

Seven Chunks of Character Creation:

Examining Acceptance of Ranges for Attributes in Role-Playing Games

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Abstract

Digital game developers often struggle with creating games that are challenging but inviting towards new audiences. One of these challenges revolves around the complexity of character creation, specifically in Role-Playing Games. Presenting and utilizing statistics that a player can alter is done at a critical moment of play, often before a player has begun playing the main portion of the game. A risk therefore exists of confusing or alienating those who have adopted the game with too much information that has a significant effect on later experiences with said game. This paper sought to determine which player demographics seek or may avoid specific numerical complexity within digital games and suggests which range of decisions they would accept when presented with a new gaming experience, focusing specifically on character attributes (also known as statistics).

Keywords: Character Creation, Role-Playing Games, Cognitive Psychology, Flow

Abstrakt (Swedish)

Digitala spelutvecklare måste ofta kämpa med att skapa spel som både lockar nya spelare men samtidigt är svåra nog att klara för att vara utmanande. En utmaning kopplad till detta är skapandet av karaktärer, specifikt i rollspel. Presentationen av karaktärsattribut som spelare kan ändra sker vid ett kritiskt moment av spelande (dess början), oftast innan en spelare har börjat spela huvuddelen av ett spel. Det existerar därför en risk av att förvirra eller skrämma bort de som införskaffat spelet, då de överväldigas av för mycket information om spelelement som har markant effekt, speciellt senare i det nämnda spelets delar. Denna uppsats hade därför som uppgift att bedöma vilka grupper av spelare som söker eller undviker viss numerisk komplexitet inom digitala spel. Uppsatsen föreslog även en skala av det antal val som spelare skulle acceptera när de får en ny spelupplevelse presenterad för sig, med fokus specifikt på karaktärsattribut.

Nyckelord: Karaktärskapande, Rollspel, Kognitiv Psykologi, Flow

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1 Introduction

Creating meaningful play through positive and negative feedback in games is a balance work between offering a preferred level of depth and challenge, as well as making intuitive and welcoming instructions for players to follow or learn from in their initial hours of gaming (Salen and Zimmerman, p 224). In the context of role-playing games that same complexity can include the creation of a player character to defeat the challenges the developer has intended. The process requires new players to make decisions that may have consequences later in the game that can make them feel as if the challenges they encounter do not match their skill level, either in terms of the story of the game or how the game is played and experienced. (Sweetser, P. & Wyeth, p 5).

The described issue can be resolved via the use of entirely predefined character archetypes or set classes, but this runs the risk of alienating some portions of the player demographics as well as giving a lessened sense of freedom to players used to having more options presented (Adams 2014, p 40).

A way to mitigate the issue can be an adjustable difficulty setting, but this does not deal with the underlying issue of understanding game mechanics. As well, some players derive enjoyment from playing a certain playstyle based on maximizing their effectiveness in a certain role, and should the underlying mechanics be obscured behind excessive complexity or choice then that might hamper said enjoyment. This is linked to the mental state of "flow", an uninterrupted condition that affects the mind when a person conducts an activity and "usually do so because the quality of experience while involved in these activities is intrinsically rewarding." (Csikszentmihalyi M, 1993).

2 Background

Role-playing Games (shortened to RPGs henceforth), are defined by Ernest Adams as games with a particular goal, namely: "The object of both kinds of games, computerized and otherwise, is to experience a series of adventures in an imaginary world, through an avatar character or a small group of characters whose skills and powers grow as time goes on." (Adams 2014, p 5-6).

A different definition can be found in the words of Melissa Lewis: "The central element for RPGs is character and story development as a result of the player's actions. The main purpose behind RPGs is to let gamers immerse themselves in the world and psyche of their character(s)" (Lewis et al, 2008).

The avatar character referenced above can at times be customized by player input, in a process termed character creation, either via aesthetic alterations or more fundamental changes. Character creation in RPGs often require players to make choices of attributes, skills, traits and more to form the definition of the kind of avatar they want to play as, before beginning their main game experience. The number and scope in terms of effect of these attributes can vary extensively (Adams 2014, p 24), depending on the amount of perceived character or world immersion the developers wish to impart.

Utilizing the open nature of character creation 'produces a sense of freedom and influence in the player, while taking some direct control from the developer of the game as compared to using pre-made characters'. Influence can still be exerted on the player by 'creating constraining rules within the game to maintain story structure and difficulty' (Holopainen, 2018a). Giving players the freedom allowed by character creation allows for the player to define their own character goals and behaviours, imagining motivations and personal traits that will steer interaction and reactions within the game itself.

The history of character creation in RPGs

Character creation (with statistics) in both digital and tabletop RPGs is said to originate with the original Dungeons and Dragons game, created by Gary Gygax in 1974 as a continuation of his Chainmail wargame. Here, statistics were obtained by rolling 3 six-sided dice and setting the resulting numbers as the appropriate attribute amongst six different choices. (Gygax 1974, p 7). A large number of early digital games were either direct adaptations of the Dungeons and Dragons ruleset, or derivatives of the same (for an example, see Fig 1).



Fig 1. Pool of Radiance (1988), Strategic Simulations Inc

In addition, since data was at a premium in these early games, information about how the game was played as well as the effect of statistics were kept not in the game itself but in physical manuals that the player was expected to read or have explained to them to understand the context of the game and the rules that governed it. (For examples see Fig 1 and Fig 2). This process bears some similarity to how a player interacted with tabletop games, where rules for specific interactions could be found in rulebooks, appendices and supplements.



Fig 2. Darklands (1992), MPS Labs

"None" normally means nothing. However, a character without weapons is assumed to have a small knife.

EQUIPMENT, FORMULAE AND SAINTS SCROLLS: Selecting these boards opens a scroll that lists the equipment currently carried.

Left-clicking on the top or bottom of the scroll moves the highlight up and down to scroll the list. Similarly, the updown cursor keys move the highlight up or down.

Left-clicking on the board closes the list. When using the keyboard, move the highlight back to the board (using the right-arrow key) and press Return.

For more details about information contained on the various scrolls, see the appropriate section below.

ENCUMBRANCE BOARD: This shows the current weight of items "in use," and their effect on the character's performance:

Light characters carry 50% or less of their capacity. Normal characters carry 51-100% or their capacity. Nor-

mally laden characters suffer a moderate agility loss. Laden characters carry 101-150% of their capacity. They suffer a large agility loss, and lose endurance faster in combat.

Overloaded characters have over 150% of their capacity. They have virtually no agility, and in combat both lose endurance quickly and have much reduced weapons skill.

Additional items carried, but not in use, do not count

ARMAMENT ILLUSTRATION: This picture shows the armor and weapons currently in use. Any outer garments worn on top of the armor are removed, to help clarify the armor worn. This means the picture may not correspond to the character's appearance in battle (where outer garments are shown to help distinguish one character from another).

Changing Leadership Lithe character is currently "Not Leader," you can make this character the party leader by left-clicking on "Not Leader." The label changes to "Leader" and the text colors change in the appropriate character boxes to the left.

Also see "Party Information, Party Leadership," pp20, for other methods.

About Attributes

All attributes use a 0 to 99 scale. However, adult human norms run from 10 to 40, with the average being 25. All attributes show the current value and the maximum value for that character.

ENDURANCE (End): This represents how quickly a character is exhausted. It is very important in battle, since endurance is reduced faster than any other attribute. When endurance reaches zero (0) the character collapses. Characters regain endurance very quickly (within a few days, or less).

STRENGTH (Str): This represents physical strength. It is important when using weapons in battle. It also represents physical damage and wounds. As wounds heal a character slowly regains lost strength.

AGILITY (Agl): This represents the speed and quickness of the character. It is important for many activities, including climbing and avoiding missiles. Agility is adjusted downward if the character is more than lightly loaded.

PERCEPTION (Per): This represents a character's alertness; his or her ability to sense

the current situation. It is an instinct that helps characters anticipate danger or surprise, as well as understand other people on an intuitive level.

INTELLIGENCE (Int): This represents the mental abilities of a character. It is very important to alchemists. and whenever the party is dealing with intellectuals or intellectual situations.

