathy	Linearity/Non-Linearity	Agency	Cutscene/Scripted Video	Text/Prompts	Spatiality	Temporality/Sequentiality
The Wolf Among Us	+2,1	+3,3	+1,2	+2,9	+1,3	+1,8	+0,6	-0,7								
The Stanley Parable	+1,9	+1,1	+2,4	+3,5	-1,1	-1,2	-0,3	+0,9								
To The Moon	+2,9	+0,4	-0,9	+0,5	+1,2	+1,6	+3,1	+1,7								
Thomas Was Alone	+3,5	+2,8	-2,1	+2,7	+1,9	+0,3	+0,3	+0,1								
Hyperdimension Neptunia Re;Birth1	+2,4	+2,9	-1,9	+0,4	+0,2	+1,3	+0,2	+3,1								
BlazBlue: Chronophantasma Extend	+1,9	+1,7	+2,3	+3,0	-0,1	-0,1	+0,2	+2,2								
The Town of Light	+3,3	+1,8	+2,0	+1,8	+0,1	+1,5	+3,6	+2,2								
Read Only Memories	+3,1	+0,4	+1,9	+1,9	+1,1	+2,0	+0,3	-0,1								
Choice of Robots	+0,3	+2,5	+1,0	+2,8	-0,4	+1,7	-0,1	-2,9								
That Dragon Cancer	+3,0	+3,1	+1,9	-0,3	+0,1	+2,9	+0,2	+3,8								
The Elder Scrolls® Online: Tamriel Unlimited	+1,8	+1,9	-1,8	-1,7	+0,7	-2,1	+2,0	-1,5								
The Next World	+0,5	+1,3	+2,5	+2,1	+0,6	+2,2	+1,8	+1,1								
Hand of Fate	+0,8	+0,2	+1,1	+0,3	+0,4	+1,9	-0,7	-0,1								
Bastion	+3,6	+3,0	+1,9	+0,7	+1,3	+0,6	+1,8	+2,1								
80 Days	+2,4	+1,5	+1,0	+1,6	+0,9	+0,3	+1,8	+1,4								
The Beginner's Guide	+3,1	+2,1	+0,8	+2,9	+0,1	+1,0	+2,8	+2,9								
Fallout 4	-0,2	+1,4	+2,1	-1,6	-0,1	+2,9	+1,5	+0,3								
NEKOPARA Vol. 1	+3,9	+2,8	-0,1	+1,7	+0,7	+1,0	+3,1	+1,9								

Heat maps have indicated that, although the sentiments are very spread accross the 10-level scale, there are focus points emerging in the majority of the games. *Thomas Was Alone, BlazBlue: Chronophantasma Extend, The Town of Light, Read Only Memories, That Dragon Cancer, Bastion, 80 Days*, and *The Beginner's Guide* had clear valence foci, while the rest had conflicted sentiments. *Bastion* and *The Beginner's Guide* were interesting examples that had almost no strong negative sentiments among their reviews, even from the ones that were marked as negative. *The Town of Light* focused very strong positive sentiments in its "story" and "audiovisual" clusters. *Thomas Was Alone* showed strong positive sentiments in world building, story and gameplay, however linearity and repetetiveness had created a negative focus, in spite of being a platform game and not an adventure game.

6.3. Cluster/Valence Pattern Analysis

All of these analysis done so far have illusrated the perceptions of players towards the narrative components used inside the 18 selected games, and how negatively or positively they felt towards each component. These results might have the potential to help a researcher in understanding the narrative games in general, or these 18 sample games in particular. However the main aim of this study was to determine an emergence of player types among the data. Are there certain groups of players who show the same amount of valence to same narrative components, and do they form a pattern as to explain their behaviours? To observe these groups among the data, a pattern analysis was made with QDA Miner (Figure 37). Various previous studies offer proximity as a potential measure to validate cluster coding patterns (Green and Rao, 1969; Roussos et *al.*, 1998; Kim et *al.*, 2003). Independent from games, the existing data have been utilized to form a base line to understand cluster / valence relations, removing the games layer standing between the component layer and player layer.

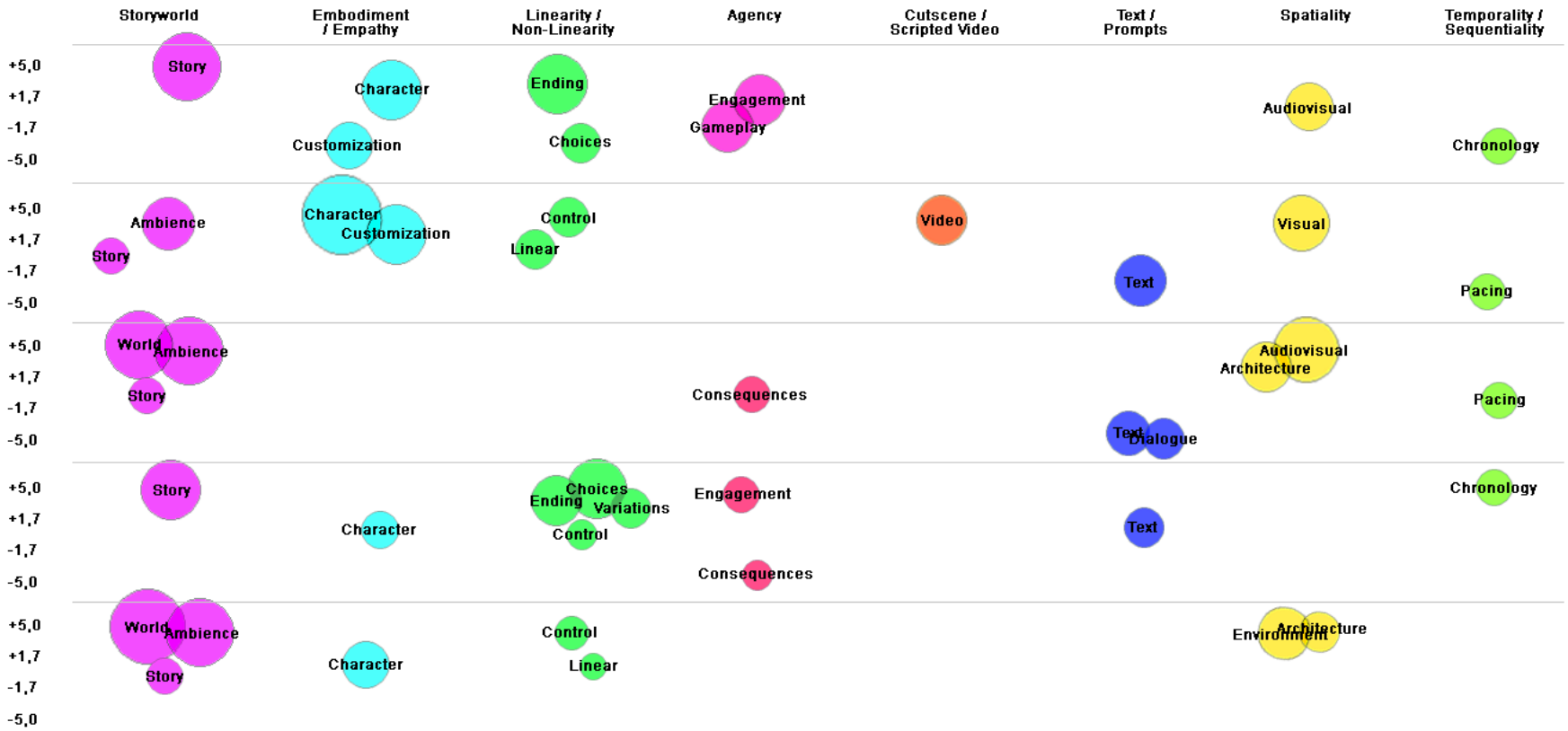


Figure 37. Unified 2D Map of Cluster / Valence coding proximity patterns.

