Bleed and Identity: A Conceptual Model of Bleed and How Bleed-out from Role-playing Games Can Affect a Player's Sense of Self

Abstract: The RPG concept bleed describes the spillover of physical states, mental states, physicality, values, opinions, and other similar concepts from player to character and vice versa. Over the years, numerous theorists have suggested several specific types of bleed, but how these suggested types stand in relation to each other has yet to be theorized. In order to create a foundation from which to better be able to study and conduct research on bleed, this article presents a conceptual model that places the previously suggested bleed types in relation to each other and to theories of identity creation in adjacent fields. The concept of the bleed perception threshold and the bleed complex of identity bleed is suggested as part of this model. The article then shows how theories concerned with identity creation from different fields such as psychology, social psychology, and neuroscience inform the model and how the model does not stand in opposition to them. Using the model and the presented theories as a starting point, the article makes suggestions about how bleed can affect a player's sense of self.

Keywords: sense of self, identity, role-playing, RPGs, larp, bleed, transformative play

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1. INTRODUCTION

This paper has two aims.[1] Firstly, it attempts to create more structure around how we use and refer to the role-playing term *bleed* (Boss 2007) in general, offering a starting point for further work by laying out the foundation for a conceptual model of bleed. This model is constructed on the principle of combining previous work and contributions to the field as far as possible, meaning that this paper will not conduct a revision on or evaluate if a previously suggested bleed type is valid or not. Secondly, this paper attempts to map some of the ways in which bleed-out from role-playing experiences can affect a player's sense of self. This mapping is done by using the concept of *identity bleed* as an example.

Throughout the paper, I reference and explain established theories of identity creation in other fields, such as psychology, social psychology, and neuroscience. This practice shows that the proposed conceptual model does not stand in opposition to these adjacent fields, but rather is informed by them. Potentially, the concepts suggested could also be of use and inform practices in these fields in return. In other words, this paper is not an attempt to thoroughly connect the adjacent fields to a finished theoretical model, but rather to establish the model as a foundation from which one can conduct further (interdisciplinary) research.

1.1 Identities

Our understanding of the self as a cognitive and social construct has solidified over the last century or so, with both social psychology and psychology offering up different theoretical approaches. Central to many modern theories of identity is the concept of a multiplicity of aspects of identity combining into an individual's *sense of self* (James 1890). Broadly, one

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1   This paper is a revised version of the author's 2022 Master's thesis completed at the Department of Game Design at Uppsala University.

can say that a person's sense of self is deeply connected to the enactment of these different aspects of identity within social settings and frames (Freud 1922; Erikson 1950; Goffman 1959, 1986; Jung 1976; Burke and Stets 2009; Stets and Serpe 2013; Jhangiani, Tarry, and Stangor 2022). This is not to be confused with the concept of multiplicity from personality psychology, which concerns itself with multiple, fully formed, and relatively independent identities within the same person (Ribáry et. al. 2017). Rather, it refers to distinct sides of a person's identity being dominant at different times, along the lines of Erving Goffman's (1959) theory on the presentation of self in differing social situations.

The idea of multiplicity of aspects of identity (James 1890) has in itself historically been controversial, as societies often seek to impose a singular and majority identity on individuals as a means of control. While this societal control over identity expression is easy to recognize in a historical context, it also continues to this day. For example, individual expressions of gender and sexual identity are still controlled, even by societies that we tend to view as progressive. The idea of a person having to conform to their assigned sex at birth is an example of a contemporary expression of this wish to impose singular and majority identity on individuals.

Thinking about our sense of self as created from multiple different aspects might make it easier to understand how our sense of self can shift in some aspects, while remaining unchanged in others. With regards to how participation in role-playing games might lead to changes in our sense of self, this understanding of identity is useful, as we can understand explorative play through our characters as connected directly to exploration of any given specific aspect of our own identity (Diakolambrianou and Bowman 2023). This understanding might also make processes of change appear less threatening, as even though we might change significantly in one aspect of our self, the overall feeling is that we are still the "same person" as we were before.

1.2 Role-Playing Games

Role-playing games, which to an extent often are purposefully designed to experiment with numerous aspects of identity, have also found themselves at the center of controversy. A well-known example is when the disappearance and later suicide of an American student in 1979-80 sparked a long campaign from fundamentalist right-wing groups aimed at tabletop role-playing (Stark 2012; Laycock 2015). The campaign, known colloquially as the Satanic Panic is partly still ongoing to this day, with campaigners using the media to argue for connections between role-playing and taboo activities like witchcraft, demon worship, and several types of violent and antisocial behavior (Stark 2012; Laycock 2015). A similar example of a moral panic leading to mainstream media attention is the campaign that culminated in the Swedish book *De övergivnas armé* (1997). The authors warn against the ways in which role-playing games can negatively influence and alter the behavior of adolescents and young adults, claiming that they were strategically used to brainwash players for numerous nefarious reasons (Müller 2011).

Even though over the years the different claims in these campaigns have been quickly disproven or discarded, the potential negative media attention might explain the often knee-jerk reactionary resistance one can experience when suggesting that role-playing games have the potential to influence our identities. Even as late as 2019, on publishing on the transformative potential of live action role-playing games in "The Butterfly Effect Manifesto" (Hugaas and Bowman 2019), we received feedback that some participants and designers felt uncomfortable

entertaining the thought of their games having the potential to affect players in significant ways. Some people felt uncomfortable with even the smallest suggestion of deviance that outside observers with a specific agenda could latch onto and use out of context.

1.2.1 Alibi

Role-playing involves acting as a character that is not yourself. *Alibi* is the role-playing term for the social contract that is (unconsciously) created between the players in which they agree that they will not hold each other accountable as players for the actions of the characters (Montola 2010). Sebastian Deterding defines alibi "as a motivational account... that deflects negative inference from displayed behavior to a person's identity" (2018, 268). Alibi is recognizable when players say things along the lines of: "I only did what my character would have done" or "That was not me; it was my character." While alibi makes play possible, in rare situations, certain players can exploit it to act in ways that are not acceptable within the game or outside of it; importantly, alibi should not provide players with a carte blanche to behave in any possible way that they wish.

More generally, alibi is essential for players to be able to fully engage with their character concepts and perform as their characters, especially if these alteregos differ from their own self-concept in significant ways. With regards to sense of self, the freedom of expression afforded by alibi can loosen the rigidity of an individual's need for self-continuity or lower their *identity defense* (Illeris 2004). Identity defense is a self-concept specific *defense mechanism* (Freud 1936), an unconscious protection from stress caused from internal or external factors (Brittanica 2023). Explore or question aspects of our identity might lead to temporary psychological imbalance and identity defenses can get activated as a result. If we wish to maximize the potential for personal growth, we need to find ways to lower our identity defense. Alibi might offer one of the reasons why role-playing games seem to provide high potential for such growth (Bowman and Hugaas 2021).

1.2.2 Self-presentation Theory

Finding inspiration in theater and acting theory, Erving Goffman suggested that we also perform different roles or parts of ourselves in our "real lives" depending on the social situation we currently inhabit (Goffman 1959). In what was later to be known as *self-presentation theory*, Goffman explained that individuals try to influence or even control the image that others have of them by changing their manner, appearance, or similar. Central to Goffman's approach is the suggestion that the "selves" we adopt often will be premade or generally recognizable as a certain specific role. For example, if I go to a funeral, I am expected to perform in a certain way depending on my relation to the deceased, wear a certain type of clothing, etc. In other words, just like in theater, we have an audience evaluating our performance, and to stray from the expected performance of the role has potential costs. One might incur a social cost and possible repercussions by showing up to a funeral wearing a bright red suit and laugh loudly during the eulogy. The wearing of the suit, the suit in itself, or even the laughing is not the problem, but rather the way the behavior deviates from the role performance that the audience is expecting in that specific setting.

1.3 Transformative Play

The understanding that role-playing games do have the potential to change our sense of self seems to be gaining ground in contemporary research (Bowman 2010; Beltrán 2013; Back, Segura and Waern 2017; Boccamazzo et. al 2018; Leonard and Thurman 2018; Kemper 2020; Lasley 2020; Baird 2021; Sidhu and Carter 2021; Loh 2021; Heinrich and Worthington 2021; Bowman and Hugaas 2021; Hugaas 2022). Exactly how this potential change of self occurs has not been thoroughly answered.