CHARISMA (Chr): This represents the appearance and physical "presence" of the character. It is extremely useful when interacting with people, especially when try-



Fig 3. Darklands manual (1992), MPS Labs

As user interface development and data storage evolved, in-game descriptions and visual depictions of explanations for the meaning of character creation elements became more commonplace (for an example see Fig 4). This was seen to be borne out of necessity, as manuals were comparatively expensive to produce, while the rules for digital games had begun to move away from direct adaptations of physical games as well, with users being taught how to play a game through the process of play itself via tutorials (Buchanan L et al, 2010)



Fig 4. Arcanum: Of Steamworks and Magick Obscura (2001), Troika Games

During this time, a majority of statistics for digital RPGs still kept to an amount similar to the ones drawn from Dungeons and Dragons, that is to say six or one or two more than that number. Attempts were made to reduce this amount, as well as reduce complexity for RPGs in general, mainly during the first decade of the 2000s (Gosso, 2015). This was done as the genre was perceived as being overly difficult for players to understand and enjoy in comparison to others, hence lowering accessibility and sales, as players would pick other genres that let them start playing faster. The systems of RPGs were made with more abstract elements, at the cost of concrete statistics, paraphrased

Attempts were also made to merge the genre with others, for example with the game *Borderlands* (2009), that removed all but aesthetic and class choices. Another example is *Mass Effect* (2007) which did away with most numerical representation of statistics and instead opted for a visual bar that was filled as an attribute or skill was increased, with character creation focusing only on choosing a class with underlying attributes to be altered or chosen after play had started (see Fig 5 and Fig 6).





Fig 5 & 6. Mass Effect (2007), BioWare

In the decade that followed, there has been a re-evaluation of the idea of lowered complexity. Games that utilize statistics for character creation have become more prominent (for an example see Fig 7), attempting to overcome the perceived complexity of the genre by making the games themselves easier to learn, easing players into complexity rather than presenting it immediately without context (Batchelor J, 2016)



Fig 7. Pillars of Eternity (2015), Obsidian Entertainment

3 Previous Studies

3.1 Previous studies of character creation and avatars

Most studies found at the writing of this thesis focused mainly on the aesthetic portion of character creation: In other words, representation, visual customization and the act of creating a particular story behind a character rather than what it can accomplish within a game. Two studies in particular are of interest here, one by Susanne Isaksson (Isaksson, 2012) and another by (Looy et al, 2012).

While a player can infer that a character that has, as an example, a high strength statistic because of an event in their background that lead to greater strength, such as a life as a pit fighter or soldier, such inferences are not explicitly described in digital games during character creation and they will not be the focus of this study.

For the sake of clarity, the studies below are presented here to give a full picture of the amount of information and choices new players are often given when they begin the process of character creation. They also offer insight into motivations for players to keep playing despite initial confusion, as well as give an indication that familiarity with a game type reduces confusion regarding decisions made in character creation.

The aforementioned study by Susanne Isaksson (Isaksson, 2012) details findings on player familiarity and feelings of importance imparted onto the interface of a game for the character creation process. It asked of those surveyed what their familiarity was with a particular RPG (World of Warcraft), games in general, as well as what changes they could make to their avatar that were important to them. Their findings indicated that familiarity and experience with the tested game increased understanding of the implications of player choices in character creation. In other words, they had obtained context for their choices after they made them.

Meanwhile, the study by Jan Looy mentioned formerly describes how avatar identification within a game is "positively associated with roleplay, customization and escapism" (Looy et al 2012, p 197). The focus of this study was to create a Player Identification Scale, where a measure could be taken of how much a player identified with 3 distinct aspects of a game: Group, Game, and Avatar. Amongst these 3 aspects, the Avatar portion is of interest, followed by Game, as character creation allows for the molding of a being the player can identify and sympathize with, and therefore allows a player to "become" their avatar.

While associating a character with the player can assist immersion, the aforementioned customization and escapism also allows players to create an idealized version of themselves, assigning statistics in such a way as to make the character they have become be stronger, more intelligent and so on when compared to how they perceive themself.

Identifying with the game itself also ties into character creation, as said creation sets up how solutions will be resolved during the course of the game, which in turn affects how a player character advances, resolves challenges created by game mechanics and what they can discover and explore based on how game developers may hide content from characters lacking certain statistics.

3.2 Previous studies of cognitive psychology

As this study focuses on the amount of information a player can process, make decisions on and remember during character creation (often a single screen or a short session of screens), some understanding of the area of cognitive psychology, may be required. Flow, as mentioned under Introduction, is a state of uninterrupted productivity, which would be assisted by "chunking" as described below.

One of the earliest and foremost studies (Miller, 1956) focuses on the number seven as a recurring integer, that indicates the amount of so-called "chunks" of new data that can be remembered, processed and understood at a given time (short-term).

However, two immediate issues are to be found with applying this number (seven) to disparate fields: Firstly, the original experiments were designed with very specific criteria for data (stimuli such as brightness, loudness) and a limit for immediate recall. Secondly, the definition for a chunk is abstract by nature in terms of size, based on the aforementioned learned behaviour affecting encoding. Because of these issues, one can presume testing is required in each new field of application before a definite span of numbers of chunks can be determined. The number of seven chunks has also come into question in a scientific setting, with a recent universal chunk limit being proposed of between three and five (Cowan, 2010).

Despite these issues, Miller's study has influenced experimental advances in User Interface design, mainly utilizing the concept of chunking to assist in processing and understanding information (Meyer, 2016) as well as giving an indication of how much information to present to a user (Lima, 2017).

3.2.1 Chunking

Chunks are defined, paraphrased, as a set of bits of information that can be increased in size or complexity with learning and familiarity by a test subject (Miller 1956, p 10). Another definition is given by Amanda Gilcrist, who says "Generally defined, chunking is a process through which one reorganizes or groups presented information to compress information" (Gilcrist 2015, p 1456)

Often, this information is recoded into chunks in familiar patterns to allow for greater recall, within the aforementioned span of seven chunks, plus or minus two depending on the test subject. Specifically, data is associated with other data, based on sorting categories or excluding of information that is seen to be useless to the memory process. An example given would be to categorize a shopping list and the items on it under groupings such as milk and yoghurt under dairy, apples and oranges under fruits and so on (Cherry K, 2018).

The process of chunking itself could be said to be utilized with character statistics, as a single word or descriptor is used to encompass a variety of underlying data, for example defenses, skills or derived statistics. A specific example using a game featuring in this thesis would be *Pillars of Eternity* (2015), where defense against effects on a characters body, their personal strength values for attacks and ability to physically interact with the world are all affected and defined by the single statistic Might.

4 The Problem

There can be said to be an issue with determining how much information a player can take in, and for developers to figure out when to dispense that information. Specifically functional characterization attributes (Adams 2014, p 25) can be difficult to translate into something players can conclusively interpret or make informed choices about, when presented as a whole or as a list of choices. There have already been general studies on specific numbers of chunks of data the human mind can keep in memory (Miller, 1956), approximately five to nine depending on the person polled and the topic discussed as mentioned. However, players new to the genre or to games in general may have difficulty recoding the various effects of a statistic into a chunk, as they have no experience or frame of reference for doing so.

The Research Question

This paper seeks to answer the question: What number of attributes could be seen as overwhelming in terms of cognition, and would make players choose not to keep playing or stop playing a game?

5 Method

5.1 Motivations and background for methods

Survey Research was carried out via questionnaires, posted to a non-genre focused game forum (*Something Awful* forums). This survey was posted with requirements listed on the survey for new or inexperienced roleplaying gamers (defined as players with a year or less of experience with the genre researched).

The motivation for posting the survey to said forums was that their Games forum section is moderated actively and is not focused on any single genre, offering a greater chance for accurate and relevant answers.

Results of the questions for the survey were also compared to the results of similar questions posed to players with a year or more of experience playing RPGs, and at least three different games played to completion. Questions centered around past experience with RPGs (the amount played), the number of functional attribute choices in example games, as well as questions relating to perception (understanding and acceptance) of said examples of functional statistics. Acceptance was defined as answers of "Just Enough" in the survey described below, when discussing the amount being presented.