6.4. Narrative Player Types

The results of the analysis confirm five distinctive narrative player types, who display similar valence scores to similar narrative components. This study proposes these types as the most important finding of the research. The cluster / valence data acquired per game might also be interesting to the producers of the game or to a researcher who is studying the particular game, however this part of the study only aimed to produce enough cluster / valence data for the narrative player types to emerge. It is assumed that with a totally different group of narrative games, similar types would also have occured. Additionally more data (more reviews and more games) added to the sample might help fine adjust the borders and transitivity between player types, as well as might have the potential to identify smaller niche behaviours.

The emerged five narrative player types were named as follows; *Traditionalists, Avatarials, Sensationalists, Experimenters*, and *Teleporters*. Depending on their valence scores towards different narrative components, the research traced back to re-read the selected game reviews from each type, to better portray how they would behave inside narrative games. This was a manual analysis process based on cluster / valence results and player type affiliations.

The types are explained through three groups of cluster / valence; low, high, and apathetic. These include the clusters that were mentioned by said players with low, high, and median scores. The term apathetic may be misleading as it might indicate that these players did not mention these clusters, however this is not the case.

Traditionalists

Interactive environments such as video games offer different alternative approaches for storytelling as discussed within this study. However this do not purport that the audience would necessarily choose to

adapt to it. One emergent player category with the pattern analysis is the *traditionalist*. Traditionalists (Table 30) seemingly perceive video game narrative as a continuation of traditional narrative forms, relying heavily on stories, characters, and closures. They do not care so much about different narrative paths, or replays to experience alternate storylines. Approximately traditionalist would be the players who leave main and side characters names in default when asked – trying to experience the story as it is given to them.

Table 30. Traditionalist

Low Valence	***Apathetic***	***High Valence***
Customization	Gameplay	Story
Choices	Audiovisual	Character
Chronology		Ending
		Engagement

Traditionalist also do not have strong reactions to gameplay, control, and audiovisual components of the games they played, leading to the belief that they would look over ludic components to experience the narratives that they were curious about. It seems possible to imagine these players continuing to play a game with broken or unresponsive mechanics just for the sake of seeing the narrative to the end.

Avatarials

Avatarials are the players who had high valence regarding characters, customization, and controls (Table 31). They display lower valence to slow pacing, and text clusters, leading to the conclusion that they would be interested in visual representations of their characters and fast feedback on the things that they do to improve them. It can be proposed that avatarials experience narratives through their characters; embodying them visually, and interested in seeing them grow or change during the course of

the narrative. Although there were no multiplayer online battle arena (MOBA) games in the sample, it can be assumed that avatarials could be better explained through this genre. In MMORPGs or other online games, avatarials would be players who obssess over the look and evolution of their characters, creating narratives of their avatarial experiences within the storyworld. In traditional narrative setups, avatarials would be more interested in what happens to the characters, than what happens in the game world in general.

Table 31. Avatarials

Low Valence	***Apathetic***	***High Valence***
Text	Story	Character
Pacing	Linear	Customization
		Control
		Visual
		Ambience

Sensationalists

Sensationalists are the players who had high valence on everything ambient, low valence on text and dialogue, and apathetic to the story and its pacing (Table 32). Sensationalists would be visual and aural players, who want to experience the narrative world with senses, rather than the mind's eye. Their low valence on pacing would suggest that they spent their in-game time for exploring the world and its ambience rather than progressing the story. It would be possible to imagine these players to stop persuing the progression of the narrative, just to see and hear more of the virtual world. Sensationalist would seemingly prefer to watch a high degree of cutscenes as a part of the narrative. They seem to have low tolerance for text and dialogue – though the dialogue mentioned here might be interpreted as long dialogues between characters or cutscenes with extensive talk. It could also be proposed that instead of the narrative being given to them as text, or told

to them as dialogue, they would rather be involved in its visual construction – displaying a very mimetic approach.

Table 32. Sensationalists

Low Valence	***Apathetic***	***High Valence***
Text	Story	Ambience
Dialogue	Consequences	World
	Pacing	Audio
		Video
		Architecture

Experimenters

Experimenters are the players who had high valence to emergence, choices, and variations (Table 33). They have low sentiments for short play times, and strict consequentiality or no consequentiality at all. Experimenters do not display a tendency towards visuality or low-visuality, neither to the handling of characters, as long as the narrative or the storyworld allow them to insert and test their own input to the game with consequences. Due to their high valence towards chronology, it could be inferred that experimenters value replays, and playthroughs of others. For narrative games, experimenters could offered to be the ones who replay the game to see different paths, and experiment with the limits of the game's narrative.

Table 33. Experimenters

Low Valence	***Apathetic***	***High Valence***
Consequences	Character	Story
	Control	Choices
	Text	Ending
		Engagement

		Variations
		Chronology

Teleporters

Teleporters was an extended type compared to others as they were identified in a wider proximity with no low valence connections (Table 34). Teleporters are the players who play narrative games to be teleported to another place. Although they are not explicitly negative about stories or avatars, their main aim is to feel presence in someplace else, rather than pursuing a story. Audiovisual components did not emerge as important factors for teleporters leading to the conclusion that they did not require heavy visual and aural aspects for the transition

Table 34. Teleporters

Low Valence	***Apathetic***	***High Valence***
-	Story	World
	Character	Ambience
	Linear	Environment
		Control
		Architecture

The wider proximity of this type might offer it as a transient mood rather than a permanent behaviour type.

6.5. Conclusion

This study wanted to explain how players interacted with video game narratives. Overall there were three main complications on pursuing this aim. Initially the interactive nature of video games rendered their position to possess narrativity in question. For this reason the study discussed video game definitions, interactivity definitions, and even video

game study methodologies to illustrate the positioning of narrative inside the medium. It was offered that apart from a theoretical approach, narrativity was a negotiation between the player and the producer of the video game. The video game producers might struggle to make their video game narrative, which might be overlooked by players, or the players might find narrative outlets in component that did not originally be produced to possess narrativity.

Secondly the definition of narrativity was observed to be in discourse inside the medium. To move pass this obstacle, the study made an extensive literature analysis on the previous definitions of traditional narrative and interactive narrative. The approaches in these studies were merged together to create a categorical method to define what components were percieved as forming narratives.

Finally several previous player type research have already brought forward a player type commonly called fantasy or narrative type. The study pointed out that this player type was underdeveloped since it did not offer any behavioural approach as to how these players interacted with narratives and to what degree. To illustrate the discordance, the results of several previous player type research were brought together inside a single matrix.

Consequently the study set on to explain this player type in better detail. By summarizing the video game research methods offered by other scholars, textual analysis of video game reviews was determined to be the most relevant method to understand the tendencies of the narrative players. From the Steam platform 18 games were chosen and 1690 user reviews were gathered from their webpages. The bulk text had 437,030 words and 2,491,716 character count. To analyze the data, a semantic word cluster was created. The definitions of narrative examined inside the study were the key to form this semantic construct. As a first step QDA Miner was used to split the reviews into component clusters. This provided two main quantitative data; (1) which narrative components were talked about most in each video

game, (2) which narrative components had hierarchical priority to explain narrativity in video games.

However this approach did not provide any information on the sentiments regarding each component or cluster. To constitute this information the method of valence analysis was chosen. AFINN-111 word base was selected as the valence database for common English words. The AFINN-111 word base ranked each word a positive or negative numerical value based on the sentiment it offers. By scoring the words used in the reviews, a valence score for each cluster, each review, and an overall valence score for each game was determined. The valence / cluster results were simplified into heat maps for comprehensive results.

Eventually it was possible to prospect the data to discover narrative player types. A pattern analysis was performed based on proximity and it has shown five patterns in the data. Depending on their valence distance with certain clusters, the patterns were studied, and associated reviews were re-read. Accordingly the five patterns were named and explained (Table 35).