In 2019, Sarah Lynne Bowman and I proposed a categorization of the various ways in which that role-playing can have a transformative impact on player based upon our research and personal experience. The main categories and selected subcategories that are considered relevant for an individual's sense of self are presented here (Bowman and Hugaas 2019):

1. Emotional Processing
- Exploring aspects of self/selves
- Exploring aspects of personal experience
- Transforming the ego
- Identifying/practicing personality traits
- Reframing past experiences
- Being seen/witnessed

2. Social Cohesion
- Increasing empathy
- Prosocial communication
- Exploring intimacy/relationship dynamics
- Exploring community dynamics

3. Educational Goals
- Intrinsic motivation
- Content exposure/mastery
- Self-efficacy/perceived competence

4. Political Aims
- Paradigm shifting
- Critical ethical reasoning
- Expansion of worldview

Responsible designers who wish to design for transformative impacts need to be aware of not only the transformative potential in games, but also how to purposefully maximize the potential for such effects while at the same time maintaining a safe game environment. Understanding the ways in which bleed influences the players both pre-, during, and post-game can help game designers in their process.

1.3.1 Transformative Play through Bleed

Several theorists point to the role-playing phenomenon of *bleed* as one of the central ways in which players are affected by the experiences of their characters (Montola 2010; Beltrán 2013;

Bowman 2013, 2015, 2022; Kemper 2017, 2020; Leonard and Thurman 2018; Hugaas 2019a; Baird, Bowman, and Hugaas 2022). In short, bleed occurs when feelings, thoughts, emotions, physical states, cognitive constructs, aspects of personality, and similar "bleed over" from player to character or vice versa. When this spillover goes from player to character, we call it *bleed-in*, and when it goes from character to player, we call it *bleed-out*. With regards to this paper, I will mostly focus on the ways in which the latter can influence the player's sense of self and their identities.

The term bleed and its numerous iterations, while still remaining somewhat nebulous itself, still seems to provide theorists with helpful scaffolding when trying to explain related phenomena. Yet, at the moment, both the everyday and the academic use of the term suffer from a lack of a shared general understanding and agreement, both on what bleed is and is not. In particular, the colloquial understanding and use of the term has generally not deepened into the nuances added by the theory that has been developed over the years, leading to it mostly being used interchangeably to refer to the sub-category of *emotional bleed*. This lack of specificity may lead to scholars perceiving it as less useful and, as a result, sometimes even avoided in academic discourse. A term is only as valuable as it is useful; thus bleed may lose its colloquial and academic usefulness as long as it remains nebulous.

2. METHODOLOGY

This paper will include an interpretative reading of selected existing theory within the fields of role-playing, psychology, social psychology, neuroscience, and dramatic acting in areas where they potentially overlap and relate to the phenomenon of bleed. I will then construct a conceptual model of bleed informed by existing theories in adjacent fields, including a new complex named *identity bleed*, and a concept related to the subjective experience called the *bleed perception threshold*. Throughout the paper, I will discuss connections, findings, and potential areas of further study.

For a theory from an adjacent field to be mentioned in this paper, it needs to center either the creation, iteration, or performance of identity. The theory also needs to be generally accepted and applied in its own field. Where theories mostly overlap, only one of these will be chosen. For theories that offer only slight variations of existing or earlier work, the older and more general theory will be chosen, particularly in instances where the nuances/variations do not affect the connection to the suggested conceptual model to any significant degree, or at all. *Social identity theory* (Tajfel and Turner 1979) is not addressed, as it to a degree overlaps with *identity theory* (Stets and Burke 2000). Freud's *psychoanalytic theory of personality* is also not addressed, in part because of its focus on general behavior rather than identity performance; however, one can easily imagine that future work in the intersection between the proposed conceptual model and a psychoanalytic theory model could be of value to the field.

With regards to psychology this paper will touch on Erikson's *theory on psychosocial stages of development* (Erikson 1950) and Marcia's *theory of identity achievement* (Marcia 1966), as well as later offshoots and iterations of these two. It will also discuss Jung's theory of self and the process of *individuation* (Jung 1976), as well as the ideas of self-concept and self-schemas following Piaget's *theory of cognitive development* (Piaget 1972). In social psychology, the paper will focus on Stryker's *identity theory* (Stryker 1968), contemporary iterations on said work, and *self-presentation theory* (Goffman 1959). It will also make a short excursion into neuroscience, particularly in relation to memory construction, processing, and recollection, which I think are crucial to understanding certain types of bleed (Klein and Nichols 2012; Brown et al. 2019; Broom et al. 2021).

3. A CONCEPTUAL MODEL FOR UNDERSTANDING BLEED

In order for a conceptual model of bleed to be useful, we understand that it must describe a way to address how the phenomenon is subjectively experienced. The model must also describe how the different theorized types of bleed relate to each other, if at all. Furthermore, it should not set itself apart from adjacent fields, but rather interact and connect to them to produce further insight and meaning. Finally, the model should be robust and flexible enough to account for future additions, revisions, and alterations.

With these basics in mind, I suggest the following additions to the theory:
1. The concept of the *bleed perception threshold;*
2. A distinction between basic bleed components and higher bleed complexes; and
3. A relational matrix of bleed components and complexes.

3.1 Existing Bleed Concepts

The term for the phenomenon known as bleed traces its roots to early analog role-playing game communities. Bleed was first used in the discourse by Emily Care Boss (2007) at the Finnish convention Ropecon in 2007. For some time, bleed was generally understood as describing the phenomenon of emotions bleeding over from character to player and vice versa (Montola 2010), but later work has added a range of potential effects related to physical states, identity patterns, and other cognitive constructs. Central additions include (from Baird, Bowman, and Hugaas 2022):

- *Emotional bleed* (Montola 2010; Bowman 2015), in which emotional states and feelings bleed between player and character;
- *Ego bleed* (Beltrán 2012), in which fragments of personality and archetypal qualities bleed between player and character;
- *Procedural bleed* (Hugaas 2019a), in which physical abilities, perceptual experience, motor skills, traits, habits, and other bodily states bleed between player and character;
- *Memetic bleed* (Hugaas 2019a), in which ideas, thoughts, opinions, convictions, ideologies and similar cognitive constructs bleed between player and character;
- *Relationship bleed*, in which aspects of social relationships bleed between player and character. Romantic bleed (Waern 2010; Harder 2018; Bowman and Hugaas 2021) is the most frequently discussed subtype;
- *Emancipatory bleed* (Kemper 2017, 2020), in which players from marginalized backgrounds experience liberation from that marginalization through their characters; and
- *Design bleed* (Toft and Harrer 2020), wherein the term is used as a lens to look at game design.

This list demonstrates that bleed is thought to be able to affect a multitude of aspects of the player's sense of self, ranging from personality and identity (Beltrán 2012), to opinions and even values (Hugaas 2019a). When a bleed experience contradicts and even challenges an established aspect of a player's sense of self, this can manifest in a heightened sense of confusion and discomfort some players have reported following strong bleed experiences (Montola 2010). This state of confusion and discomfort shares similarities with experiences related to identity confusion as described in several theories later in this paper.

Despite the value of the above-mentioned bleed concepts in themselves, a weakness is that they are mostly disconnected from each other, leading to little structure existing in which to place them in relation to each other. While much is left to discover and define with regards to bleed as a phenomenon, a basic conceptual model would be useful as a reference point for further discourse.

3.2 Bleed Perception Threshold

One of the defining attributes of bleed is that it is a subjectively experienced and self-reported phenomenon. This subjective nature leads to difficulties in data collection, as players' relative experiences and reporting of the phenomena spread out across a wide spectrum. Players even self-identify across this spectrum, which stretches from experiencing significant amounts of bleed at any given role-playing event to never experiencing bleed at all (Hansen and Hugaas 2017; Pedersen 2017). Seeing as how the mechanics of bleed are closely connected to processes of human identity creation that are running continuously, it is unlikely that any given individual player could be exempt from the effects of bleed. The claims that players have never had bleed could possibly rather be explained as these experiences not reaching an intensity that made bleed noticeable to them.

To address this challenge and facilitate a discourse around it, I suggest the concept of the *bleed perception threshold*. A functional definition of this concept is: the threshold at which bleed experiences are felt intensely enough to be noticeable to the player. Similar concepts around the subjective experience of phenomena include the *threshold of hearing* (Durrant and Lovrinic 1984) or the *pain threshold* (e.g., Hardy et. al. 1940). If we consider how sounds can be inaudible to a specific person, we can also consider how an instance of bleed might be similarly undetectable. If we fail to hear a sound, the cause might be another sound covering it, a physiological reason (e.g., age), or the sound remaining beyond the human capacity to hear it. Importantly, even though we did not hear the sound, the sound was still there, below our threshold of hearing. Similarly, numerous reasons may cause an instance of bleed to go unnoticed, but that does not mean it did not happen, only that it stayed below our bleed perception threshold. Bleed experiences with less intensity than needed to pass the threshold will not be noticeable to the player.