Three games with attribute choices ranging between three, to six, to nine different types were used as examples, with statistics explained as relates to their effects within each game. The games and attributes chosen were as follows: *Torment: Tides of Numenara* (2017), with the attributes Might, Speed and Intellect. *Pillars of Eternity* (2015), listing the attributes of Might, Dexterity, Perception, Constitution, Resolve and Intellect. Finally, the game *Dark Souls* (2016) was utilized with the attributes Vigor, Attunement, Endurance, Vitality, Strength, Dexterity, Intelligence, Faith and Luck.

The range of three to nine attributes was utilized as it encompassed the main range used by RPGs on digital platforms as of this document being written, and includes a perceived optimal statistic number given via player feedback in regards to options in character creation, as seen in an Obsidian Entertainment survey (Sawyer, 2016). It also covered the limits to chunked data mentioned in Previous Studies above (three as a minimum, seven plus two as a maximum). Data gathered is then presented here under Results as separate charts, with comparative tables representing experience versus acceptance of attribute amounts.

The games themselves were chosen as they fit the criteria of being released in recent years (five years or less since release), and were developed by established studios in the RPG genre. Further,

all described the effects of their statistics when prompted within character creation itself, to ease transcribing of descriptions for attributes. Respondents to these surveys were chosen based only on the ability to understand the concepts of RPGs presented, so as to allow for respondents with a greater range of experience with these games to respond, as well as be able to compare the responses of people with varying levels of understanding or familiarity with said games.

5.2 Survey form

The shape of the survey can be found in Appendix A. The surveyed were first asked to disclose how long they have played RPGs in total, and how many hours they spend on each gaming session at a time when playing said RPGs (should they have any experience in doing so). This was done to determine if those surveyed had already managed to bypass the perceived hurdle of creating characters before, and if so how that affects their acceptance of the amount of abilities they must decide on when creating a new character.

After disclosing their experience with RPGs, those surveyed were given an example of a specific RPG, sans its name or screenshots that would identify it so as to avoid directly introducing existing bias towards their answers based on earlier perception of that game. Three statistics were described using either in-game descriptions or paraphrased likenesses from online resources made by the creators of the game.

5.2.1 Comments on understanding

Once the respondent had read this information, they were asked to comment on if they understand what each statistic does, and if they feel that the number of statistics are, in their opinion, too few, too many, or just enough. Finally, they were asked if they feel that the statistics fit the game as described and if not, what they would change.

These questions were asked to answer if the amount affects any confusion the player might feel when they saw this assortment of choices, if what affected their choice came down to personal preference rather than confusion, as well as if the issue they had was not being unable to properly parse the information, but that it was lacking context or did not fit together with the rest of the statistics making up a group, which would also introduce another reason not to play a game.

After the former section were completed, the process would be repeated with a new example, this time including 6 statistics, and after that section is completed, a third was introduced with 9. statistics.

Comments for these questions were analyzed based on the concept of Directed Content Analysis (Hsieh & Shannon 2005, p 1281), with the pre-existing codes/keywords used being Purpose,

Meaning, Too Much/Many, Too Few/Not Enough and Too Broad, Too Narrow. This was done as questions were related to notions of the span of effect a statistic may have and if that effect could be seen to fit what type of games were being discussed.

Finally, a section will present screenshots of the character creation screen where statistics are decided upon from each example game, asking a follow-up question regarding if those surveyed would change their answers based on the way information on statistics was presented, to determine if those surveyed would have their understanding be influenced by User Interface design when given choices for altering attributes.

5.2.2 Final freeform questions

The final two questions in the survey are freeform, asking which amount of statistics those surveyed would feel is the limit for how many should exist in a game, as well as if they personally feel as if a certain amount might be enough for them to quit a game or to not start playing to begin with, motivating their answer. Using the concept of Conventional Content Analysis (Hsieh & Shannon 2005, p 1279), pre-defined keywords were used to categorize answers into 3 groups: Yes, No, Maybe, in regards to if they might stop playing due to an abundance of numbers. Said keywords are:

Yes: Yes, Probably Yes, Too Many (would)

No: No, Likely Not/It would not

Maybe: Maybe, It Might, Depends/Depending on

Further, if an answer focused on other aspects of the game than statistics, or presented these other aspects as more important, these answers would be counted as No (since they expressed ambivalence towards the subject matter).

5.3 Expected type of results

The data should provide the experience of the player defined as time played, both overall and for each session, measured against their perception of the above examples. The higher levels of experience of questioned players should correlate to higher levels of acceptance for games with six to nine types of statistics presented. The criterion for refutation of the presented idea that more initial choices hampers understanding or acceptance could be refuted should the coefficient be represented as a skew of acceptance towards the upper range of statistics (nine) on a majority (60% or more) of answers from players with less than a decade of experience.

Another form of refutation would have been if presentation (as displayed in the final portion of the survey) changes perception of a majority of those surveyed, which would indicate chunking is eased to a greater degree by how information is presented rather than the amount on display.

6 Results

For access to full survey results, please contact the author of this document at the adress provided on the first page.

6.1 Amount of experience

0

I have played

these types of

games for a decade or more

The final tally after the survey period was 71 full answers. Among those, the amount of experience in terms of time played skewed towards those with more than a decade played within the genre, making up 54 (76.1 percent) of answers (see Table A.1).

Table A.1. Experience of respondents with RPGs.

What kind of prior experience do you have with Role-playing Games?

11

I have 1 to 9

years

experience

playing Role-Playing

Games



3

I have 7 to 12 months

experience

playing Role-Playing

Games

I have only tried

them

sporadically for

short periods of time (Negligible

amounts)

As for the amount of time played per session, a majority (46, or 64.8 percent) of respondents answered that they play for more than two hours per session (see Table A.2)

2

I have between

1 to 6 months

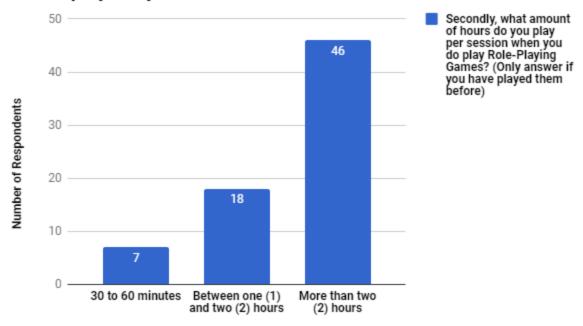
experience

playing Role-Playing

Games

Table A.2. Amount of hours respondents play per session

Hours played by session?



6.2 Preference towards amount of statistics

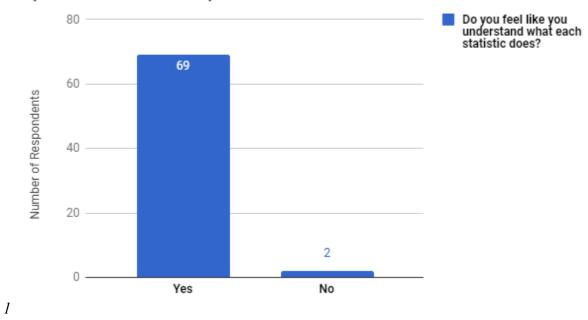
A declining understanding towards the three polled sets of statistics was recorded when examining games with increasing amounts of statistics, while acceptance towards the amount of statistics peaked at six, with less being seen as too few and more seen as too many by a majority in each case.

6.2.1 Torment statistics

The first game surveyed for was Torment: Tides of Numenera with 3 statistics (see Table B.1, B.2 and B.3).

Table B.1. Understanding of the effects of statistics (Tides of Numenara)

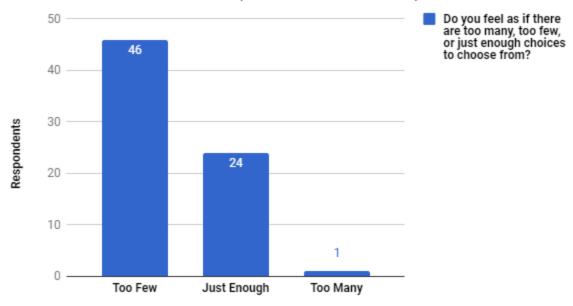
Do you feel like you understand what each statistic does? (Tides of Numenara)



97.2 percent of respondents (69 out of 71) could understand the effect of each statistic described.