Table 35. Narrative Player Types

Type	***Positive Valence Towards***	***Behaviours***
Traditionalists	Story, Character, Ending, Engagement	Traditionalists enjoy experiencing video game narratives closer to traditional narrative forms. They do not seek experimenting, choices, and customization.
Avatarials	Character, Customization, Control, Visual	Avatarials focus on characters, valuing customization and visual representation of their online presence.
Sensationalists	Ambience, World,	Sensationalists seek ambient

	Audiovisual, Architecture	pleasure within their narratives, keen on watching cutscenes, experiencing glossy and flamboyant worlds.
Experimenters	Story, Choices, Engagement, Ending, Variation, Chronology	Experimenters are the opposite of traditionalists. They seek choices and variations in the narratives they play, valuing replays to observe different results.
Teleporters	World, Ambience, Environment, Control, Architecture	Teleporters seek escapist presence in another world. Their sense of escape is not based on visuality only. They also value stories and characters, but their primary aim is immersion in another reality.

6.6. Limitations and Future Research

The results have implications for further research. After applying the methodology to the current selection of games, the next step would be to expand the selection of reviews and amount of games to better articulate the behaviours of narrative player types. Just as *teleporters* were recognized as an extended type, more niche behaviours have the potential to emerge. Additionally, it must be acknowledged that, similar to previous player type resarch, narrative sub types might have transitive characteristics, based on different control variables such as efficacy in video games, or efficacy in narrative video games. Additional research might uncover elements that effect these categorizations.

A noticeable limitation of this research is the construction of narrative clusters. The study merged a broad literature review to thoroughly account for all the possible narrative components that could be observed inside the video game medium. The same review was also used in grouping the narrative components into comprehensible main clusters to provide lucid results. Although it could be accepted that there is bound to be contested components in the emerged model (contested in terms of component's context or cluster location), this seems to have little potential of effecting the resultant narrative types.

Finally, the discourse of video games are progressing on a fast track as new technologies, target segments, and creative approaches emerge. This constant change is bound to generate products that will not abide with and transform current paradigms.

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APPENDIX A – STEAM GAME TAGS (As of February 2016)

1980s	Metroidvania
1990's	Military
2.5D	Mini Golf
2D	Minimalist
2D Fighter	Mining
3D Platformer	MMORPG
3D Vision	MOBA
4 Player Local	Mod
4X	Moddable
6DOF	Modern
Abstract	Mouse only
Action	Movie
Action RPG	Multiplayer
Action-Adventure	Multiple Endings
Adventure	Music
Agriculture	Music-Based Procedural Generation
Aliens	Mystery
Alternate History	Mystery Dungeon
America	Mythology
Animation & Modeling	Narration
Anime	Naval
Arcade	Ninja
Arena Shooter	Noir
Assassin	Nudity
Asynchronous Multiplayer	Offroad
Atmospheric	Online Co-Op
Audio Production	On-Rails Shooter
Base-Building	Open World
Based On A Novel	Otome
Basketball	Parkour
Batman	Parody
Beat 'em up	Party-Based RPG
Benchmark	Perma Death
Blood	Philisophical
Board Game	

Bowling	Photo Editing
Building	Physics
Bullet Hell	Pinball
Bullet Time	Pirates
Capitalism	Pixel Graphics
Card Game	Platformer
Cartoon	Point & Click
Cartoony	Political
Casual	Politics
Character Action Game	Pool
Character Customization	Post-apocalyptic
Chess	Procedural Generation
Choices Matter	Programming
Choose Your Own Adventure	Psychedelic
Cinematic	Psychological
City Builder	Psychological Horror
Class-Based	Puzzle
Classic	Puzzle-Platformer
Clicker	PvE
Cold War	PvP
Colorful	Quick-Time Events
Comedy	Racing
Comic Book	Real Time Tactics
Competitive	Realistic
Conspiracy	Real-Time
Controller	Real-Time with Pause
Co-op	Relaxing
Co-op Campaign	Remake
Crafting	Replay Value
Crime	Resource Management
Crowdfunded	Retro
CRPG	Rhythm
Cult Classic	Robots
Cute	Rogue-like
Cyberpunk	Rogue-lite
Dark	Romance
Dark Comedy	Rome

Dark Fantasy	RPG
Dark Humor	RPGMaker
Dating Sim	RTS
Demons	Runner
Design & Illustration	Sailing
Destruction	Sandbox
Detective	Satire
Difficult	Science
Dinosaurs	Sci-fi
Diplomacy	Score Attack
Documentary	Shoot 'Em Up
Dragons	Shooter
Drama	Short
Driving	Side Scroller
Dungeon Crawler	Silent Protagonist
Dynamic Narration	Simulation
Dystopian	Singleplayer
Economy	Sniper
Education	Soccer
Episodic	Software
e-sports	Software Training
Experimental	Sokoban
Exploration	Soundtrack
Family Friendly	Space
Fantasy	Space Sim
Fast-Paced	Spectacle fighter
Feature Film	Spelling
Female Protagonist	Split Screen
Fighting	Sports
First-Person	Star Wars
Fishing	Stealth
Flight	Steam Machine
FMV	Steampunk
Football	Story Rich
Foreign	Strategy
FPS	Strategy RPG
Free to Play	Stylized

Funny	Superhero
Futuristic	Supernatural
Gambling	Surreal
Game Development	Survival
GameMaker	Survival Horror
Games Workshop	Swordplay
Gaming	Tactical
God Game	Tactical RPG
Golf	Tanks
Gore	Team-Based
Gothic	Third Person
Grand Strategy	Third-Person Shooter
Great Soundtrack	Thriller
Grid-Based Movement	Time Attack
Gun Customization	Time Manipulation
Hack and Slash	Time Travel
Hacking	Top-Down
Hand-drawn	Top-Down Shooter
Hardware	Touch-Friendly
Heist	Tower Defense
Hex Grid	TrackIR
Hidden Object	Trading
Historical	Trading Card Game
Horror	Trains
Horses	Transhumanism
Hunting	Turn-Based
Illuminati	Turn-Based Combat
Indie	Turn-Based Strategy
Interactive Fiction	Turn-Based Tactics
Inventory Management	Tutorial
Isometric	Twin Stick Shooter
JRPG	Typing
Kickstarter	Underground
Lara Croft	Underwater
LEGO	Utilities
Lemmings	Vampire
Level Editor	Video Production

Linear	Villain Protagonist
Local Co-Op	Violent
Local Multiplayer	Visual Novel
Loot	Voxel
Lore-Rich	VR
Lovecraftian	Walking Simulator
Magic	War
Management	Wargame
Mars	Warhammer 40K
Martial Arts	Web Publishing
Massively Multiplayer	Werewolves
Match 3	Western
Mature	Word Game
Mechs	World War I
Medieval	World War II
Memes	Zombies