Figure 1 provides an example of what the intensity of a bleed experience and a player's bleed perception threshold could look like over time. As the example shows, the bleed experience could remain either below or above the player's perception threshold at different points in time. When below, bleed is not noticeable (and subsequently not reported) and when above, bleed is cognitively noticed, and thus reported as experienced by the player. In this hypothetical example, the player noticed the bleed for most of the event itself, then reported not experiencing bleed for a short period afterward, before once again reporting experiencing bleed for some time after the event.

As shown in Figure 1, the perception threshold is not a set fixed value. Every player's threshold will be unique to them and will also change over time and from situation to situation. In addition, a number of both internal and external factors could influence it, pushing it higher or lower on the scale. One can theorize that players who report not experiencing bleed either have a consistently high bleed perception threshold, participate in role-playing events that do not aim for high level intense bleed, or a combination of the two. For players who report having numerous strong bleed experiences, the opposite would then apply. An interesting side note here relates to how players can create *self-schemas* (Piaget 1972) that revolve around how often they experience bleed, if they even experience it at all. Self-schemas contain knowledge and

beliefs about the self. The need to verify these self-schemas or commit to them as part of the player's sense of self might affect their bleed perception threshold. I will further discuss the relationship between bleed and self-schemas later in this paper.

Figure 1: An example of the conceptual understanding of the bleed perception threshold (Hugaas 2022).
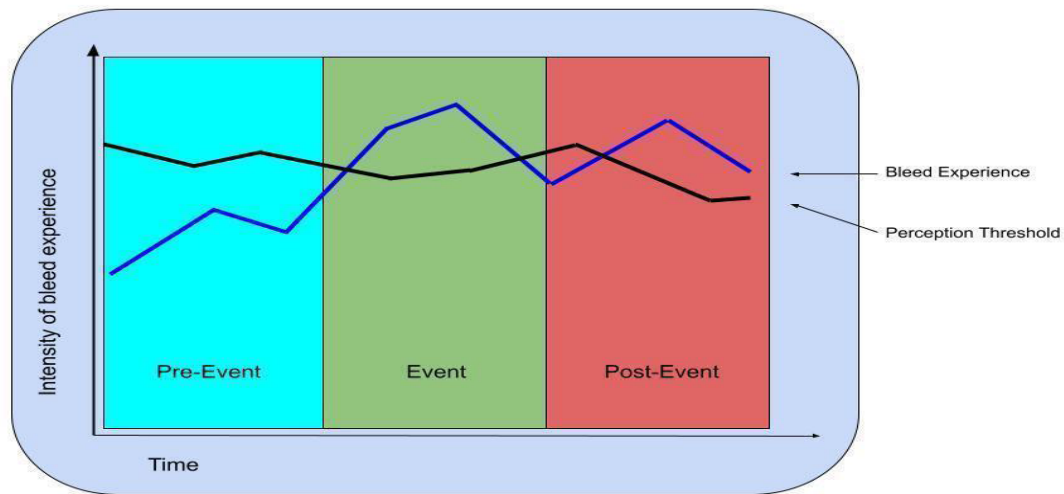
3.3.1 Spillover Between Player and Character

In order to create a relational matrix, I will first decide whether the so far theorized types of bleed should be considered part of it by considering them against a fundamental working phenomenological definition of bleed, which would roughly be along the lines of: some aspect that spills over from player to character or vice versa. Holding the above list of bleed concepts against this definition, with one exception, they all fit into it. However, the concept of *design bleed*, while being a very valuable addition to the field of game studies, focuses on the design process rather than the relationship between player and character, and can be removed from the model.

3.3.2 Bleed Components and Complexes

The second step is to define whether the bleed types describe a basic bleed component or a higher bleed complex. A a basic bleed component is a type of bleed that forms a building block for more complex bleed experiences, while a higher bleed complex combines several basic components and/or goes beyond the phenomenon itself, e.g., adding potential uses, tools, and effects beyond the primary experience. As with most phenomena related to human behavior and experience, the different types of bleed are not 100% either basic or complex. However, in order to make a conceptual model that has useful application for the discourse, making this distinction is necessary.

A sorting leaves us with the following list:

Basic Bleed Components:
- Emotional Bleed
- Memetic Bleed
- Procedural Bleed

Higher Bleed Complexes:
- Emancipatory Bleed
- Relationship Bleed
- Ego Bleed
- Identity Bleed

More about the particular attributes of each bleed type can be found in sections below.

Ego bleed is understood as the spillover of personality contents and archetypal qualities (Beltrán 2012). These archetypal qualities and personality traits contribute to a person's identity or sense of self. However, since these qualities and traits refer primarily to the internal psychological states relevant to depth psychology rather than sociologically informed definitions of identity, I therefore suggest a complex called *identity bleed* that includes ego bleed but expands beyond it. I will discuss in greater length below, but in short, all instances of ego bleed contribute to the complex of identity bleed, while only some specific parts of identity bleed are attributable to ego bleed.

3.3.3 A Relational Matrix of Bleed Components and Complexes

Before we attempt to structure the different bleed concepts into a relational matrix, I should note that the work and sources on each term are limited, as the field of role-playing game studies is only recently emerging. Thus, significant possible limitations in the relational matrix may exist, conducting a thorough study of theory regarding where the different concepts meet and potentially overlap is challenging. Still, the matrix can provide a rudimentary suggestion for thinking about bleed in a more structured manner for future theoretical work.

Structuring the different parts into the relational matrix, we can see that the higher complexes can contain several or all of the basic components. For example, an instance subjectively experienced as relationship bleed can contain elements of emotional bleed, memetic bleed, and procedural bleed. In other words, the basic bleed components combine to create higher bleed experiences that are categorizable as one (or several) of the bleed complexes.

Figure 2: A Relational Matrix of Bleed Components and Complexes (Hugaas 2022).
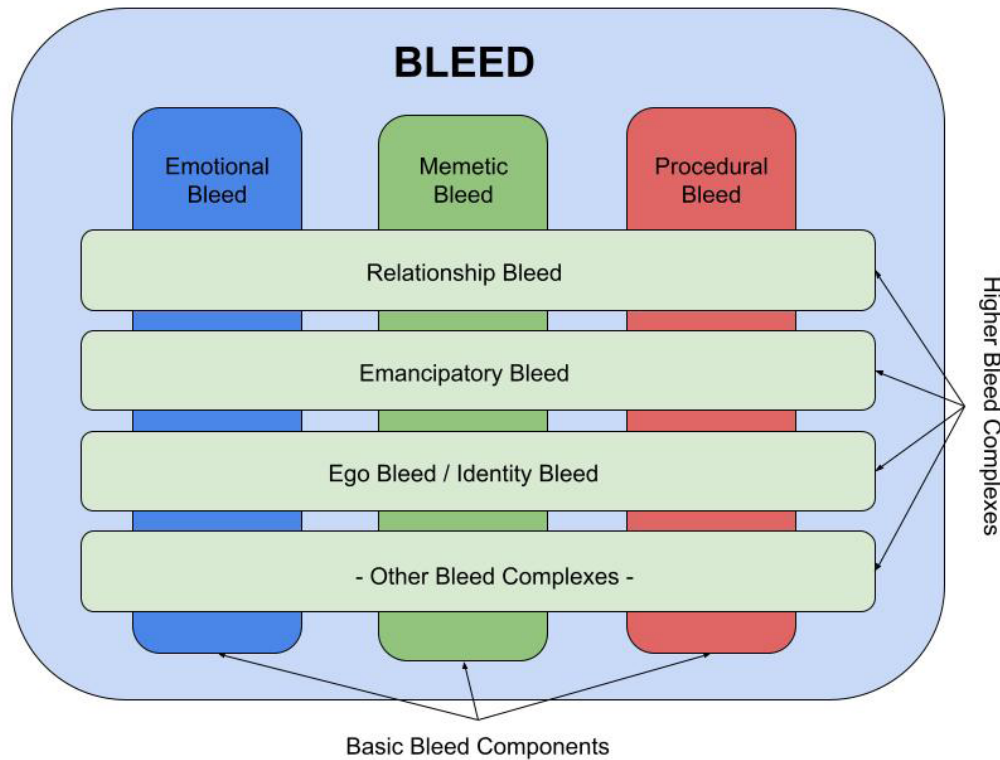
3.4 Bleed Components

As we can read from Figure 2, the model contains 3 basic bleed components. These components are based on our current understanding of the phenomenon, but the model makes room for additions or adjustments if needed. In theory, no finite number of potential components exists that can be added to the model, but in practice one can imagine that they are limited.