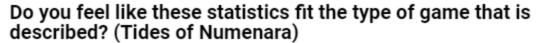
Table B.2. Acceptance of amount of statistics (Tides of Numenara)

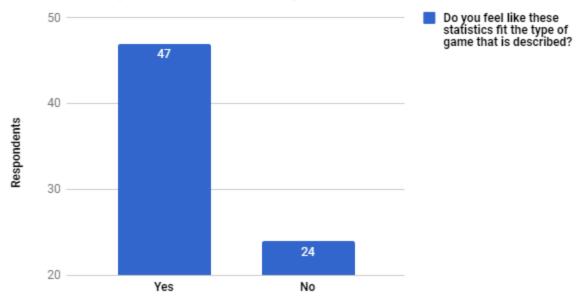
Do you feel as if there are too many, too few, or just enough choices to choose from? (Tides of Numenara)



46 (64.8 percent) out of respondents felt the three attributes of Tides of Numenara were too few, versus 24 (33.8 percent) who felt it was just enough of an amount, and a single person felt even three was too many.

Table B.3. Acceptance of types of statistics (Tides of Numenara)





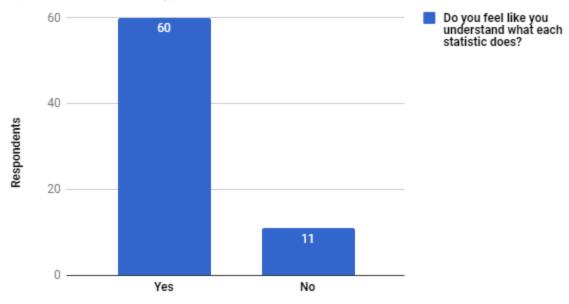
As for the question regarding if they felt the statistics described fit the game surveyed for, 47 out of 71 respondents (66.2 percent) said Yes, while 24 (33.8 percent) said No.

6.2.2 Pillars statistics

The second game surveyed for was Pillars of Eternity, with six statistics (see Table C.1, C.2, and C.3)

Table C.1. Understanding of the effects of statistics (Pillars of Eternity)

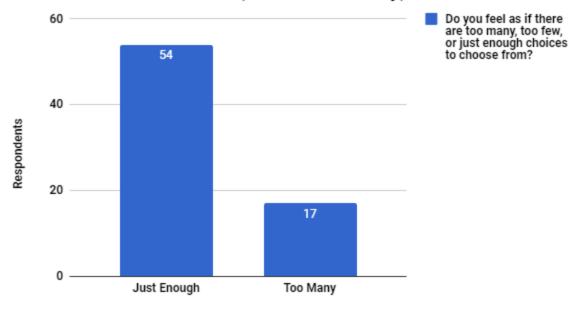
Do you feel like you understand what each statistic does? (Pillars of Eternity)



60 respondents (84.5 percent) felt they understood what each statistic did in Pillars of Eternity, while 11 (15.5 percent) did not.

Table C.2. Acceptance of amount of statistics (Pillars of Eternity)

Do you feel as if there are too many, too few, or just enough choices to choose from? (Pillars of Eternity)

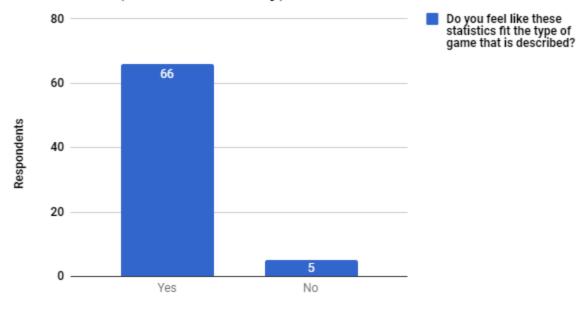


54 respondents (76.1 percent) felt Pillars of Eternity had just enough statistics to choose from, whereas 17 (23.9 percent) felt six was too many, in this case. None chose the option of Too Few.

2

Table C.3 Acceptance of types of statistics (Pillars of Eternity)

Do you feel like these statistics fit the type of game that is described? (Pillars of Eternity)



66 (93 percent) respondents felt that the statistics presented fit Pillars of Eternity as a game, while five (seven percent) did not.

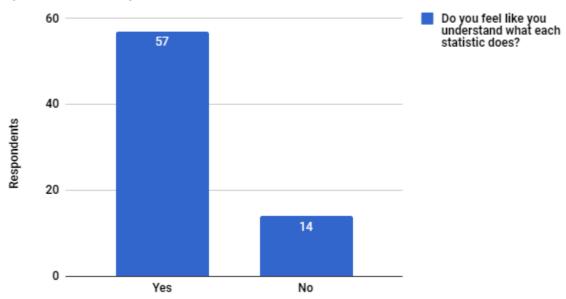
3

6.2.3 Dark Souls statistics

Finally, the third game surveyed for was Dark Souls 3, with 9 statistics (see Table D.1, D.2, D.3)

Table D.1. Understanding of the effects of statistics (Dark Souls 3)

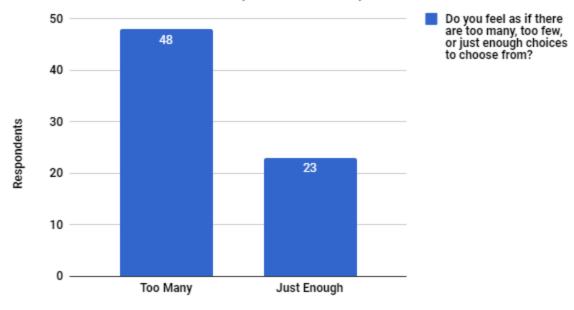
Do you feel like you understand what each statistic does? (Dark Souls 3)



57 respondents (80.3 percent) felt that they grasped what each statistic in Dark Souls 3 did, while 14 (19.7 percent) felt that they did not.

Table D.2. Acceptance of amount of statistics (Dark Souls 3)

Do you feel as if there are too many, too few, or just enough choices to choose from? (Dark Souls 3)

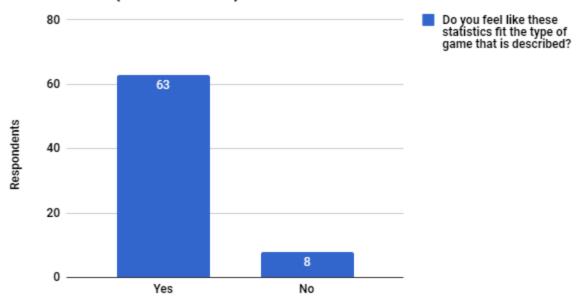


48 respondents (67.6 percent) felt that *Dark Souls 3*, with nine statistics to choose from, had too many choices. 23 respondents (32.4 percent) felt that nine was Just Enough. No respondents chose to say that nine was Too Few.

2

Table D.3. Acceptance of types of statistics (Dark Souls 3)

Do you feel like these statistics fit the type of game that is described? (Dark Souls 3)



63 respondents (88.7 percent) felt the statistics of Dark Souls 3 fit that game, while eight (11.3 percent) said the opposite.

6.3 Commentary on non-acceptance of statistics

For access to the commentary in full or in edited form, please contact the author of this paper at the adress provided on the first page.

When asked why they had chosen No when previously asked if they thought the statistics presented fit the game as described, answers for each different game could be split into subcategories, based on the shared focus each response had (detailed below). All spelling presented as it appeared.

Keywords that were discovered for the purposes of Directed Content Analysis were (ignoring common term words such as "would" or "that":

Tides of Numenara: Broad (with synonyms, appears 5 times), Need More/Would Add (with synonyms, appears 6 times), Too Few/Not Enough (with synonyms, appears 6 times). This lead to the focus on broadness and lack of variety or choice for the analysis below.

Pillars of Eternity: Feel/feels (with synonyms, appears 2 times). The name of the statistic Might is mentioned 4 times, in the context of feeling misleading. This lead to the analysis below of a personal preference associated with statistics, their names and the effects they have.