APPENDIX B – AFINN-111 Word List by Finn Årup Nielsen (As of May 2016)

abandon	-2	denying	-2	ignored	-2	rejecting	-1
abandoned	-2	depressed	-2	ignores	-1	rejects	-1
abandons	-2	depressing	-2	ill	-2	rejoice	4
abducted	-2	derail	-2	illegal	-3	rejoiced	4
abduction	-2	derailed	-2	illiteracy	-2	rejoices	4
abductions	-2	derails	-2	illness	-2	rejoicing	4
abhor	-3	deride	-2	illnesses	-2	relaxed	2
abhorred	-3	derided	-2	imbecile	-3	relentless	-1
abhorrent	-3	derides	-2	immobilized	-1	reliant	2
abhors	-3	deriding	-2	immortal	2	relieve	1
abilities	2	derision	-2	immune	1	relieved	2
ability	2	desirable	2	impatient	-2	relieves	1
aboard	1	desire	1	imperfect	-2	relieving	2
absentee	-1	desired	2	importance	2	relishing	2
absentees	-1	desirous	2	important	2	remarkable	2
absolve	2	despair	-3	impose	-1	remorse	-2
absolved	2	despairing	-3	imposed	-1	repulse	-1
absolves	2	despairs	-3	imposes	-1	repulsed	-2
absolving	2	desperate	-3	imposing	-1	rescue	2
absorbed	1	desperately	-3	impotent	-2	rescued	2
abuse	-3	despondent	-3	impress	3	rescues	2
abused	-3	destroy	-3	impressed	3	resentful	-2
abuses	-3	destroyed	-3	impresses	3	resign	-1
abusive	-3	destroying	-3	impressive	3	resigned	-1
accept	1	destroys	-3	imprisoned	-2	resigning	-1
accepted	1	destruction	-3	improve	2	resigns	-1
accepting	1	destructive	-3	improved	2	resolute	2
accepts	1	detached	-1	improvement	2	resolve	2
accident	-2	detain	-2	improves	2	resolved	2
accidental	-2	detained	-2	improving	2	resolves	2
accidentally	-2	detention	-2	inability	-2	resolving	2
accidents	-2	determined	2	inaction	-2	respected	2
accomplish	2	devastate	-2	inadequate	-2	responsible	2
accomplished	2	devastated	-2	incapable	-2	responsive	2
accomplishes	2	devastating	-2	incapacitated	-2	restful	2

accusation	-2	devoted	3	incensed	-2	restless	-2
accusations	-2	diamond	1	incompetence	-2	restore	1
accuse	-2	dick	-4	incompetent	-2	restored	1
accused	-2	dickhead	-4	inconsiderate	-2	restores	1
accuses	-2	die	-3	inconvenience	-2	restoring	1
accusing	-2	died	-3	inconvenient	-2	restrict	-2
ache	-2	difficult	-1	increase	1	restricted	-2
achievable	1	diffident	-2	increased	1	restricting	-2
aching	-2	dilemma	-1	indecisive	-2	restriction	-2
acquit	2	dipshit	-3	indestructible	2	restricts	-2
acquits	2	dire	-3	indifference	-2	retained	-1
acquitted	2	direful	-3	indifferent	-2	retard	-2
acquitting	2	dirt	-2	indignant	-2	retarded	-2
acrimonious	-3	dirtier	-2	indignation	-2	retreat	-1
active	1	dirtiest	-2	indoctrinate	-2	revenge	-2
adequate	1	dirty	-2	indoctrinated	-2	revengeful	-2
admire	3	disabling	-1	indoctrinates	-2	revered	2
admired	3	disadvantage	-2	indoctrinating	-2	revive	2
admires	3	disadvantaged	-2	ineffective	-2	revives	2
admiring	3	disappear	-1	ineffectively	-2	reward	2
admit	-1	disappeared	-1	infatuated	2	rewarded	2
admits	-1	disappears	-1	infatuation	2	rewarding	2
admitted	-1	disappoint	-2	infected	-2	rewards	2
admonish	-2	disappointed	-2	inferior	-2	rich	2
admonished	-2	disappointing	-2	inflamed	-2	ridiculous	-3
adopt	1	disappointment	-2	influential	2	rig	-1
adopts	1	disappointments	-2	infringement	-2	rigged	-1
adorable	3	disappoints	-2	infuriate	-2	right direction	3
adore	3	disaster	-2	infuriated	-2	rigorous	3
adored	3	disasters	-2	infuriates	-2	rigorously	3
adores	3	disastrous	-3	infuriating	-2	riot	-2
advanced	1	disbelieve	-2	inhibit	-1	riots	-2
advantage	2	discard	-1	injured	-2	risk	-2
advantages	2	discarded	-1	injury	-2	risks	-2
adventure	2	discarding	-1	injustice	-2	rob	-2
adventures	2	discards	-1	innovate	1	robber	-2
adventurous	2	disconsolate	-2	innovates	1	robed	-2
affected	-1	disconsolation	-2	innovation	1	robing	-2

affection	3	discontented	-2	innovative	2	robs	-2
affectionate	3	discord	-2	inquisition	-2	robust	2
afflicted	-1	discounted	-1	inquisitive	2	rofl	4
affronted	-1	discouraged	-2	insane	-2	roflcopter	4
afraid	-2	discredited	-2	insanity	-2	roflmao	4
aggravate	-2	disdain	-2	insecure	-2	romance	2
aggravated	-2	disgrace	-2	insensitive	-2	rotfl	4
aggravates	-2	disgraced	-2	insensitivity	-2	rotflmfao	4
aggravating	-2	disguise	-1	insignificant	-2	rotflol	4
aggression	-2	disguised	-1	insipid	-2	ruin	-2
aggressions	-2	disguises	-1	inspiration	2	ruined	-2
aggressive	-2	disguising	-1	inspirational	2	ruining	-2
aghast	-2	disgust	-3	inspire	2	ruins	-2
agog	2	disgusted	-3	inspired	2	sabotage	-2
agonise	-3	disgusting	-3	inspires	2	sad	-2
agonised	-3	disheartened	-2	inspiring	3	sadden	-2
agonises	-3	dishonest	-2	insult	-2	saddened	-2
agonising	-3	disillusioned	-2	insulted	-2	sadly	-2
agonize	-3	disinclined	-2	insulting	-2	safe	1
agonized	-3	disjointed	-2	insults	-2	safely	1
agonizes	-3	dislike	-2	intact	2	safety	1
agonizing	-3	dismal	-2	integrity	2	salient	1
agree	1	dismayed	-2	intelligent	2	sappy	-1
agreeable	2	disorder	-2	intense	1	sarcastic	-2
agreed	1	disorganized	-2	interest	1	satisfied	2
agreement	1	disoriented	-2	interested	2	save	2
agrees	1	disparage	-2	interesting	2	saved	2
alarm	-2	disparaged	-2	interests	1	scam	-2
alarmed	-2	disparages	-2	interrogated	-2	scams	-2
alarmist	-2	disparaging	-2	interrupt	-2	scandal	-3
alarmists	-2	displeased	-2	interrupted	-2	scandalous	-3
alas	-1	dispute	-2	interrupting	-2	scandals	-3
alert	-1	disputed	-2	interruption	-2	scapegoat	-2
alienation	-2	disputes	-2	interrupts	-2	scapegoats	-2
alive	1	disputing	-2	intimidate	-2	scare	-2
allergic	-2	disqualified	-2	intimidated	-2	scared	-2
allow	1	disquiet	-2	intimidates	-2	scary	-2
alone	-2	disregard	-2	intimidating	-2	sceptical	-2