3.4.1 Emotional Bleed

Emotional bleed occurs when feelings or emotions of the character or player spillover to the other. It is probably the best-known type of bleed and theorists have written extensively about it over the years (see e.g., Boss 2007; Montola 2010; Waern 2010; Bowman 2013, 2015; Harder 2018; Leonard and Thurman 2018). Because of emotional bleed's position in the literature, and because it is probably the bleed component with the generally lowest perception threshold, it enjoys a somewhat universal acceptance in many role-playing scenes and traditions. As a result, when players use the word bleed, they often tend to refer to emotional bleed specifically.

3.4.2 Memetic Bleed

The word *meme* has taken on a different colloquial meaning the last few years than its original connotation, but it was originally conceptualized as a noun that "conveys the idea of a unit of cultural transmission, or a unit of imitation" (Dawkins 1976). In short, a meme is the cultural equivalent of the gene; memes are to culture what genes are to biology. As I have previously defined (2019a):

> Memetic bleed describes the process by which a meme — a unit of culture — carries an idea, behaviour, thought, belief, ethical conviction, or similar cognitive construct between player and character and vice versa. In addition, it describes the process by which memeplexes — complex structures of memes — are transmitted in part or in whole between players and characters that are part of a group, scene, or subculture and vice versa (Hugaas 2019a).

With regards to memeplexes, this quote might already be outdated. While the possibility exists that a bleed complex could consist of only memetic bleed, I find it unlikely. As the model matures and is subjected to further testing, this definition may need to change accordingly.

Notably, the suggestion that players' opinions, values and similar might be affected unconsciously as they play has attracted some controversy, as one could interpret this suggestion as giving credibility to the above-mentioned claims brought forward in the moral panic campaigns against role-playing games (Hugaas 2019b; Bowman and Hugaas 2021).

3.4.3 Procedural Bleed

Procedural bleed is connected to the physical embodiment of character. It describes how physical states, movements, bearings, perceptual experience, motor skills and similar spillover between player and character (Hugaas 2019a). Procedural bleed is particularly connected to *procedural memory*, which concerns itself with the acquisition and retention of motor, cognitive and perceptual skills (Klein and Nichols 2012). This form of bleed likely overlaps with the concept of embodied cognition: the idea that cognition is not restricted to the brain and central neurological system, but rather resides in the entire physical body and is activated in role-playing experiences (Lankoski and Järvelä 2012).

The term is particularly interesting when we consider the differences between procedural and *declarative memory* (Klein and Nichols 2012), which concerns itself with facts and beliefs. Out of all the bleed components, procedural bleed is most likely to have a stronger connection to procedural memory than declarative. Given to the degree that we tend to be cognitively unaware of our procedural memory, procedural bleed might have a high perception threshold, meaning that the effects of this bleed component rarely cognitively register with many players and will therefore go unreported. Memory is addressed in more detail later in the paper.

3.5 Higher Bleed Complexes and Identity Bleed (IB)

3.5.1 Ego Bleed

When Beltrán first suggested the term ego bleed, she pointed to the aforementioned lack of specificity and ambiguous use of the general term. Ego bleed was then defined in opposition

to emotional bleed, as the spillover not of emotion but of (among others, archetypal) identity patterns during play (Beltrán 2012). Ego bleed is an important concept to incorporate into the language of depth psychology when discussing larp because, when addressed as a directional spillover of traits from character to player (*ego bleed-out*), it gives a name to one of the mechanisms of the process of *individuation* that Jung (1976) describes. When players actively engage an archetype, they directly experience modes of behavior, thought, and emotion from which their psyche can learn if it can successfully integrate these experiences into their ego identity. This individuation process leads to the ego then evolving to become a more mature Self (Beltrán 2012, 96; Bowman 2017).

As mentioned above, ego bleed exists in very close connection to the complex of identity bleed and can be considered a subcategory of it. Also, insofar as archetypes are understandable as cultural constructs (Bowman 2012), aspects of ego bleed do share similarities with memetic bleed.

3.5.2 Emancipatory Bleed and Relationship Bleed

While the complex of emancipatory bleed (Kemper 2017, 2020) has been articulated at length by theorist Jonaya Kemper, the complex of relationship bleed, although written extensively around, has not yet been defined specifically by theorists. However, relationship bleed is an established concept in the discourse and the working definition I provided above is distilled from a colloquial use of the term (Harder 2018) and academic discussions around it, particularly regarding romantic bleed (Waern 2010; Bowman and Hugaas 2021). Thus, as these two concepts are established, they fit well into the suggested model as they are.

3.5.3 Identity Bleed

I further theorize the complex of identity bleed, which refers to how our sense of self and our multiplicities of identities are affected by bleed experiences. As a higher complex, identity bleed contains parts of all of the above-mentioned basic bleed components. The effects of identity bleed have been reported -- albeit not named as such -- by players, e.g., in relation to sexual orientation (Paisley 2015) and gender identity (Moriarty 2019; Baird 2021).

4. CREATION OF IDENTITY

As this paper is the first attempt at creating a conceptual model for bleed concepts, I will briefly discuss related theories on identity creation from other fields, as the model is informed by the mentioned theories and does not stand in opposition to them. While the potential for further study in the intersection between the proposed model and the covered theories is potentially quite significant, for now I will focus only on general connections between central tenets.

Over the years, scholars have presented numerous theories for how identity is created. James' (1890) made an initial distinction between the self as "I" and the self as "me, arguing that an individual could be considered either as an object or a subject in any given experience. As a result, James introduced the idea of an individual's identity being composed of several parts (James 1890). The theories I present this paper all share this understanding and it is also central to understanding how our sense of self can be affected through the phenomenon of bleed.

4.1 Stages of Psychosocial Development and Identity Achievement

In his theory on the stages of psychosocial development, Erikson (1950) describes the ego-identity as created partly by a) the person's characteristics and personal development; and partly by b) social roles and cultural roles. He dividing a person's lifetime into 8 distinct stages, mapping out how each stage emphasizes a conflict between an inner, agentic trait/ability and an external social and cultural force that opposes it. The result of these conflicts influences and sometimes even decides what beliefs and skills the person subsequently can integrate into their sense of self and take with them to the following stages of their life. Regarding the fifth stage of psychosocial development, which is broadly defined as the years from 11-19 and which Erikson named "identity vs. role confusion," he argues that the individual's sense of identity is normatively consolidated, leading to the individual experiencing either identity resolution or confusion at the end of it. The degree of integration of virtues from previous stages will affect whether a person's sense of self is stable or in a state of diffusion, potentially leading to what Erikson coined an *identity crisis* at the end of the stage (Erikson 1950).

Building on Erikson's work, Marcia's (1966) theory of identity achievement posits that the identity formation observed in adolescents is dependent upon the extent to which the individual has explored, discovered, and committed to their identity in relation to a number of different fields, such as among others: politics, religion, gender, and sexuality (Marcia 1966). Where Erikson has been criticized for creating a theory that fits very well for a specific group of people (White, Western, middle class, males) at a specific point in time, Marcia's approach seems more open to a wider selection of lived experiences. In addition, identity achievement can be applied to shifts in identities later in life, providing a more flexible understanding of the fluidity of identity beyond adolescence.

In relation to role-playing games, they provide players not only with a space in which to explore and study the conflicts in Erikson's theory; they do so while simultaneously offering the freedom to embody a character at any of the eight stages. They permit players to change and adjust both the internal and the external factors as one wishes. Furthermore, role-playing games provide players a space in which to experience potentially underexplored parts of themselves (Bowman 2010), as described in Marcia's theory of identity achievement. In other words, role-playing can provide the participants with an environment in which to experiment with greater levels of safety, thereby potentially developing a better understanding and even a higher level of processing of their own lived experiences. Through character enactment, role-playing also provides a space in which players can prepare for stages that they themselves will live through in the future.

With regards to identity achievement theory, identity bleed happens when a player is able to experience a so far underexplored part of their own identity through play. This experience can further impact their sense of self by facilitating for commitment to this newly explored part of their identity. This process fits well with the below described concept of *identity verification*, in which players can experience alignment between their own and others' perceptions of their identities while in-character.

4.2 Identity theory

Based in structuralist symbolic interactionism, identity theory (Stryker 1968) broadly defines identity as a set of meanings attached to the different roles that an individual performs in

social structures, groups to which they see themselves as belonging, and unique qualities they see themselves as possessing (Stets and Serpe 2013). In symbolic interactionism, meaning is created and derived from social processes. Since it is difficult, even near impossible to predict individual human behavior through theory-based models (Blumer 1969), this process indicates that perhaps identity too is a process of constant confirmation, iteration, and alteration. In other words, although there are numerous ways in which social structures seek to impose rigidity (Kuhn 1964), identity is at its core fluid, not fixed. This definition of identity itself becomes particularly relevant with regards to role-playing; often one of the aims of the activity is to restructure, reimagine, and reinterpret social structures, group belonging, and personal traits within structured frames that actively seek to counter the rigidity that social structures tend to impose on social interaction.