Dark Souls 3: Too many/Too Much/Too Complicated (with synonyms, appears 6 times). Luck (with synonyms, appears 3 times). This lead to the focus on the amount seen being overwhelming, as well as a wish to remove or simplify statistics seen below.

6.3.1 Tides of Numenara commentary (three statistics)

This topic had 21 viable answers total. Subcategory: Broadness/Lack of Variety. 14 of the 21 answers mention that statistics affect too broad a field of mechanics within the game, and would make creating characters feel constrained.

See the three examples below, each bracketed by quotation marks:

"The statistics are too broad, too general in their purpose, each stat claiming dominion over too many facets of your characters. For example, I can be really strong at hurting people, but that doesn't mean I can take a hit very well, or even keep it up for very long.

I could be really fast, but also very imprecise and clumsy.

I could be really booksmart, able to science with the greatest minds in particle physics, but know nothing about fixing a simple portable generator, or understanding magical phenomena, and lacking interpersonal communication skills. "

"The stat categories are too broad, especially for a turn based game. For example, Might needs to be split into at least Strength and Constitution so it would be possible to make tanky characters that can take a beating but do not necessarily hit hard."

"Not enough to customize to make an interesting character to play as."

6.3.2 Pillars of Eternity commentary (six statistics)

There were 6 viable answers for this topic. Subcategory: Misleading names. 3 out of 6 answers detail a desire to switch some effects from a statistic to another as they felt the names for statistics did not fit with the effects as listed. Examples below:

"Having "might" increase ranged damage feels off when you have guns in the setting. My bullets don't get faster just because I get stronger. Also, having two stats (perception and resolve) which grant abilities offered by no other stats (interruption attacks and deflection) seems poorly balanced. "

"This is not strictly related to the setting itself, but the stats feel a little awkward. A character with high might could either be a powerful warrior or a powerful wizard. This causes an awkward situation where a wizard might wrestle with a warrior, which naturally causes some kind of checking between their mights, which makes no sense because the wizard should obviously be weaker. In my opinion, stats should relay something related to the character's physical or psychic makeup, not an abstract concept like how "powerful" they are. "

"just saying that poison resist should be under Constitution and not Might"

6.3.3 Dark Souls 3 commentary (nine statistics)

There were 11 viable answers to this topic. Subcategories: Overwhelming, Redundancy.

Overwhelming: Five out of 11 answers mention that the amount of statistics and information presented would be difficult to handle. Examples below:

"I answered yes but I feel like an answer should be given. the only case in that a large stat pool like this would be acceptable in a game is in a kind of 3rd person adventure game where you

manage a single character. Managing multiple characters like in the previous game examples would over encumber a player with this many stats. "

"I realize what game this is but isolated from that, the mechanics as described are way too complicated. Defenses are applied seemly randomly without regard to the stat they're modifying. For example, why is lightning defense modified by endurance? There is so much going on in the stats that it's hard to parse what's important and what isn't for a player who wants to play a specific way. If a player wants to play a mage, they seemingly have to focus on 5 to 8 stats. Luck feels out of place as a stat compared to the rest of the stats as described and should probably be a modifier on certain items instead rather than its own dedicated stat. "

"There's just too much to manage here. "

Redundancy: 3 out of 11 answers mention a desire to either remove statistics or join their effects to other existing statistics. Examples below:

"Being someone who's logged nearly 1,000 hours in the series of games mentioned above, I briefly skimmed over the information presented here to recall my experience playing the games. I feel the stats are quite amazing for what they are and what they represent within the games, but overall there are just too many. For example, Luck, only increases things that are arguably useless to dedicate points toward for combat, or could just as easily be merged in with another stat like dexterity or intelligence. Similarly, it feels strange investing points into stats like Vigor as it really only increases one single, though vital, attribute. It could really afford to be simplified, but oversimplification would lead to the game feeling much less of a personal experience."

"Luck is an unnecessary stat, vitality doesn't make sense to be separated from strength/vigor. But then, I've also played Dark Souls."

"Too many skills are present considering the relatively simplistic nature of the game. Skills such as attunement and intellect can be combined because a player that would utilize that playstyle would naturally want to raise both of them."

6.4 Effect of presentation on acceptance

When questioned on if, when presented with a screenshot of the game in question, said presentation would change their opinion on the amount of statistics, the following answers were recorded:

6.4.1 Torment: Tides of Numenara presentation

62 respondents (87.3 percent) had no desire to change their answer when presented with a screenshot from Tides of Numenara. Nine (12.7 percent) would have wanted there to be more statistics presented.

6.4.2 Pillars of Eternity presentation

65 respondents (91.5 percent) would not change their answer when presented with the new screenshot. Four (5.6 percent) would wish there were less statistics to choose from based on the new presentation, and two (2.8 percent) wanted more statistics when presented with said presentation.

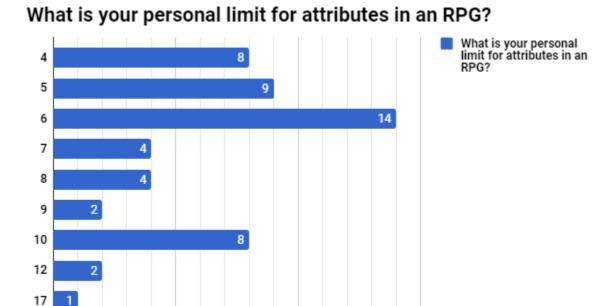
6.4.3 Dark Souls 3 presentation

61 of those responding (85.9 percent) would not want to change their answer based on the screenshot from Dark Souls 3. 7 (9.9 percent) would want to see less statistics, while three (4.2 percent) would want to see more.

6.5 Personal limit for attributes

The question of :"What amount do you personally feel is the limit for how many attributes should be in a role-playing game?" was freeform to allow for motivated answers. Full surveyed motivation comments are available in the Appendix C, and will be discussed under Reflections. A total of 52 respondents answered this question.

The main numerical responses to this question were in the four (six votes), five (eight votes), six (15 votes), seven (four votes) eight (five votes), ten (nine votes) range. The numbers presented here are the maximums, since a number of those surveyed answered with ranges of their own (for example five to eight attributes). See Table E below.



15

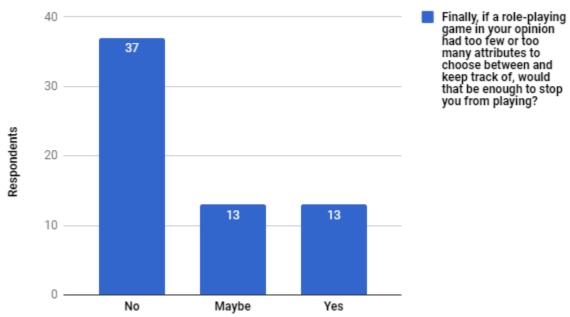
Table E. Personal limits for attributes in RPGs.

6.6 Would a player stop playing a game with too few or too many Attributes?

Finally, in response to the question "Would too many statistics be enough for you to stop playing or not start?", 37 respondents (58.7 percent) said No, while Yes and Maybe came down to 20.6 percent or 13 votes each (see Table F). Table compiled by utilizing keywords detailed in Method.

Table F. Continuing to play despite less suitable amounts of attributes

Would too few or too many statistics stop you from playing?



7 Analysis

7.1 Amount of Eexperience and hours played examined

As a majority of respondents had both more than a decade of experience and played for more than two hours per session, it can be inferred that there exists familiarity with Role-Playing systems and said experience could give a deeper influence on later comments regarding how statistics are implemented.

7.2 Perception of amount of statistics (preference)

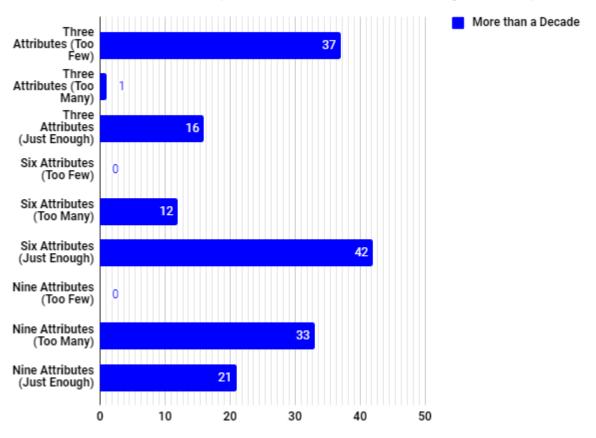
Comparing the answers to two extremes of the surveyed numbers (three and nine) presents charts that were nearly mirrored when focusing on perception of the amount presented. Three is seen as too few, nine as too many by 64.8 and 67.6 percent respectively of those questioned. Comparatively, a majority accept six as "Just Enough" in the survey.