amaze	2	disregarded	-2	intimidation	-2	scold	-2
amazed	2	disregarding	-2	intricate	2	scoop	3
amazes	2	disregards	-2	intrigues	1	scorn	-2
amazing	4	disrespect	-2	invincible	2	scornful	-2
ambitious	2	disrespected	-2	invite	1	scream	-2
ambivalent	-1	disruption	-2	inviting	1	screamed	-2
amuse	3	disruptions	-2	invulnerable	2	screaming	-2
amused	3	disruptive	-2	irate	-3	screams	-2
amusement	3	dissatisfied	-2	ironic	-1	screwed	-2
amusements	3	distort	-2	irony	-1	screwed up	-3
anger	-3	distorted	-2	irrational	-1	scumbag	-4
angers	-3	distorting	-2	irresistible	2	secure	2
angry	-3	distorts	-2	irresolute	-2	secured	2
anguish	-3	distract	-2	irresponsible	2	secures	2
anguished	-3	distracted	-2	irreversible	-1	sedition	-2
animosity	-2	distraction	-2	irritate	-3	seditious	-2
annoy	-2	distracts	-2	irritated	-3	seduced	-1
annoyance	-2	distress	-2	irritating	-3	self-confident	2
annoyed	-2	distressed	-2	isolated	-1	self-deluded	-2
annoying	-2	distresses	-2	itchy	-2	selfish	-3
annoys	-2	distressing	-2	jackass	-4	selfishness	-3
antagonistic	-2	distrust	-3	jackasses	-4	sentence	-2
anti	-1	distrustful	-3	jailed	-2	sentenced	-2
anticipation	1	disturb	-2	jaunty	2	sentences	-2
anxiety	-2	disturbed	-2	jealous	-2	sentencing	-2
anxious	-2	disturbing	-2	jeopardy	-2	serene	2
apathetic	-3	disturbs	-2	jerk	-3	severe	-2
apathy	-3	dithering	-2	jesus	1	sexy	3
apeshit	-3	dizzy	-1	jewel	1	shaky	-2
apocalyptic	-2	dodging	-2	jewels	1	shame	-2
apologise	-1	dodgy	-2	jocular	2	shamed	-2
apologised	-1	does not work	-3	join	1	shameful	-2
apologises	-1	dolorous	-2	joke	2	share	1
apologising	-1	dont like	-2	jokes	2	shared	1
apologize	-1	doom	-2	jolly	2	shares	1
apologized	-1	doomed	-2	jovial	2	shattered	-2
apologizes	-1	doubt	-1	joy	3	shit	-4
apologizing	-1	doubted	-1	joyful	3	shithead	-4

apology -1	doubtful -1	joyfully 3	shitty -3
appalled -2	doubting -1	joyless -2	shock -2
appalling -2	doubts -1	joyous 3	shocked -2
appease 2	douche -3	jubilant 3	shocking -2
appeased 2	douchebag -3	jumpy -1	shocks -2
appeases 2	downcast -2	justice 2	shoot -1
appeasing 2	downhearted -2	justifiably 2	short-sighted -2
applaud 2	downside -2	justified 2	short-sightedness -2
applauded 2	drag -1	keen 1	shortage -2
applauding 2	dragged -1	kill -3	shortages -2
applauds 2	drags -1	killed -3	shrew -4
applause 2	drained -2	killing -3	shy -1
appreciate 2	dread -2	kills -3	sick -2
appreciated 2	dreaded -2	kind 2	sigh -2
appreciates 2	dreadful -3	kinder 2	significance 1
appreciating 2	dreading -2	kiss 2	significant 1
appreciation 2	dream 1	kudos 3	silencing -1
apprehensive -2	dreams 1	lack -2	silly -1
approval 2	dreary -2	lackadaisical -2	sincere 2
approved 2	droopy -2	lag -1	sincerely 2
approves 2	drop -1	lagged -2	sincerest 2
ardent 1	drown -2	lagging -2	sincerity 2
arrest -2	drowned -2	lags -2	sinful -3
arrested -3	drowns -2	lame -2	singleminded -2
arrests -2	drunk -2	landmark 2	skeptic -2
arrogant -2	dubious -2	laugh 1	skeptical -2
ashame -2	dud -2	laughed 1	skepticism -2
ashamed -2	dull -2	laughing 1	skeptics -2
ass -4	dumb -3	laughs 1	slam -2
assassination -3	dumbass -3	laughting 1	slash -2
assassinations -3	dump -1	launched 1	slashed -2
asset 2	dumped -2	lawl 3	slashes -2
assets 2	dumps -1	lawsuit -2	slashing -2
assfucking -4	dupe -2	lawsuits -2	slavery -3
asshole -4	duped -2	lazy -1	sleeplessness -2
astonished 2	dysfunction -2	leak -1	slick 2
astound 3	eager 2	leaked -1	slicker 2
astounded 3	earnest 2	leave -1	slickest 2

astounding	3	ease	2	legal	1	sluggish	-2
astoundingly	3	easy	1	legally	1	slut	-5
astounds	3	ecstatic	4	lenient	1	smart	1
attack	-1	eerie	-2	lethargic	-2	smarter	2
attacked	-1	eery	-2	lethargy	-2	smartest	2
attacking	-1	effective	2	liar	-3	smear	-2
attacks	-1	effectively	2	liars	-3	smile	2
attract	1	elated	3	libelous	-2	smiled	2
attracted	1	elation	3	lied	-2	smiles	2
attracting	2	elegant	2	lifesaver	4	smiling	2
attraction	2	elegantly	2	lighthearted	1	smog	-2
attractions	2	embarrass	-2	like	2	sneaky	-1
attracts	1	embarrassed	-2	liked	2	snub	-2
audacious	3	embarrasses	-2	likes	2	snubbed	-2
authority	1	embarrassing	-2	limitation	-1	snubbing	-2
avert	-1	embarrassment	-2	limited	-1	snubs	-2
averted	-1	embittered	-2	limits	-1	sobering	1
averts	-1	embrace	1	litigation	-1	solemn	-1
avid	2	emergency	-2	litigious	-2	solid	2
avoid	-1	empathetic	2	lively	2	solidarity	2
avoided	-1	emptiness	-1	livid	-2	solution	1
avoids	-1	empty	-1	lmao	4	solutions	1
await	-1	enchanted	2	lmfao	4	solve	1
awaited	-1	encourage	2	loathe	-3	solved	1
awaits	-1	encouraged	2	loathed	-3	solves	1
award	3	encouragement	2	loathes	-3	solving	1
awarded	3	encourages	2	loathing	-3	somber	-2
awards	3	endorse	2	lobby	-2	some kind	0
awesome	4	endorsed	2	lobbying	-2	son-of-a-bitch	-5
awful	-3	endorsement	2	lol	3	soothe	3
awkward	-2	endorses	2	lonely	-2	soothed	3
axe	-1	enemies	-2	lonesome	-2	soothing	3
axed	-1	enemy	-2	longing	-1	sophisticated	2
backed	1	energetic	2	loom	-1	sore	-1
backing	2	engage	1	loomed	-1	sorrow	-2
backs	1	engages	1	looming	-1	sorrowful	-2
bad	-3	engrossed	1	looms	-1	sorry	-1
badass	-3	enjoy	2	loose	-3	spam	-2

badly -3	enjoying 2	looses -3	spammer -3
bailout -2	enjoys 2	loser -3	spammers -3
bamboozle -2	enlighten 2	losing -3	spamming -2
bamboozled -2	enlightened 2	loss -3	spark 1
bamboozles -2	enlightening 2	lost -3	sparkle 3
ban -2	enlightens 2	lovable 3	sparkles 3
banish -1	ennui -2	love 3	sparkling 3
bankrupt -3	enrage -2	loved 3	speculative -2
bankster -3	enraged -2	lovelies 3	spirit 1
banned -2	enrages -2	lovely 3	spirited 2
bargain 2	enraging -2	loving 2	spiritless -2
barrier -2	enrapture 3	lowest -1	spiteful -2
bastard -5	enslave -2	loyal 3	splendid 3
bastards -5	enslaved -2	loyalty 3	sprightly 2
battle -1	enslaves -2	luck 3	squelched -1
battles -1	ensure 1	luckily 3	stab -2
beaten -2	ensuring 1	lucky 3	stabbed -2
beatific 3	enterprising 1	lugubrious -2	stable 2
beating -1	entertaining 2	lunatic -3	stabs -2
beauties 3	enthral 3	lunatics -3	stall -2
beautiful 3	enthusiastic 3	lurk -1	stalled -2
beautifully 3	entitled 1	lurking -1	stalling -2
beautify 3	entrusted 2	lurks -1	stamina 2
belittle -2	envies -1	mad -3	stampede -2
belittled -2	envious -2	maddening -3	startled -2
beloved 3	envy -1	made-up -1	starve -2
benefit 2	envying -1	madly -3	starved -2
benefits 2	erroneous -2	madness -3	starves -2
benefitted 2	error -2	mandatory -1	starving -2
benefitting 2	errors -2	manipulated -1	steadfast 2
bereave -2	escape -1	manipulating -1	steal -2
bereaved -2	escapes -1	manipulation -1	steals -2
bereaves -2	escaping -1	marvel 3	stereotype -2
bereaving -2	esteemed 2	marvelous 3	stereotyped -2
best 3	ethical 2	marvels 3	stifled -1
betray -3	euphoria 3	masterpiece 4	stimulate 1
betrayal -3	euphoric 4	masterpieces 4	stimulated 1
betrayed -3	eviction -1	matter 1	stimulates 1