One of the central concepts of identity theory is verification. Identity verification occurs when we experience that the way we perceive ourselves and the way others perceive us are aligned. In short, when an individual feels that their identity is verified by others, they have a positive emotional reaction, and vice versa (Stets and Serpe 2013). Interestingly enough, even when the discrepancy between the two perceptions is positive, for instance when an individual exceeds expectations in a positive way, the resulting emotional reaction is still negative (Stets and Serpe 2013), showing the amount of restriction put on us by our need to verify our pre-existing concepts of our own identity.

Together with verification, identity salience, identity commitment, and identity centrality/prominence form a system that decides which identity or identities are activated in any given situation (Stets and Serpe 2013). In short, salience reflects the probability of a person deciding to enact a specific identity in a situation. Commitment reflects how much effort an individual puts towards verifying their identity. Centrality and prominence are suggested structures for a hierarchical relationship between different identities and are used as indicators of what identity will be active in a given situation. As Stets and Serpe (2013) state:

> The distinction between salience and centrality/prominence is not just conceptual. How each is measured implies a different set of indicators. Salience is based on probable behavior, while centrality/prominence is based on the internalized importance of an identity. (Stets and Serpe 2013, 37)

With regards to role-playing, these central concepts of identity theory open a wide array of interesting implications. For instance, players report how role-playing games have provided them the opportunity to explore aspects of their own identity through playing characters that embody those specific characteristics. If the verification they get in character gives them a positive emotional response, the way that they see themselves (as a player) and the way that others perceive them (as a character) are aligned (Baird 2021). This then provides emotional feedback that can inform their own sense of self as they integrate their experience into their "real life." Using role-playing experiences to explore gender is one example of this (Moriarty 2019; Baird 2021).

Another interesting connection is players reporting that they call upon aspects of characters that they have played in order to tackle "real life" situations. For example, if they have played someone who is very patient and emotionally regulated, they can call upon that character and embody them in a stressful situation, e.g., when players say, "I channeled [character X] to get through it" or similar. Players engage in this practice as a result of believing/ knowing that they too possess the abilities of the character, having "been them" in play. This

ability that players report having might indicate that role-players are generally being adept at consciously affecting the hierarchies of identity selection as a result of practicing them in play. This area would be very interesting for future study.

To understand how identity bleed fits into identity theory, it is firstly important to understand how identity verification forms our sense of self. As mentioned above, identity verification is when the way we perceive ourselves and others perceive us are aligned (Stets and Serpe 2013). In immersive role-playing events, we experiment with creating characters whose identities can be defined as slight alterations of those we perceive ourselves as players to inhabit, or even identities that we carry within us but have not had the opportunity to openly inhabit in the world. As a result, the verification we get from the other characters/players within the held space of the game can lead to identity bleed. Afterward, the experience from the role-playing setting changes the specific identity's salience and commitment, possibly leading to further changes in the player's general identity centrality/prominence.

4.3 Archetypes and Individuation

The *collective unconscious*, a term first presented by psychoanalyst Carl Jung (1976), describes the part of the unconscious mind that incorporates humanity's commonly held memories, instincts, experiences, and similar patterns. From these, Jung theorized the existence of archetypes: universal primal symbols that form from the collective unconscious and that, among other things, can explain the numerous similar characters and themes that exist in the different mythologies around the world. As discussed above, the process of *individuation* describes how an individual moves the archetype out of the collective unconscious as they mature and integrates it into their own sense of Self. In this process, the individual forms a more flexible and authentic *persona* with which they identify strongly compared to the superficial mask they once presented to the world (Jung 1976).

Archetypes are commonly used in character creation in role-playing games (Bowman 2010). They provide a starting point that helps facilitate the creativity of the designer. When characters are explicitly associated with a specific archetype, they can also often be instantly recognizable and become easier for players to embody. Complex character networks and interactions based on archetypes (Beltrán 2021) tend to be quite accessible to participants, providing them with a short-form way of assessing whether or not a particular character is appealing to play. As with many other of Jung's concepts, importantly, the process of individuation is quite complex and contains more than the above-described spillover effect. I focus on this specific part to highlight some of the ways archetypes are part of role-playing experiences.

As mentioned above, Beltrán (2012) theorized ego bleed to be a role-playing specific version of part of Jung's process of individuation. This process of integration of the self has also been explored in depth by Sarah Lynne Bowman (2017), who has identified specific archetypes that she and other players have found useful when seeking personal growth (Bowman 2024). With regards to individuation, identity bleed would affect the player's sense of self in much the same way.

Some archetypal ideas might have stronger connections to cultural constructs, making the following bleed types if not predominantly then at least partly memetic rather than ego. In addition, role-playing provides a wide variety of situations wherein archetypes connected to both player and character can interact, engage in conflict, and resolve through play in ways that can differently inform the individuation process (Beltrán 2021).

4.4 Schemas and Self-Concept

Building the work of philosopher Immanuel Kant (Palmquist 1993), Jean Piaget (1972) suggested in his theory of cognitive development that as they develop, children create and store ever more complex belief and knowledge in *schemas* that are constantly altered and iterated as the child experiences more of the world. *Schemas* are complex cognitive structures used to categorize knowledge about the world. Knowledge and beliefs about the self are similarly stored in *self-schemas*. Our understanding of who we are -- our self-concept -- is the combined sum of all these different schemas (Piaget 1972).

Due to the complexity of schemas, self-concepts are unique to a person, although certain themes tend to replicate from person to person. Among these are physical traits (e.g., I am strong/I am overweight/I am short); personality traits (e.g., I am funny/I am broody/I am smart); and social/group belonging (e.g., I am Norwegian/I am a nurse/I am a father). Some of these schemas depend on external components to both create and sustain them, and even the more internal ones are also heavily influenced by our social setting. For instance, the tendency to focus on physical traits in self-schemas is partly because we expect others to rate, scrutinize, and judge us by them. One could even say that external messaging, be it positive or negative, will often fuel an individual's most strongly held beliefs about themselves.

As for personality traits, these tend to also exist and be reinforced by social settings. For example, "I am strong" would hold little meaning if not in relation to the perceived average strength of others, and "I am kind" would carry little meaning if no one was present to receive one's kindness. In other words, our self-concepts are strongly connected to external ideas of who we are and are deeply defined by our social interactions with others (Jhangiani, Tarry, and Stangor 2022).

As stated above, self-concepts are complex and unique structures. Variations exist in the degree of complexity, with some individuals having far more complex self-concepts than others (Roccas and Brewer 2002). High self-complexity might indicate an individual who has worked in a number of different jobs; has many interests and hobbies; connects with many people in a number of different social relationships; and as a result has many different self-schemas from which to construct their self-concept. Alternatively, someone with low self-complexity might put most of their self-concept into only a few self-schemas, with each schema then making up for a relatively larger part of the person's self-concept. This distinction becomes interesting, as research has found that individuals with high self-complexity enjoy higher levels of self-esteem, suffer less from stress and illness, and show a higher tolerance for frustration (Jhangiani, Tarry, and Stangor 2022).

> The benefits of self-complexity occur because the various domains of the self help to buffer us against negative events and enjoy the positive events that we experience. For people low in self-complexity, negative outcomes in relation to one aspect of the self tend to have a big impact on their self-esteem. For example, if the only thing that Maria cares about is getting into medical school, she may be devastated if she fails to make it. On the other hand, Marty, who is also passionate about medical school but who has a more complex self-concept, may be better able to adjust to such a blow by turning to other interests. (Jhangiani, Tarry, and Stangor 2022, Ch. 3)

With regards to role-playing, the concept of self-complexity presents a number of interesting questions. Being a role-player is a self-schema in itself, which includes numerous possible

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sub-schemas related to factors such as one's particular game and system choice, belonging in specific social groups, etc. Furthermore, the experiences that role-players can have in-character might in themselves have the potential to lead to a higher degree of complexity in the player's self-concept. New self-schemas can be created from social relationships both in- and out-of-character, as well as from the player experiencing personality and physical traits differently in-game and out-of-game. In addition, in role-play settings, players get the opportunity to challenge their self-schemas in ways that are difficult to do in other settings. For example, if a player is nervous about public speaking but experiences that they can actually perform public speaking in a live action role-playing setting, that experience can then inform an iteration of their self-schema, e.g., changing it from "I am a bad public speaker" to "I am capable of speaking in public."