Combined with the responses mentioned under "Personal Limits for Attributes", where respondents predominantly chose six or numbers near it without prompt, this would indicate a possible "sweet spot" for the amount of statistics a player may be seen to accept. However a noticeable amount still chose ten or more as their personal maximum, indicating other factors than information chunking can impact acceptance or understanding.

Furthermore, comparing answers given to experience with Role-Playing Games against answers by the same respondents to their opinion on amounts of statistics produces the results seen in Table G and H below.

Table G. Respondents experience (above a decade) versus acceptance of attributes

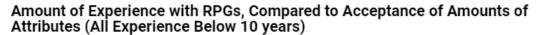
Amount of Experience With RPGs Compared to Acceptance of Amounts of Attributes (More than a Decade of Experience)

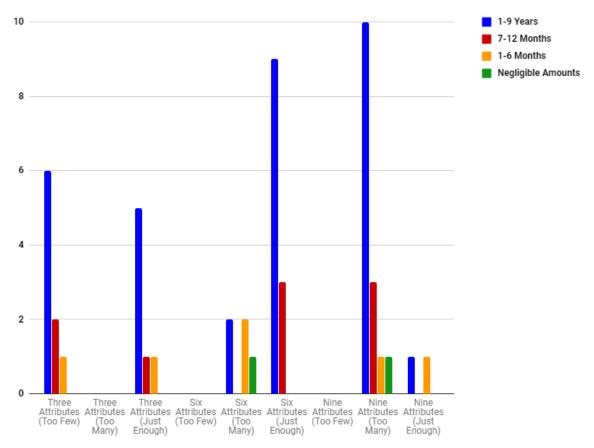


For clarity, the question asked was "How long have you been playing RPGs?" compared to responses to questions of acceptance for the amount of attributes in three different games with increasing amounts of statistics.

With this comparison, it is made more apparent that six statistics or above was the more predominant accepted amount of statistics for those with over a decade of experience. This is concluded as the majority (79.7 percent) of Just Enough answers (42 and 21 for six and nine respectively) fall into that category. Six attributes has exactly double the amount of Just Enough answers, making it the most picked choice.

Table H. Respondents experience (below a decade) versus acceptance of attributes





Respondents with less experience (Negligible to Six Months) seem to have set their limits below six attributes, but in some cases above three. While there are examples (five votes) of players who feel that three attributes is just enough, once again six is the top voted option for the choice Just Enough.

7.3 Understanding the functions of statistics

A lack of understanding of the meaning behind statistics increased as the amount of statistics increased, when examining responses scaling from three to nine statistics being shown. This could indicate an inability to chunk data as more of it is presented.

While the presentation of statistics mentioned below may impact perception, where respondents would wish for more statistics to choose from when data was presented differently, the amount of

respondents with this opinion came to less than five percent of the total (when examining the maximum amount of statistics, nine).

Understanding of textual significance hence seems to follow from more from how much information is presented and parsed at one time, rather than how that presentation is designed.

7.4 Impact of presentation on perception of an amount of statistics.

Less than 15 percent of total respondents would have any perceivable change to their answers from having statistics presented in a visual way (the original character creation screen), when shown each individual character creation screen. Given comments pertaining to confusion regarding this question as seen in Appendix C, this may be a reinforcement of an existing answer rather than an actual change.

7.5 Personal limits to statistics (Analysis)

The maximums for ranges of acceptable amounts of statistics is mainly focused around the five to eight range with 32 out of 52 answers falling within that span. This would seem to confirm Miller's law of a range of seven, plus or minus two.

7.6 Would a player stop playing? (Analysis)

While a slight majority (58.7 percent) said they would not stop playing because of the amount of statistics on display exceeding their limits, described in the section above, the responses from the remaining 41.3 percent as well as the confusion and non-acceptance registered with earlier questions seems to indicate that a limit where players would stop playing exists. However, this limit has not been shown to be completely universal.

8 Reflections

8.1 Reflections on data gathering

Beyond attempting to parse more information than a player can handle, there can be more than one reason than the focus of this study that must be taken into account for how players may forgo playing RPGs after character creation or during it. Beyond a general lack of interest in the genre, they may feel that aspects of the game such as story, mechanics or presentation of the interface or world are lacking, or feel disconnected from the character creation process and what it offered. Core concepts of a game are also often introduced during character creation which would inform the choice of whether to keep playing or not.

The creation process itself may also be sparse or uninteresting to players, not allowing for the building of the type of character that the player wishes to make. As mentioned in the previous studies segment, aesthetics hold some importance to player identification and being unable to make choices regarding the same may be enough to dissuade new players regardless of what statistics or other settings may be altered.

Obtaining survey subjects in regards to RPG mechanics from those unfamiliar with them could be seen as difficult, as the same anxiety that can be presumed for players new to a game may apply to being asked questions about the same. This can be somewhat verified by the results, as a majority of those who answered the survey indicated they had over a decade of RPG experience, whom would recognize words within the description of the survey and feel confident they could answer to the satisfaction of the poll.

Using Dark Souls 3 as an example may have skewed the results for the question of "Do you feel like you understand what each statistic does?" towards more No answers, for two main reasons: The first is that the descriptions of the statistics were originally translated from Japanese to English, and may leave out desired information or allow for misinterpretation. Secondly, as noted in comments for the survey, the complexity and difficulty to interpret or make use of each statistic is seen as part of what draws some players to Dark Souls 3, so what is seen as difficult to understand for one may be seen as a welcome challenge to be overcome by another.

8.2 Issues with familiarity

As the amount of respondents with experience of more than a decade were of much greater numbers than all other categories combined, some bias may exist towards certain numerical responses for statistics that are more prevalent in RPGs.

8.3 Reasons for acceptance of higher (nine or more) statistics

The reasons for there being some Acceptance of a greater amount of statistics (even past the limit of 9 set for the study), noted in comments and the question regarding a personal limit can be difficult to discern, but a few solutions to this question might exist:

Better Parsing Into Chunks: With the experience of the surveyed being as high as it is, it stands to reason that parsing the effects of statistics, like with other data, has been improved with familiarity. Knowing that two statistics would benefit similar areas could mean a player linked them together, changing them simultaneously without thinking of specific effects but more a general result. In essence, a player chunks the two datasets into a single set, counting their effects together.

Min-Maxing: The feeling of Flow, or simple fun of interacting with the character creation system to make a character that is optimal for the type of playstyle may overshadow the feeling of confusion created by a plethora of statistics on display. Similarly, the process of creating such a presumed optimal character may take longer to complete, and may even include outside information, and so processing and chunking statistics in memory would be handled differently than when the act is completed directly.

Enjoying Difficulty: As people experience challenge differently, it may be that the difficult process of character creation is seen as welcome to some. As noted in both the comments for Dark Souls 3 and in 8.1 above, even knowing that the process is difficult to understand enhances enjoyment of the game all the same. Overcoming any obstacle in the game, being challenged by each aspect of it, is what makes it an enjoyable experience. Therefore, a player would not stop playing when presented with such difficulty.

Not Caring About Statistics: As mentioned in the introduction, players can adjust their difficulty to play through a game without understanding all of the mechanics within it. A number of games similarly do not force a player to experience every single aspect that make up the whole of the game. Some players therefore may opt to ignore the details of the creation screen and focus on other aspects and would not be dissuaded by optional complexity.

At the same time, the rigid nature of statistics may be made up for by different aspects of character creation and advancement, such as traits or skills, that may be altered after character creation and would let a player choose the type of avatar they wished to create as they played, rather than be unduly affected by a statistical choice early in their experience.