betraying	-3	evil	-3	matters	1	stimulating	2
betrays	-3	exaggerate	-2	mature	2	stingy	-2
better	2	exaggerated	-2	meaningful	2	stolen	-2
bias	-1	exaggerates	-2	meaningless	-2	stop	-1
biased	-2	exaggerating	-2	medal	3	stopped	-1
big	1	exasperated	2	mediocrity	-3	stopping	-1
bitch	-5	excellence	3	meditative	1	stops	-1
bitches	-5	excellent	3	melancholy	-2	stout	2
bitter	-2	excite	3	menace	-2	straight	1
bitterly	-2	excited	3	menaced	-2	strange	-1
bizarre	-2	excitement	3	mercy	2	strangely	-1
blah	-2	exciting	3	merry	3	strangled	-2
blame	-2	exclude	-1	mess	-2	strength	2
blamed	-2	excluded	-2	messed	-2	strengthen	2
blames	-2	exclusion	-1	messing up	-2	strengthened	2
blaming	-2	exclusive	2	methodical	2	strengthening	2
bless	2	excuse	-1	mindless	-2	strengthens	2
blesses	2	exempt	-1	miracle	4	stressed	-2
blessing	3	exhausted	-2	mirth	3	stressor	-2
blind	-1	exhilarated	3	mirthful	3	stressors	-2
bliss	3	exhilarates	3	mirthfully	3	stricken	-2
blissful	3	exhilarating	3	misbehave	-2	strike	-1
blithe	2	exonerate	2	misbehaved	-2	strikers	-2
block	-1	exonerated	2	misbehaves	-2	strikes	-1
blockbuster	3	exonerates	2	misbehaving	-2	strong	2
blocked	-1	exonerating	2	mischief	-1	stronger	2
blocking	-1	expand	1	mischiefs	-1	strongest	2
blocks	-1	expands	1	miserable	-3	struck	-1
bloody	-3	expel	-2	misery	-2	struggle	-2
blurry	-2	expelled	-2	misgiving	-2	struggled	-2
boastful	-2	expelling	-2	misinformation	-2	struggles	-2
bold	2	expels	-2	misinformed	-2	struggling	-2
boldly	2	exploit	-2	misinterpreted	-2	stubborn	-2
bomb	-1	exploited	-2	misleading	-3	stuck	-2
boost	1	exploiting	-2	misread	-1	stunned	-2
boosted	1	exploits	-2	misreporting	-2	stunning	4
boosting	1	exploration	1	misrepresentation	-2	stupid	-2
boosts	1	explorations	1			stupidly	-2

bore -2	expose -1	miss -2	suave 2
bored -2	exposed -1	missed -2	substantial 1
boring -3	exposes -1	missing -2	substantially 1
bother -2	exposing -1	mistake -2	subversive -2
bothered -2	extend 1	mistaken -2	success 2
bothers -2	extends 1	mistakes -2	successful 3
bothersome -2	exuberant 4	mistaking -2	suck -3
boycott -2	exultant 3	misunderstand -2	sucks -3
boycotted -2	exultantly 3	misunderstanding -2	suffer -2
boycotting -2	fabulous 4	misunderstands -2	suffering -2
boycotts -2	fad -2	misunderstood -2	suffers -2
brainwashing -3	fag -3	moan -2	suicidal -2
brave 2	faggot -3	moaned -2	suicide -2
breakthrough 3	faggots -3	moaning -2	suing -2
breathtaking 5	fail -2	moans -2	sulking -2
bribe -3	failed -2	mock -2	sulky -2
bright 1	failing -2	mocked -2	sullen -2
brightest 2	fails -2	mocking -2	sunshine 2
brightness 1	failure -2	mocks -2	super 3
brilliant 4	failures -2	mongering -2	superb 5
brisk 2	fainthearted -2	monopolize -2	superior 2
broke -1	fair 2	monopolized -2	support 2
broken -1	faith 1	monopolizes -2	supported 2
brooding -2	faithful 3	monopolizing -2	supporter 1
bullied -2	fake -3	moody -1	supporters 1
bullshit -4	fakes -3	mope -1	supporting 1
bully -2	faking -3	moping -1	supportive 2
bullying -2	fallen -2	moron -3	supports 2
bummer -2	falling -1	motherfucker -5	survived 2
buoyant 2	falsified -3	motherfucking -5	surviving 2
burden -2	falsify -3	motivate 1	survivor 2
burdened -2	fame 1	motivated 2	suspect -1
burdening -2	fan 3	motivating 2	suspected -1
burdens -2	fantastic 4	motivation 1	suspecting -1
calm 2	farce -1	mourn -2	suspects -1
calmed 2	fascinate 3	mourned -2	suspend -1
calming 2	fascinated 3	mournful -2	suspended -1
calms 2	fascinates 3		suspicious -2

can't stand	-3	fascinating	3	mourning	-2	swear	-2
cancel	-1	fascist	-2	mourns	-2	swearing	-2
cancelled	-1	fascists	-2	mumpish	-2	swears	-2
cancelling	-1	fatalities	-3	murder	-2	sweet	2
cancels	-1	fatality	-3	murderer	-2	swift	2
cancer	-1	fatigue	-2	murdering	-3	swiftly	2
capable	1	fatigued	-2	murderous	-3	swindle	-3
captivated	3	fatigues	-2	murders	-2	swindles	-3
care	2	fatiguing	-2	myth	-1	swindling	-3
carefree	1	favor	2	n00b	-2	sympathetic	2
careful	2	favored	2	naive	-2	sympathy	2
carefully	2	favorite	2	nasty	-3	tard	-2
careless	-2	favorited	2	natural	1	tears	-2
cares	2	favorites	2	naïve	-2	tender	2
cashing in	-2	favors	2	needy	-2	tense	-2
casualty	-2	fear	-2	negative	-2	tension	-1
catastrophe	-3	fearful	-2	negativity	-2	terrible	-3
catastrophic	-4	fearing	-2	neglect	-2	terribly	-3
cautious	-1	fearless	2	neglected	-2	terrific	4
celebrate	3	fearsome	-2	neglecting	-2	terrified	-3
celebrated	3	fed up	-3	neglects	-2	terror	-3
celebrates	3	feeble	-2	nerves	-1	terrorize	-3
celebrating	3	feeling	1	nervous	-2	terrorized	-3
censor	-2	felonies	-3	nervously	-2	terrorizes	-3
censored	-2	felony	-3	nice	3	thank	2
censors	-2	fervent	2	nifty	2	thankful	2
certain	1	fervid	2	niggas	-5	thanks	2
chagrin	-2	festive	2	nigger	-5	thorny	-2
chagrined	-2	fiasco	-3	no	-1	thoughtful	2
challenge	-1	fidgety	-2	no fun	-3	thoughtless	-2
chance	2	fight	-1	noble	2	threat	-2
chances	2	fine	2	noisy	-1	threaten	-2
chaos	-2	fire	-2	nonsense	-2	threatened	-2
chaotic	-2	fired	-2	noob	-2	threatening	-2
charged	-3	firing	-2	nosey	-2	threatens	-2
charges	-2	fit	1	not good	-2	threats	-2
charm	3	fitness	1	not working	-3	thrilled	5
charming	3	flagship	2	notorious	-2	thwart	-2