As self-schemas are at least partly a result of conscious cognitive processing, some of these changes in self-concept happen without bleed being part of the process at all, although identity bleed can affect the player's self-schemas through all the basic bleed components. As self-schemas are cognitive constructs, memetic bleed is possibly the most prominent of these. In short, when through role-playing games we experience that we have capacities that we were previously unaware existed, our self-schemas change accordingly. Another way identity bleed might affect a player's sense of self is by increasing self-complexity by creating new self-schemas.

4.5 Memory

Memory is intrinsically connected to identity, as our sense of self is informed by remembering things we have done or events that happened to us in the past. This narrativist method of identity creation has deep roots in philosophy; John Locke (1694) argued that personal identity comes from being able to self-reflect and think of oneself as existing over time -- in other words, remembering oneself in previous times and situations.

Contemporary research into long-term memory (LTM) offers a deeper understanding of the role memory plays in creation of identity. In short, LTM can be divided into *procedural* and *declarative* memory, as introduced before. While declarative memory concerns itself with facts and beliefs, for example that Liverpool won the Premier League in 2020 or that Gotland is an island off the Swedish coast, procedural memory concerns itself with the acquisition and retention of motor, cognitive and perceptual skills (Klein and Nichols 2012). Declarative memory can further be categorized into *semantic* and *episodic* memory. Semantic memory is the main storage for generic facts, but they are not tagged with a reference to time or space. For instance, I know that Mt. Everest is the tallest mountain in the world, but that fact is not remembered in the context in which I first learned it. Episodic memory, on the other hand, records events as the individual experienced them, with markers for both time and space. For example, if an individual has actually climbed Mt. Everest, episodic memory will tell them, "I remember the view from the summit when I climbed Mt. Everest last year."

4.5.1 Narrative Identity

While semantic memory provides the facts about ourselves and our traits, episodic memory provides us with a narrative around which to form our identity. The theory of *narrative identity* (McAdams 2011) posits that individuals combine their experiences throughout life into a coherent and structured narrative. This tendency to create a narrative structure of our

lives -- even when the original events might not be too clear to begin with -- has clear benefits. Research has shown that individuals that have experienced adversity and trauma, and who are then able to integrate these experiences into a redemptive arc in their life story enjoy higher levels of mental health, well-being, and maturity (McAdams and McLean 2013).

The theory of narrative identity lends itself very well to role-playing, as narrative arcs for groups, characters, and even societies themselves are a big part of the storytelling (Anderson and Meland 2020; Bowman and Hugaas 2021; Diakolambrianou and Bowman 2023). Through role-playing, participants get to experience and practice creating coherent narrative arcs from often seemingly unrelated, even disconnected events and scenes. In other words, collaborative storytelling provides a space in which we practice injecting meaning into the stories that we tell without having full control of the narrative. Further study into whether experienced role-players are better able to extend this practice also to their "real lives" would be very interesting.

4.5.2 Identification and Memory

In media studies, the concept of *identification* describes instances when an audience member identifies so strongly with a fictional character that they are able to take on a first-person perspective for that character (Oatley 1999). While studying fans of the TV series *Game of Thrones*, researchers found significant neural overlap between when the subjects were accessing information about themselves and when they were accessing information about fictional characters (Broom et al. 2021). They also found that this overlap varied based on how close the subjects reported feeling to the fictional character. The stronger that the subjects felt that they shared traits with the character and the closer they felt to the character, the stronger the neural overlap:

> These results suggest that identification with fictional characters leads people to incorporate these characters into their self-concept: the greater the immersion into experiences of "becoming" characters, the more accessing knowledge about characters resembles accessing knowledge about the self. (Broom et al. 2021, 541)

This strong neural overlap becomes fascinating with regards to role-playing. If simply watching a character on screen has the potential to alter an individual's sense of self significantly, even temporarily, what then can one expect the effects of role-playing said character to be? In particular, the neural overlap brings to the forefront the question of the transformative potential of the embodied experience of live action role-playing games (larp), where "becoming" (as Broom et al. 2021 put it) the fictional character is a central part of the experience itself. Further research is needed into whether a similar neural overlap can be observed with regards to role-players and their characters.

4.5.3 Acting and Role-Playing

In what was reportedly the first neuroimaging study of dramatic enactment, researchers found that portraying a character led to both reduction and even deactivation in specific areas of the brain (Brown et al. 2019). The actors followed the *Stanislavski method* of acting, a technique that shares many similarities with several role-playing traditions, especially live action role-playing traditions that favor immersion, realism, and socio-realistic (and often heavy) themes (Pohjola 2004; Chaos League 2022; Nordic Larp Wiki 2022).

Notably, the actors were not performing a written text during the testing, but were rather asked to answer questions about themselves while in character in a *hot seat* (Stark 2013) fashion. In other words, they were not acting, but rather role-playing during the testing. The difference might seem slight, and there is clearly some overlap between the two activities, but the distinction becomes important when considering real life impact.

This study suggests that acting, as a neurocognitive phenomenon, is a suppression of self-processing. The major increase in activation associated with role change was seen in the posterior part of the precuneus (Brown et al. 2019). Perhaps the most surprising finding of the study was that the British accent condition—during which the participants were instructed to maintain their self-identity while using the accent—showed a similar deactivation pattern vis-a-vis the self that acting did. This result suggests that gestural mimicry of even a completely unspecified other has an impact on brain areas involved in self-processing (Brown et al. 2019, 14).

The theory Brown et al. (2019) posited as a result of their study was that embodying a character leads to a certain "loss of self," in which areas of the brain related to self-processing either see less activity or are deactivated. If we were to apply self-presentation theory (Goffman 1959) to these findings, we could expect to see a similar decrease and deactivation when an individual is performing a social role that is not central to their self-concept, and the opposite when performing a social role that is close to or even a core part of their self-concept. With regards to role-playing, we would call the first example an instance of playing *far from home* and the second *close to home*. These two terms are widely used among role-players, and there are some general ideas of how playing close to home can, among other things, increase the chance of bleed (Jeepen 2007; Bowman 2013). This area has great potential for further study; for example, the method used by Brown et al. (2019) could be applied to role-players and a study could be conducted along an axis of *far from* or *close to home.*

4.5.4 Identity Bleed and Memory

With regards to memory, several possible connections arise regarding identity bleed. First, consider how Broom et al. (2021) found significant neural overlap when accessing memories about a fictional character and when accessing memories about oneself. As I discussed with regards to procedural bleed, a connection exists between that basic bleed component and the procedural part of long-term memory. Procedural memory is where we store physical traits, perceptual experience, and motor skills. Considering how strong the connection between an individual's physical attributes and their self-schemas are helps us understand the important part that an individual's perceived physical abilities play in how they construct their sense of self. If we then develop physical abilities through play, or if physical capacities that were unknown to us are revealed through play, our sense of self will subsequently be influenced by our experiences through the process of identity bleed.

It is also important to understand that experience and memory are not the same. While something we experience can create a memory, numerous ways exist in which the memory might not recount the whole experience or might not recount the experience as it happened. The theory of narrative identity concerns itself with this subjectivity of memory when it posits that we create life narratives: coherent stories about our lives and how the events we have experienced have made us the people that we are today. The creation of a coherent story arc from often disjointed and random experiences is something that role-players engage with frequently in play.

When players experience that they are able to embody traits in-character they were unaware of possessing or can react to challenges in ways that they did not think themselves able, these experiences can inform how they consider their own capacities outside of play. Consider a player who experiences that they are resilient in the face of adversity in-character, who then is able to incorporate that resilience into their sense of self through identity bleed post-game. When the player believes themself to be resilient in the face of adversity, challenging experiences in their past can be examined in a new light. This process can have profound effects on an individual's sense of self; as mentioned above, individuals that are able to create a narrative arc of redemption about the adversities faced in life tend to enjoy higher levels of mental health, well-being, and maturity (McAdams and McLean 2013).

5. LIMITATIONS

This is a theoretical work that is based on previous theoretical work. While the paper contains connections that have not been suggested previously and structures previous findings in relation to each other, no new data was gathered as part of this work. This practice is intentional, since the aim of the paper is to create a theoretical framework for future research and testing.

6. CONCLUSION

The ways in which people create a sense of self have been described in different fields, ranging from psychology to neuroscience. Role-playing games often experiment with the different parts of identity about which these fields have established theories, but direct theoretical connections between role-playing concepts and topics in these fields are so far few. The role-playing term bleed is an example of a term used both colloquially and in academic discourse that lacks the mentioned connection to other fields. The use of the term also suffers from a lack of specificity and the fact that the different suggested types of bleed have not been structured in relation to each other.