8.4 Co-relation with Miller's chunks

When utilizing chunking as described in section 3.2.1 of this paper, the results of preferred amounts of chunks, or attributes in this case, seems to closely follow the limit of seven, plus or minus two, that Miller described in his study (Miller 1956, p 8). However, this can only be said to be true if the ability to better parse and chunk information, with training, is also affirmed. This does seem to be the case, as people with less experience, as seen in section 7.2, feel less acceptance towards more attributes than those with more experience.

The range of acceptance however means that there can be outliers in terms of the amount of chunks used and memorized by various players, as seen in section 8.3 above. While there are some respondents that answered in ranges of three to five, coinciding with recent re-evaluations of chunking limits for the human mind (Cowan, 2010), there are a greater amount of respondents who answered above the prediction of Miller, with some going so far as to suggest twelve as their attribute limit.

What this means for the use of the study of chunks to determine a precise amount of statistics to present is that, while a general range between five and nine can be seen as acceptable, it may not be seen as an answer that is unchanging, especially when more experienced players are the perceived audience. In regards to what the results mean for the study of chunking within cognitive psychology itself, they seem to confirm the number seven, plus or minus two, as a proper guideline for a starting point when examining a new field to implement chunking in.

However, as the answers to this survey have shown, and as was pointed out in section 3.2 of this paper, the ranges presented are not presumed to be universal, nor would they be thought to be unchanging over time as players gain more experience in a particular field of study, or genre of game. For researchers and developers both, this means that they will still need to test their audiences to determine these limits in other fields, for other games or even other RPGs that do not fit the definitions or examples presented within this paper.

9 Conclusions

This paper sought to answer the question of: What number of attributes could be seen as overwhelming in terms of cognition, and would make players choose not to keep playing or stop playing a game?

Data seems to confirm that, evaluating attributes or statistics as chunks, a limit exists for the amount of attributes on display where players may be unwilling to start or keep playing a game. This number fluctuates, at least partially influenced by experience or preference, but a maximum amount around ten statistics is seen as acceptable by a number of experienced respondents, whereas a majority of responses overall fall within the seven (plus or minus two) spectrum predicted by Miller (Miller 1956, p 8), which would suggest his research into chunks and working memory can be applied to role-playing game attributes.

Commentary also suggests that this span gives an image of complexity adequate for creating a well-rounded character. When asked for a personal preference, a majority of respondents chose the number six for the amount they prefered. While a slim majority, when directly asked, disagreed with the notion that enough attributes might make them stop playing a game, the responses to related questions implies this may not be the entire truth.

The answer to the question posed could hence be: Above nine or ten attributes could be seen as overwhelming for a majority, with many choosing six as their preferred middle ground choice.

However, a slight majority of respondents personally responded that a game going above said limit would not affect their willingness to play said game, indicating other factors as being able to sway them to overcome the difficulty of understanding and handling statistics within character creation. Overall, the ability to chunk data derived from statistics to a manageable whole seems to follow the prediction put forth by Miller.

How data relating to statistics is presented does not seem to affect the perception or understanding of said data for most respondents, when comparing unformatted textual representation to the actual representation within a game. This does not take into account the interactive capabilities of representing malleable data on a screen, however.

As responses from less experienced players are lacking in comparison to the more experienced, a broader study may be required to confirm these findings. Similarly, the existence of a number of outliers in responses indicate that certain player types may accept or even seek a greater amount than the one indicated by Miller, for reasons speculated to relate to seeking greater challenge, or more experience with parsing statistical information.

There also exists the possibility that character advancement past statistics during character creation would make up for any initial hurdles and would make the perceived confusion created by an overflow of information moot. Character creation may also not be the selling-point for a complete game experience when other facets of a game, such as story or community, are considered.

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Games

Bioware (2007), Mass Effect

From Software (2016), Dark Souls III

Gearhead Software (2009), Borderlands

inXile Entertainment (2017), Torment: Tides of Numenara

MPS Labs (1992), Darklands

Obsidian (2015), Pillars of Eternity

Strategic Simulations Inc (1988), Pool of Radiance

Troika (2001), Arcanum: Of Steamworks and Magick Obscura

Appendix

Appendix A

Recreated Survey With Original Survey Link. X – marks an option to choose.

https://drive.google.com/open?

id=1VDaQJmRZU63gCms77SwkHHwfNDskqNlOTerRCOpHmQg

Digital Role-playing Game Character Creation Study

This study is part of a Bachelor's Thesis project on the perceived complexity of character creation in digital Role-playing games. The work is being done in conjunction with Uppsala University, Sweden (specifically the Gotland Campus).

If you have never played a role-playing game with character creation before, and have no idea what they are, please read about them here: http://sinisterdesign.net/what-makes-an-rpg-a-universal-definition/

While you do not need to have played role-playing games before to complete this survey, it is helpful if you have played digital games before.

You will be asked to read about the basic gameplay and setting of 3 different games, as well as asked to answer how you personally feel about the statistics players are asked to choose from when starting up one of these games: Whether you think there are too many or not, if you can understand and accept them as necessary or not to play the game, and if you would change anything about them. We ask that you imagine that you were playing this role-playing game for the first time and were presented with these statistics and the numbers attached to them, as well as being asked to change those numbers to make the kind of character you want.

All polled data is anonymous unless the polled makes the choice to share contact information. If you have any questions or suggestions, please get in touch with the person responsible for the poll at:

karl.malm.4771@student.uu.se

First off, we would like to get to know what kind of prior experience you have with Roleplaying Games. How long have you been playing Role-Playing Games?

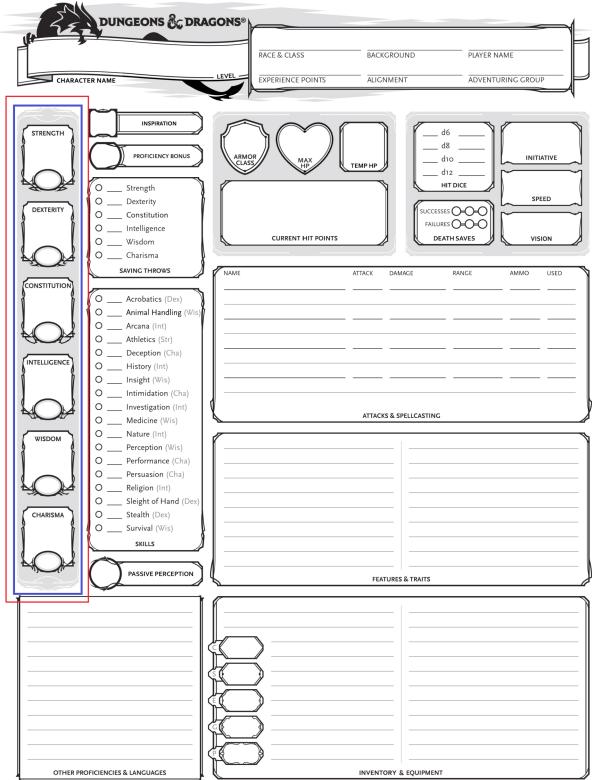
- X I have never played role-playing games
- X I have only tried them sporadically for short periods of time (Negligible amounts)
- X I have between 1 to 6 months experience playing Role-Playing Games

- X- I have 7 to 12 months experience playing Role-Playing Games
- X I have 1 to 9 years experience playing Role-Playing Games
- X I have played these types of games for a decade or more

Secondly, what amount of hours do you play per session when you do play Role-Playing Games? (Only answer if you have played them before)

- X Less than thirty (30) minutes
- X 30 to 60 minutes
- X Between one (1) and two (2) hours
- X More than two (2) hours

Below is an example character sheet from the tabletop role-playing game Dungeons and Dragons. As you are reading the upcoming questions, imagine that the statistics described are presented in this fashion. The area of interest is within the red and blue outline.



TM & © 2014 Wizards of the Coast LLC. Permission is granted to photocopy this document for personal use. Redesign by 9bit

First RPG Example

You will be asked, in the coming 3 sections, to read about 3 to 9 different main Statistics, or stats for short. They influence what a character in an RPG can accomplish in the game, as well as offer ways to define the kind of character you want to play as. Each example increases the amount of statistics described by 3.