charmless	-3	flees	-1	novel	2	thwarted	-2
chastise	-3	flop	-2	numb	-1	thwarting	-2
chastised	-3	flops	-2	nuts	-3	thwarts	-2
chastises	-3	flu	-2	obliterate	-2	timid	-2
chastising	-3	flustered	-2	obliterated	-2	timorous	-2
cheat	-3	focused	2	obnoxious	-3	tired	-2
cheated	-3	fond	2	obscene	-2	tits	-2
cheater	-3	fondness	2	obsessed	2	tolerant	2
cheaters	-3	fool	-2	obsolete	-2	toothless	-2
cheats	-3	foolish	-2	obstacle	-2	top	2
cheer	2	fools	-2	obstacles	-2	tops	2
cheered	2	forced	-1	obstinate	-2	torn	-2
cheerful	2	foreclosure	-2	odd	-2	torture	-4
cheering	2	foreclosures	-2	offend	-2	tortured	-4
cheerless	-2	forget	-1	offended	-2	tortures	-4
cheers	2	forgetful	-2	offender	-2	torturing	-4
cheery	3	forgive	1	offending	-2	totalitarian	-2
cherish	2	forgiving	1	offends	-2	totalitarianism	-2
cherished	2	forgotten	-1	offline	-1	tout	-2
cherishes	2	fortunate	2	oks	2	touted	-2
cherishing	2	frantic	-1	ominous	3	touting	-2
chic	2	fraud	-4	once-in-a-lifetime	3	touts	-2
childish	-2	frauds	-4	opportunities	2	tragedy	-2
chilling	-1	fraudster	-4	opportunity	2	tragic	-2
choke	-2	fraudsters	-4	oppressed	-2	tranquil	2
choked	-2	fraudulence	-4	oppressive	-2	trap	-1
chokes	-2	fraudulent	-4	optimism	2	trapped	-2
choking	-2	free	1	optimistic	2	trauma	-3
clarifies	2	freedom	2	optionless	-2	traumatic	-3
clarity	2	frenzy	-3	outcry	-2	travesty	-2
clash	-2	fresh	1	outmaneuvered	-2	treason	-3
classy	3	friendly	2	outrage	-3	treasonous	-3
clean	2	fright	-2	outraged	-3	treasure	2
cleaner	2	frightened	-2	outreach	2	treasures	2
clear	1	frightening	-3	outstanding	5	trembling	-2
cleared	1	frikin	-2	overjoyed	4	tremulous	-2
clearly	1	frisky	2	overload	-1	tricked	-2
clears	1	frowning	-1			trickery	-2

clever 2	frustrate -2	overlooked -1	triumph 4
clouded -1	frustrated -2	overreact -2	triumphant 4
clueless -2	frustrates -2	overreacted -2	trouble -2
cock -5	frustrating -2	overreaction -2	troubled -2
cocksucker -5	frustration -2	overreacts -2	troubles -2
cocksuckers -5	ftw 3	oversell -2	true 2
cocky -2	fuck -4	overselling -2	trust 1
coerced -2	fucked -4	oversells -2	trusted 2
collapse -2	fucker -4	oversimplification -2	tumor -2
collapsed -2	fuckers -4	oversimplified -2	twat -5
collapses -2	fuckface -4	oversimplifies -2	ugly -3
collapsing -2	fuckhead -4	oversimplify -2	unacceptable -2
collide -1	fucking -4	overstatement -2	unappreciated -2
collides -1	fucktard -4	overstatements -2	unapproved -2
colliding -1	fud -3	overweight -1	unaware -2
collision -2	fuked -4	oxymoron -1	unbelievable -1
collisions -2	fuking -4	pain -2	unbelieving -1
colluding -3	fulfill 2	pained -2	unbiased 2
combat -1	fulfilled 2	panic -3	uncertain -1
combats -1	fulfills 2	panicked -3	unclear -1
comedy 1	fuming -2	panics -3	uncomfortable -2
comfort 2	fun 4	paradise 3	unconcerned -2
comfortable 2	funeral -1	paradox -1	unconfirmed -1
comforting 2	funerals -1	pardon 2	unconvinced -1
comforts 2	funky 2	pardoned 2	uncredited -1
commend 2	funnier 4	pardoning 2	undecided -1
commended 2	funny 4	pardons 2	underestimate -1
commit 1	furious -3	parley -1	underestimated -1
commitment 2	futile 2	passionate 2	underestimates -1
commits 1	gag -2	passive -1	underestimating -1
committed 1	gagged -2	passively -1	undermine -2
committing 1	gain 2	pathetic -2	undermined -2
compassionate 2	gained 2	pay -1	undermines -2
compelled 1	gaining 2	peace 2	undermining -2
competent 2	gains 2	peaceful 2	undeserving -2
competitive 2	gallant 3	peacefully 2	undesirable -2
complacent -2	gallantly 3	penalty -2	uneasy -2
complain -2	gallantry 3		unemployment -2

complained	-2	generous	2	pensive	-1	unequal	-1
complains	-2	genial	3	perfect	3	unequaled	2
comprehensive	2	ghost	-1	perfected	2	unethical	-2
conciliate	2	giddy	-2	perfectly	3	unfair	-2
conciliated	2	gift	2	perfects	2	unfocused	-2
conciliates	2	glad	3	peril	-2	unfulfilled	-2
conciliating	2	glamorous	3	perjury	-3	unhappy	-2
condemn	-2	glamourous	3	perpetrator	-2	unhealthy	-2
condemnation	-2	glee	3	perpetrators	-2	unified	1
condemned	-2	gleeful	3	perplexed	-2	unimpressed	-2
condemns	-2	gloom	-1	persecute	-2	unintelligent	-2
confidence	2	gloomy	-2	persecuted	-2	united	1
confident	2	glorious	2	persecutes	-2	unjust	-2
conflict	-2	glory	2	persecuting	-2	unlovable	-2
conflicting	-2	glum	-2	perturbed	-2	unloved	-2
conflictive	-2	god	1	pesky	-2	unmatched	1
conflicts	-2	goddamn	-3	pessimism	-2	unmotivated	-2
confuse	-2	godsend	4	pessimistic	-2	unprofessional	-2
confused	-2	good	3	petrified	-2	unresearched	-2
confusing	-2	goodness	3	phobic	-2	unsatisfied	-2
congrats	2	grace	1	picturesque	2	unsecured	-2
congratulate	2	gracious	3	pileup	-1	unsettled	-1
congratulation	2	grand	3	pique	-2	unsophisticated	-2
congratulations	2	grant	1	piqued	-2	unstable	-2
consent	2	granted	1	piss	-4	unstoppable	2
consents	2	granting	1	pissed	-4	unsupported	-2
consolable	2	grants	1	pissing	-3	unsure	-1
conspiracy	-3	grateful	3	piteous	-2	untarnished	2
constrained	-2	gratification	2	pitied	-1	unwanted	-2
contagion	-2	grave	-2	pity	-2	unworthy	-2
contagions	-2	gray	-1	playful	2	upset	-2
contagious	-1	great	3	pleasant	3	upsets	-2
contempt	-2	greater	3	please	1	upsetting	-2
contemptuous	-2	greatest	3	pleased	3	uptight	-2
contemptuously	-2	greed	-3	pleasure	3	urgent	-1
contend	-1	greedy	-2	poised	-2	useful	2
contender	-1	green wash	-3	poison	-2	usefulness	2
contending	-1	green washing	-3	poisoned	-2	useless	-2