The presented conceptual model on bleed, with the concept of the bleed perception threshold and the introduction of the higher bleed complex of identity bleed, forms a theoretical framework around how these processes can lead to changes in a player's sense of self. With this conceptual model as a foundation, further research into how bleed affects players might hopefully be conducted with greater ease.

This paper has suggested potential connections between the role-playing concept of bleed and Erikson's theory on stages of social development (Erikson 1950); Marcia's theory of identity achievement (Marcia 1966); Jung's theory of self and the process of individuation (Jung 1976); the idea of self-concept and self-schemas following Piaget's theory of cognitive development (Piaget 1972); Stryker's identity theory (Stryker 1968); self-presentation theory (Goffman 1959); and neuroscientific studies on memory construction, processing, and recollection (Klein and Nichols 2012; Brown et al. 2019; Broom et al. 2021).

For game designers who wish to create games that facilitate the transformation of the player's sense of self, understanding the connections between bleed and identity is crucial. Future work that maps out the practical ways in which the aims of the game design can be achieved would be of value.

For future academic work, the following list contains suggestions for research approaches that could apply and test the model:

- How people through play experience parts of themselves that are underexplored in connection to identity achievement (Marcia 1966), identity verification (Stets and Serpe 2013), and self-presentation theory (Goffman 1959);
- How role-players compare with non-players with regards to ability to construct redemptive life stories, e.g., positive narrative identities (McAdams 2011; McAdams and McLean 2013);
- The neurological difference/similarity between the "becoming" of identification (Oatley 1989) and the "becoming" of character (Broom et al. 2021), with a particular focus on long-term memory (Klein and Nicols 2012);
- *The Bleed Intensity Scale.* Is there a way to measure the subjective experience of bleed with relation to the bleed perception threshold? Which factors can affect the experienced intensity?; and
- The neurological differences/similarities between actors and role-players (Brown et al. 2019). Can the activation/deactivation observed in previous studies correlate with alibi (Deterding 2017)?

This list contains just a few examples of many potential directions in which one could conduct future research. As with any field that concerns itself with trying to understand the human experience, the potential for research around the phenomenon of bleed is quite extensive. I personally want to deepen my own research into factors that influence bleed intensity and the bleed perception threshold.

REFERENCES

Anderson, Ane Marie, and Katrine Jacobsen Meland. 2020. "Bleed as a Skill." In *What Do We Do When We Play?* Solmukohta 2020, edited by edited by Eleanor Saitta, Johanna Koljonen, Jukka Särkijärvi, Anne Serup Grove, Pauliina Männistö, and Mia Makkonen. Helsinki: Solmukohta.

Back, Jon, Elena Marquez Segura, and Annika Waern. 2017. "Designing for Transformative Play." *ACM Transactions on Computer-Human Interaction* 24, no. 3: 1-28.

Baird, Josephine. 2021. "Role-playing the Self: Trans Self-Expression, Exploration, and Embodiment in (Live Action) Role-playing Games." *International Journal of Role-Playing* 11.

Baird, Josephine, Sarah Lynne Bowman, and Kjell Hedgard Hugaas. 2022. "Liminal Intimacy: Role-playing Games as Catalysts for Interpersonal Growth and Relating." In The Magic of Games, edited by Nikolaus Koenig, Natalie Denk, Alexander Pfeiffer, and Thomas Wernbacher, 169-171. Edition Donau-Universität Krems.

Beltrán, Whitney "Strix." 2012. "Yearning for the Hero Within: Live Action Role-Playing as Engagement with Mythical Archetypes." In *Wyrd Con Companion Book 2012*, edited by Sarah Lynne Bowman and Aaron Vanek, 89-96. Los Angeles, CA: Wyrd Con, 2012.

———. 2013. "Shadow Work: A Jungian Perspective on the Underside of Live Action Role-Play in the United States." In *Wyrd Con Companion Book 2013*, edited by Sarah Lynne Bowman and Aaron Vanek, 94-101. Los Angeles, CA: Wyrd Con, 2013.

———. 2021. "Everything is the Self: Designing Character Ensembles for Player Catharsis." Transformative Play Initiative. YouTube, July 16.

Blumer, Herbert. 1969. *Symbolic interactionism: Perspective and methods.* Englewood Cliffs, NJ: Prentice Hall.

Boccamazzo, Raffael et al. 2018. "Am I Really Playing a Role? Identity Exploration in RPGs." YouTube, September 13.

Boss, Emily. C. 2007. "Romance and Gender in Role-playing Games: Too Hot to Handle?" Presentation at Ropecon 2007. Helsinki, Finland. Black and Green Games. http://www.blackgreengames.com/s/Romance-in-RPGs-ECBoss-Ropecon-2007.pdf

Bowman, Sarah Lynne. 2010. *The Functions of Role-playing Games: How Participants Create Community, Solve Problems, and Explore Identity.* Jefferson, NC: McFarland & Company, Inc.

———. 2012. "Jungian Theory and Role-playing Immersion." In *Immersive Gameplay: Essays on Participatory Media and Role-Playing*, edited by Evan Torner and William J. White, 31-51. Jefferson, NC: McFarland & Company, Inc.

———. 2013. "Social Conflict in Role-playing Communities: An Exploratory Qualitative Study." *International Journal of Role-Playing* 4: 17-18.

———. 2015. "Bleed: The Spillover Between Player and Character." Nordiclarp.org, March 2.

———. 2017. "Active Imagination, Individuation, and Role-playing Narratives." *Tríade: Revista de Comunicação, Cultura e Midia* 5, no. 9: 158-173.

———. 2022. "Bleed." Encyclopedia of Ludic Terms. Eotl.org.

———. 2024. "Finding the Self in Role-playing Games: Weaving Myth, Narrative, and Identity." *Media Practice and Education* (March 2).

Bowman, Sarah Lynne, and Kjell Hedgard Hugaas. 2019. "Transformative Role-play: Design, Implementation, and Integration." Nordiclarp.org, December 10.

———. 2021. "Magic is Real: How Role-playing Can Transform Our Identities, Our Communities, and Our Lives." In *Book of Magic: Vibrant Fragments of Larp Practices*, edited by Kari Kvittingen Djukastein, Marcus Irgens, Nadja Lipsyc, and Lars Kristian Løveng Sunde, 52-74. Oslo, Norway: Knutepunkt, 2021.

Britannica, The Editors of Encyclopaedia. 2023. "Defense Mechanism." Britannica, November 15.

Broom, Timothy W., Robert S. Chavez, and Dylan D. Wagner. "Becoming the King in the North: Identification with Fictional Characters is Associated with Greater Self–Other Neural Overlap." *Social Cognitive and Affective Neuroscience* 16, no. 6 (June 2021): 541–551. https://doi.org/10.1093/scan/nsab021

Brown, Steven, Peter Cockett and Yuan Ye. 2019. "The Neuroscience of Romeo and Juliet: an fMRI Study of Acting." *Royal Society Open Publishing* (March 13). https://doi.org/10.1098/rsos.181908

Burke, Peter J. and Jan E. Stets. 2009. *Identity Theory*. New York: Oxford University Press.

Chaos League. 2016. "Southern Way Manifesto." Chaosleague.org, April 25.

Dawkins, Richard. 1976. *The Selfish Gene.* New York: Oxford University Press.

Deterding, Sebastian. 2018. "Alibis for Adult Play: A Goffmanian Account of Escaping Embarrassment in Adult Play." *Games and Culture* 13, no. 3: 260–279.

Diakolambrianou, Elektra, and Sarah Lynne Bowman. 2023. "Dual Consciousness: What Psychology and Counseling Theories Can Teach and Learn Regarding Identity and the Role-Playing Game Experience." *Journal of Roleplaying Studies and STEAM* 2, no. 2: 5-37. https://digitalcommons.njit.edu/jrpssteam/vol2/iss2/4

Durrant, J. D. and J.H. Lovrinic. 1984. *Bases of Hearing Sciences*. Second Edition. United States of America: Williams & Wilkins.

Erikson, Erik. H. 1950. *Childhood and Society*. New York: Norton & Co.

Freud, Anna. 1936. *The Ego and the Mechanisms of Defence*. London: Hogarth Press and Institute of Psycho-Analysis.

Freud, Sigmund/Hubback, C. J. M. 1922. *Beyond the Pleasure Principle.* London,Vienna: The International Psycho-Analytical Press.