In this section, we will detail the statistics of a turn-based RPG, focusing on interaction with characters and the environment. Within the world of this game, a mixture of post-apocalypse, science fiction elements and philosophical debates are partaken in. The player is expected to either fight strange futuristic creatures(via close or ranged combat, aided by seemingly magical devices and abilities), persuade creatures that can be reasoned with, or utilize stealth and knowledge of technology to overcome challenges or otherwise misdirect enemies.

MIGHT

This statistic lets a player strike enemies with stronger blows in close combat, wear heavier armor, increases their health, and lets them use physical might to move objects in their environment, threaten others with their power, or break obstacles in their way.

SPEED

This statistic lets a player evade enemy blows, move faster and longer both in and out of combat, and governs how dexterous their movements are when interacting with objects.

INTELLECT

This statistic represents a character's mental prowess, willpower, and personality. It also helps resist both mental and some magical effects from enemies.

Do you feel like you understand what each statistic does?

X - Yes

X - No

Do you feel as if there are too many, too few, or just enough choices to choose from?

X - Too Many

X - Too Few

X - Just Enough

Do you feel like these statistics fit the type of game that is described?

X - Yes

X - No

If you answered no to the last question, what would you change and why?

X - Freeform Comment Answers Written Here

Second RPG Example

You are halfway there. Now we will discuss a game with more statistics.

This game is played in real-time with pause. Players are tasked with leading a party of adventurers through a magical world experiencing a renaissance period, with early flintlock firearms and cannons existing and used next to swords, sorcery and chainmail. A focus exists on combat, but talking to others, interacting with the environment, evading or disabling traps and some management of property can also be partaken in.

(Defenses mentioned below can either lower the effect of an attack or negate it entirely depending on its level)

MIGHT

In this game this statistic increases all damage dealt by a set percentage, be it magical or physical, close or ranged. It also increases healing done by spells or abilities. Might can be used to threaten others, or break/move objects. Finally, it raises the Fortitude defense, meant to defend against poisons and disease.

CONSTITUTION

Determines the game's two health statistics, Health and Endurance. Endurance is depleted during battle when hurt, but is replenished to the level of Health when combat is over. Health is reduced at a slower rate than Endurance, but must be restored via rest. You can use Constitution to survive physically straining or dangerous situations such as deep-diving or blistering heat. Constitution also raises Fortitude.

DEXTERITY

Raises the speed at which your character makes attacks or casts spells. It also allows for swift action or interaction using fine movements when manipulating objects. Dexterity raises Reflex, a defense statistic effective for dodging area of effect attacks, such as explosions.

PERCEPTION

Affects how accurate a characters attacks are, as well as allows for a greater chance at Interruption attacks, which halt another character's attack with their own. Having higher perception means being able to pick up details in a character's environment, discover secrets, and notice lies or subterfuge in conversation. Perception also raises Reflex.

INTELLECT

Controls and expands abilities with area-of-effect, allowing these abilities to harm more enemies and lowers the chance of harming friendly characters with said abilities. If an ability has a duration, that is its effect only exists for a set time, Intellect also raises this duration. This statistic allows for deduction, coming to sudden realizations, as well as problem-solving. In conversations it can be used to argue logically and examine statements made. Intellect raises the Will defense, used against attacks that target a character's mind.

RESOLVE

Sets a characters Concentration, a defense used when targeted by an Interrupt Attack. It represents mental fortitude, determination and fearlessness, and can be used in conversations to persuade others either via arguments given via a convincing performance (lie) or by personal conviction. It raises two other defensive statistics, Will and Deflection. Deflection is used to parry physical attacks.

X - Yes
X - No
Do you feel as if there are too many, too few, or just enough choices to choose from?
X - Too Many
X - Too Few
X - Just Enough
Do you feel like these statistics fit the type of game that is described?
X - Yes
X - No
If you answered no to the last question, what would you change and why?
X - Freeform Comment Answers Written Here
Third RPG Example
This is the final set of statistic examples.
The final game is a real-time third-person action RPG, with most of its interaction focusing on movement and combat. Players control a character in a medieval fantasy world, where their main task is to fight demons, undead and various abominations. They do so by timing attacks both physical and magical, dodging or blocking blows and elemental attacks, as well as exploring large areas with traps, deep canyons and dangerous terrain.

(Defenses, mentioned below, directly lowers damage from certain attacks).

Affects how much health a character has, and slightly raises defense against Frost attacks.

Do you feel like you understand what each statistic does?

VIGOR

ATTUNEMENT

Raises the amount of spells a character can have set to use in combat, as well as Focus Points which are used to cast said spells.

ENDURANCE

Sets a character's Stamina, a value used to commit attacks, dodge, run and block. When Stamina runs out, it must regenerate before you can commit the above actions. It also raises defense against Lightning attacks and Bleed afflictions.

VITALITY

Controls Equipment Load, the weight of gear a character can wear before they are slowed down in combat. It also raises 4 different Physical defenses, named Standard, Slash, Thrust and Strike. Finally, it raises defense against Poison attacks.

STRENGTH

Governs how heavy a weapon a character can wield without being slowed down or doing less damage. It also raises damage when attacking with a weapon listed as having it as the statistic it scales from, mainly hammers and mallets. Beyond this, it raises Fire defense.

DEXTERITY

Affects attack damage by weapons listed as scaling with it, as well as if the weapon can be handled without penalty. The statistic also lowers the amount of time needed to cast spells, and also lowers the amount of damage taken from falling from greater heights.

INTELLIGENCE

Determines what spells can be cast, as well as their potency in terms of damage. It mainly affects Sorcery Spells, but also affects Pyromancy and Dark Miracles. It also raises Magic Defense, an attack type separate from elemental attacks. Some weapons also require Intelligence to use, for which their damage scales with the statistic.

FAITH

Modifies what Dark Miracles and Pyromancy effects can be cast, and the damage and power these afflict or add. It also mainly raises Dark defense, as well as giving slight bonuses to other Defenses. Some weapons also require Faith to use, which also raises the damage these do.

LUCK

Raises Item Discovery, which is used to determine how often special items drop when defeating enemies. Some weapons scale with Luck. The statistic also raises Curse Defense, as well as how quickly Bleed and Poison effects the player uses on other characters are applied.

quickly breed and Folson effects the player uses on other characters are applied.
Do you feel like you understand what each statistic does?
X - Yes
X - No
Do you feel as if there are too many, too few, or just enough choices to choose from?
X - Too Many
X - Too Few
X - Just Enough
Do you feel like these statistics fit the type of game that is described?
X - Yes
X - No
If you answered no to the last question, what would you change and why?
X - Freeform Comment Answers Written Here

Thank you, and some final questions

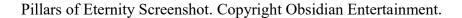
That is it for the main portion of the survey. But we would like to ask you some follow-up questions, if you have the time.

Tides of Numenera screenshot. Copyright InXile Entertainment.



The first game example was from Torment: Tides of Numenera. If the statistics were presented as in the above screenshot from the game, would that change your perception of the amount of statistics (3)?

- X Yes, it would make make me wish there were more to choose from.
- X Yes, it would make me wish there were less to choose from.
- X No, my answer remains the same.





The second game example was from Pillars of Eternity. If the statistics were presented as in the above screenshot from the game, would that change your perception of the amount of statistics (6)?

- X Yes, it would make make me wish there were more to choose from.
- X Yes, it would make me wish there were less to choose from.
- X No, my answer remains the same.

Dark Souls 3 Screenshot. Copyright From Software.



The final example was from the game Dark Souls 3. If the statistics were presented as in the above screenshot from the game, would that change your perception of the amount of statistics (9)?

- X Yes, it would make make me wish there were more to choose from.
- X Yes, it would make me wish there were less to choose from.
- X No, my answer remains the same.

What amount do you personally feel is the limit for how many attributes should be in a role-playing game?

X – Freeform Comment Answers Written Here

Finally, if a role-playing game in your opinion had too few or too many attributes to choose between and keep track of, would that be enough to stop you from playing? Please motivate your choice.

X - Freeform Comment Answers Written Here

Thank you once more. If you would want to be included in a possible follow-up survey, please write your email here. This is not required.

X - Email Field Here