contentious	-2	greenwash	-3	poisons	-2	uselessness	-2
contestable	-2	greenwasher	-3	pollute	-2	vague	-2
controversial	-2	greenwashers	-3	polluted	-2	validate	1
controversially	-2	greenwashing	-3	polluter	-2	validated	1
convince	1	greet	1	polluters	-2	validates	1
convinced	1	greeted	1	pollutes	-2	validating	1
convinces	1	greeting	1	poor	-2	verdict	-1
convivial	2	greetings	2	poorer	-2	verdicts	-1
cool	1	greets	1	poorest	-2	vested	1
cool stuff	3	grey	-1	popular	3	vexation	-2
cornered	-2	grief	-2	positive	2	vexing	-2
corpse	-1	grieved	-2	positively	2	vibrant	3
costly	-2	gross	-2	possessive	-2	vicious	-2
courage	2	growing	1	postpone	-1	victim	-3
courageous	2	growth	2	postponed	-1	victimize	-3
courteous	2	guarantee	1	postpones	-1	victimized	-3
courtesy	2	guilt	-3	postponing	-1	victimizes	-3
cover-up	-3	guilty	-3	poverty	-1	victimizing	-3
coward	-2	gullibility	-2	powerful	2	victims	-3
cowardly	-2	gullible	-2	powerless	-2	vigilant	3
coziness	2	gun	-1	praise	3	vile	-3
cramp	-1	ha	2	praised	3	vindicate	2
crap	-3	hacked	-1	praises	3	vindicated	2
crash	-2	haha	3	praising	3	vindicates	2
crazier	-2	hahaha	3	pray	1	vindicating	2
craziest	-2	hahahah	3	praying	1	violate	-2
crazy	-2	hail	2	prays	1	violated	-2
creative	2	hailed	2	prblm	-2	violates	-2
crestfallen	-2	hapless	-2	prblms	-2	violating	-2
cried	-2	haplessness	-2	prepared	1	violence	-3
cries	-2	happiness	3	pressure	-1	violent	-3
crime	-3	happy	3	pressured	-2	virtuous	2
criminal	-3	hard	-1	pretend	-1	virulent	-2
criminals	-3	hardier	2	pretending	-1	vision	1
crisis	-3	hardship	-2	pretends	-1	visionary	3
critic	-2	hardy	2	pretty	1	visioning	1
criticism	-2	harm	-2	prevent	-1	visions	1
criticize	-2	harmed	-2	prevented	-1	vitality	3

criticized	-2	harmful	-2	preventing	-1	vitamin	1
criticizes	-2	harming	-2	prevents	-1	vitriolic	-3
criticizing	-2	harms	-2	prick	-5	vivacious	3
critics	-2	harried	-2	prison	-2	vociferous	-1
cruel	-3	harsh	-2	prisoner	-2	vulnerability	-2
cruelty	-3	harsher	-2	prisoners	-2	vulnerable	-2
crush	-1	harshest	-2	privileged	2	walkout	-2
crushed	-2	hate	-3	proactive	2	walkouts	-2
crushes	-1	hated	-3	problem	-2	wanker	-3
crushing	-1	haters	-3	problems	-2	want	1
cry	-1	hates	-3	profiteer	-2	war	-2
crying	-2	hating	-3	progress	2	warfare	-2
cunt	-5	haunt	-1	prominent	2	warm	1
curious	1	haunted	-2	promise	1	warmth	2
curse	-1	haunting	1	promised	1	warn	-2
cut	-1	haunts	-1	promises	1	warned	-2
cute	2	havoc	-2	promote	1	warning	-3
cuts	-1	healthy	2	promoted	1	warnings	-3
cutting	-1	heartbreaking	-3	promotes	1	warns	-2
cynic	-2	heartbroken	-3	promoting	1	waste	-1
cynical	-2	heartfelt	3	propaganda	-2	wasted	-2
cynicism	-2	heaven	2	prosecute	-1	wasting	-2
damage	-3	heavenly	4	prosecuted	-2	wavering	-1
damages	-3	heavyhearted	-2	prosecutes	-1	weak	-2
damn	-4	hell	-4	prosecution	-1	weakness	-2
damned	-4	help	2	prospect	1	wealth	3
damnit	-4	helpful	2	prospects	1	wealthy	2
danger	-2	helping	2	prosperous	3	weary	-2
daredevil	2	helpless	-2	protect	1	weep	-2
daring	2	helps	2	protected	1	weeping	-2
darkest	-2	hero	2	protects	1	weird	-2
darkness	-1	heroes	2	protest	-2	welcome	2
dauntless	2	heroic	3	protesters	-2	welcomed	2
dead	-3	hesitant	-2	protesting	-2	welcomes	2
deadlock	-2	hesitate	-2	protests	-2	whimsical	1
deafening	-1	hid	-1	proud	2	whitewash	-3
dear	2	hide	-1	proudly	2	whore	-4
dearly	3	hides	-1	provoke	-1	wicked	-2

death -2	hiding -1	provoked -1	widowed -1
debonair 2	highlight 2	provokes -1	willingness 2
debt -2	hilarious 2	provoking -1	win 4
deceit -3	hindrance -2	pseudoscience -3	winner 4
deceitful -3	hoax -2	punish -2	winning 4
deceive -3	homesick -2	punished -2	wins 4
deceived -3	honest 2	punishes -2	winwin 3
deceives -3	honor 2	punitive -2	wish 1
deceiving -3	honored 2	pushy -1	wishes 1
deception -3	honoring 2	puzzled -2	wishing 1
decisive 1	honour 2	quaking -2	withdrawal -3
dedicated 2	honoured 2	questionable -2	woebegone -2
defeated -2	honouring 2	questioned -1	woeful -3
defect -3	hooligan -2	questioning -1	won 3
defects -3	hooliganism -2	racism -3	wonderful 4
defender 2	hooligans -2	racist -3	woo 3
defenders 2	hope 2	racists -3	woohoo 3
defenseless -2	hopeful 2	rage -2	wooo 4
defer -1	hopefully 2	rageful -2	woow 4
deferring -1	hopeless -2	rainy -1	worn -1
defiant -1	hopelessness -2	rant -3	worried -3
deficit -2	hopes 2	ranter -3	worry -3
degrade -2	hoping 2	ranters -3	worrying -3
degraded -2	horrendous -3	rants -3	worse -3
degrades -2	horrible -3	rape -4	worsen -3
dehumanize -2	horrific -3	rapist -4	worsened -3
dehumanized -2	horrified -3	rapture 2	worsening -3
dehumanizes -2	hostile -2	raptured 2	worsens -3
dehumanizing -2	huckster -2	raptures 2	worshiped 3
deject -2	hug 2	rapturous 4	worst -3
dejected -2	huge 1	rash -2	worth 2
dejecting -2	hugs 2	ratified 2	worthless -2
dejects -2	humerous 3	reach 1	worthy 2
delay -1	humiliated -3	reached 1	wow 4
delayed -1	humiliation -3	reaches 1	wowow 4
delight 3	humor 2	reaching 1	wowww 4
delighted 3	humorous 2	reassure 1	wrathful -3
delighting 3	humour 2	reassured 1	wreck -2

delights 3	humourous 2	reassures 1	wrong -2
demand -1	hunger -2	reassuring 2	wronged -2
demanded -1	hurrah 5	rebellion -2	wtf -4
demanding -1	hurt -2	recession -2	yeah 1
demands -1	hurting -2	reckless -2	yearning 1
demonstration -1	hurts -2	recommend 2	yeees 2
demoralized -2	hypocritical -2	recommended 2	yes 1
denied -2	hysteria -3	recommends 2	youthful 2
denier -2	hysterical -3	redeemed 2	yucky -2
deniers -2	hysterics -3	refuse -2	yummy 3
denies -2	idiot -3	refused -2	zealot -2
denounce -2	idiotic -3	refusing -2	zealots -2
denounces -2	ignorance -2	regret -2	zealous 2
deny -2	ignorant -2	regretful -2	
	ignore -1	regrets -2	
		regretted -2	
		regretting -2	
		reject -1	
		rejected -1	