Goffman, Erving. 1959. *The Presentation of Self in Everyday Life*. New York: Anchor Books

———. 1986. *Frame Analysis: An Essay on the Organization of Experience*. Boston, MA: Northeastern University Press

Hansen, Jost L. and Kjell Hedgard Hugaas. 2017. "To Bleed or Not to Bleed." Workshop at *Knutepunkt Norway 2017*, February 24.

Harder, Sanne. 2018. "Larp Crush: The What, When and How." Nordiclarp.org, March 28.

Hardy, J.D., H.G. Wolff, and H. Goodell. 1940. "Studies on Pain: A New Method for Measuring Pain Threshold: Observations on Spatial Summation of Pain." *The Journal of Clinical Investigation* 19, no. 4: 649-57.

Henrich, Sören, and Rachel Worthington. 2021. "Let Your Clients Fight Dragons: A Rapid Evidence Assessment Regarding the Therapeutic Utility of 'Dungeons & Dragons'." *Journal of Creativity in Mental Health* 18, no. 3: 1-19. https://doi.org/10.1080/15401383.2021.1987367

Hugaas, Kjell Hedgard. 2019a. "Investigating Types of Bleed in Larp: Emotional, Procedural, and Memetic." Nordiclarp.org, January 25

———. 2019b. "Memetic Bleed: A Tool for Societal and Political Change." Presentation at Knudepunkt 2019, Vejen, Denmark, February 10, 2019.

———. 2022. "Practicing Dying: How Role-playing Games Can Help Us Accept Death and Boost Our Quality of Life." In *Fictional Practices of Spirituality I: Interactive Media*, edited by Felix Schniz and Leonardo Marcato, 137-160. Bielefeld, Germany: Transcript Verlag.

Hugaas, Kjell Hedgard, and Sarah Lynne Bowman. 2019. "The Butterfly Effect Manifesto." Nordiclarp.org, August 20.

Illeris, Knud. 2004. "Transformative Learning in the Perspective of a Comprehensive Learning Theory." Journal of Transformative Education 2, no. 2: 79-89. https://doi.org/10.1177/1541344603262315

James, William. 1890. *The Principles of Psychology, Vol. 1.* Henry Holt and Co.

Jeepen. 2007. "Bleed." Vi åker jeep—the home of Jeepform.

Jhangiani, Rajiv, Hammond Tarry, and Charles Stangor. 2022. *Principles of Social Psychology.* 1st international H5P ed. BCcampus.

Jung, Carl G. 1976. *The Portable Jung.* Ed. Joseph Campbell. Trans. R.C.F. Hull. New York: Penguin Random House.

Kemper, Jonaya. 2017. "The Battle of Primrose Park: Playing for Emancipatory Bleed in Fortune & Felicity." Nordiclarp.org, June 21.

———. 2020. "Wyrding the Self." In *What Do We Do When We Play?*, edited by Eleanor Saitta, Mia Makkonen, Pauliina Männistö, Anne Serup Grove, and Johanna Koljonen. Helsinki, Finland: Solmukohta.

Klein, Stanley B., and Shaun Nichols. 2012. "Memory and the Sense of Personal Identity." *Mind* 121, No. 483 (July 2012): 677-702.

Kuhn, Mandford H. 1964. "Major Trends in Symbolic Interaction Theory in the Past Twenty Five Years." *The Sociological Quarterly 5*: 61–84.

Lankoski, Petri, and Simo Järvelä. 2012. "An Embodied Cognition Approach for Understanding Role-playing." *International Journal of Role-Playing* 3: 18-32.

Lasley, Joe. 2020. "An Examination of Gaming Environments in Dungeons and Dragons Groups." PhD diss., University of San Diego Digital USD.

Laycock, Joseph P. 2015. *Dangerous Games: What the Moral Panic over Role-Playing Games Says about Play, Religion, and Imagined Worlds.* University of California Press.

Leonard, Diana J., and Tessa Thurman. 2018. "Bleed-out on the Brain: The Neuroscience of Character-to-Player." *International Journal of Role-Playing* 9: 9-15.

Locke, John. 1694. *An Essay Concerning Human Understanding.*

Loh, Magdalene. 2021. "Career Design through Serious Play." Transformative Play Initiative. YouTube, 2021.

Marcia, James E. 1966. "Development and Validation of Ego-identity Status." *Journal of Personality and Social Psychology* 3, no. 5: 551–558.

McAdams, Dan P. 2011. "Narrative Identity." In *Handbook of Identity Theory and Research*, edited by Seth J. Schwartz, Koen Luyckx, and Vivian L. Vignoles, 99-115. New York: Springer.

McAdams, Dan P., and Kate C. McLean. 2013. "Narrative Identity." *Current Directions in Psychological Science* 22, no. 3: 233-238.

Montola, Markus. 2010. "The Positive Negative Experience in Extreme Role-playing." In *Proceedings of DiGRA Nordic 2010: Experiencing Games: Games, Play, and Players.* Stockholm, Sweden, August 16.

Moriarity, Joan. 2019. "How My Role-playing Game Character Showed Me I Could be a Woman." Washington Post, October 14.

Müller, Maya. 2011. "From Subculture to Mainstream." In *Think Larp: Academic Writings from KP2011*, edited by Thomas Duus Henriksen, Christian Bierlich, Kasper Friis Hansen, and Valdemar Kølle, 30-51. Copenhagen, Denmark: Rollespilsakademiet.

Nordic Larp Wiki. 2024. "Main Page." Nordiclarp.org/wiki, April 25.

Oatley, K. 1999. "Meetings of Minds: Dialogue, Sympathy, and Identification, in Reading Fiction." *Poetics* 26, no. 5-6: 439-454.

Paisley, Erik Winther. 2016. "Play the Gay Away: Confessions of a Queer Larper." In *Larp Politics: Systems, Theory, and Gender in Action*, edited by Kaisa Kangas, Mika Loponen, and Jukka Särkijärvi, 170-177. Helsinki, Finland: Solmukohta 2016, Ropecon ry.

Palmquist, Stephen.1993. *Kant's System of Perspectives: An Architectonic Interpretation of the Critical Philosophy.* Lanham, MD: University Press of America

Pedersen, Troels Ken. 2017. "Tears and the New Norm." Nordiclarp.org, February 13.

Piaget, Jean. 1972. *The Psychology of Intelligence*. Totowa, NJ: Littlefield.

Pohjola, Mike. 2004. "Autonomous Identities: Immersion as a Tool for Exploring, Empowering, and Emancipating Identities." In *Beyond Role and Play*, edited by Markus Montola and Jaakko Stenros, 81-96. Ropecon ry.

Ribáry, Gergő, László Lajtai, Zsolt Demetrovics, and Aniko Maraz. 2017. "Multiplicity: An Explorative Interview Study on Personal Experiences of People with Multiple Selves." *Frontiers in Psychology* 8 (Jun 13).

Roccas, Sonia, and Marilynn B. Brewer. 2002. "Social Identity Complexity." *Personality and Social Psychology Review* 6, no. 2: 88-106

Sidhu, Premeet and Marcus Carter. 2021. "Pivotal Play: Rethinking Meaningful Play in Games Through Death in Dungeons & Dragons." *Games and Culture* 16, no. 8.

Stark, Lizzie. 2012. *Leaving Mundania*. Chicago, IL: Chicago Review Press.

———. 2013. "How to Plan a Basic Pre-Larp Workshop." Leaving Mundania, November 21.

Stets, Jan E., and Peter J. Burke. 2000. "Identity Theory and Social Identity Theory." *Social Psychology Quarterly* 63, no. 3: 224-237.

Stets, Jan E., and Richard T. Serpe. 2013. "Chapter 2: Identity Theory." In *Handbook of Social Psychology*, edited by John DeLamater and Amanda Ward, 31-60. Springer.

Stryker, Sheldon. 1968. "Identity Salience and Role Performance: The Relevance of Symbolic Interaction Theory for Family Research." *Journal of Marriage and Family* 30, no. 4 (November): 558-564.

Tajfel, Henry, and John Turner. 1979. "An Integrative Theory of Inter-group Conflict." In *The Social Psychology of Inter-group Relations*, edited by William G. Austin and Stephen Worchel, 33-47. Monterey, CA: Brooks/Cole.

Toft, Ida, and Sabine Harrer. 2020. "Design Bleed: A Standpoint Methodology for Game Design." In *Proceedings from DiGRA '20 – Proceedings of the 2020 DiGRA International Conference: Play Everywhere*: 1-18.

Waern, Annika. 2010. "'I'm in Love With Someone That Doesn't Exist!!' Bleed in the Context of a Computer Game." In *Proceedings of DiGRA Nordic 2010: Experiencing Games: Games, Play, and Players.* Stockholm, Sweden, August 16.

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