

# Video Games as a Catalyst for Empathy and Perspective Taking

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## ABSTRACT

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Video games today are an expanding their reach into greater popular acceptance and are broadening the diversity of content, and despite relative youth compared to more mature expressive mediums like literature and film, people are critically analyzing games and trying to hold games as an entire medium to a higher standard of quality. In particular many people are calling for more development of and championing existing games that address meaningful topics, like global conflict, mental illness, and complexity of relationships, that elevate games to become more culturally meaningful and reflective of human truths. In particular, empathy in games and as a result of games is a growing area of research.

This thesis addresses how games can elicit empathy and explores the interplay of intractable conflict, empathy, and prejudice, generally, and through an experiment with a strategy game, *PeaceMaker*, about the Israeli-Palestinian conflict. The thesis concludes with a culmination of what the findings of this research and recommendations for the industry to create more impactful games.

# Video Games as a Catalyst for Empathy and Perspective Taking

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## Chapter 1: Discussion of Role of Games in Society

Video games today are an expanding their reach into greater popular acceptance and are broadening the diversity of content, and despite relative youth compared to more mature expressive mediums like literature and film, people are critically analyzing games and trying to hold games as an entire medium to a higher standard of quality. The history of games and its players is an interesting and lengthy subject in its own right, but it is not the focus of this thesis. Rather, this thesis looks at how games affect players, with a focus on how they can better players such they walk away from play as a more educated and empathetic person.

Some people do not believe that games are useful. Many people think that games are at best, a way to waste time and escape from reality or a child's toy. Naturally, this is true of some games, but not of all games. At worst, people think that games are the corruptor of youth and encourage violence, especially in easily-impressionable individuals. Older members of society have always pointed to new media as dangerous and corrupting, whether it is jazz music, comic books, movies, or any immature medium, people fear the potentially deleterious effects of this media on impressionable youth. Even Plato was wary of the effect of plays and poetry on youth and argued that children could not distinguish fact from fiction and thought the world would be better if these media were banned (Ferguson). Subsequently society, via the government or the media industry, tries to restrict expression in these new media. For example, the Hays Code didn't allow depictions of violence, liquor, interracial relationships, illegal activities, immoral activities, nudity, or even lustful kissing. As a result, the medium was robbed of realistic depictions of simple things in life like a married couple sleeping in one bed, instead showing two twin beds in their shared bedroom. Over time of course, censorship diminished, as it does in every medium.

But, fears of media corrupting of youth are not entirely unfounded. Media does posit models to its consumers about how the world works. Media is expressive. And children learn about society and values from media as well as their own experiences. Media can therefore be used to support or oppose norms of stereotypes, prejudice, violence, and compassion. Malcolm X said, “The media's the most powerful entity on earth. They have the power to make the innocent guilty and to make the guilty innocent, and that's power. Because they control the minds of the masses.” This has a great deal of truth, especially for younger people who haven't had enough life experiences to base all of their assumptions about how the world works in their own personal experiences, and therefore must rely on media and their community to offer context.

That is why people care so much about diversity of representation in media – because media serves as a suggestive template for how people should be able to live their lives and operate in society. When people don't see their own identity in media often, or only see themselves portrayed negatively, the effect over time is alienating at best, and can approach gas-lighting at worst. Games have suffered from an excess of hypermasculine white male protagonists for many years because that was assumed to be the desired power fantasy perspective of the majority of the game market. After the digitization of game distribution, character and content diversity increased as indie developers became fiscally viable for the first time. The capital risks of publishing games decreased and allowed developers to take risks and stray from the tried and true story, character, and theme templates that had become the norm. Although the trends were moving in this direction of greater inclusivity and representation, Gamergate appeared to be a moment that called the industry to action to design characters more equitably (i.e. reduced oversexualization of female characters) and offer diversified

representation of many identities, as shown in the variety of heroes one can play as in Overwatch.

Beyond the obvious boon of increased immersion and player enjoyment due to increasing ease of player identification with characters, the pedagogical nature of games also means that frequently practiced behaviors in games develop frequently activated neural pathways that make the practiced behavior easily accessible. This is where fears about children learning aggression from video games arise. Research has shown that exposure to aggressive media results in aggressive thoughts (cognitions) and that most people are physiologically aroused (i.e. increased heart rate) by the exposure. This activation of aggressive cognitions and subsequent pleasure response from rewards the player receives for performing aggressive actions are feared to teach aggressive behavior as a personality trait through frequent activation and reward feedback loops (Allen, et.al.). Humans learn to modulate their behavior to receive reward scenarios from a young age. For example, if you cried as a baby, you received attention from your parents. So, when you learned to cry when you wanted attention. Similarly, you learn that you get condescending looks when you act silly in public, resulting in your reduction of that behavior. These are social scripts. We learn what types of behavior are and aren't socially acceptable. These social scripts modulate how we respond to stimuli. So, while many people fear and believe that aggression practiced in game scenarios teaches aggressive behavior as a personality trait activated in many real-world scenarios, this is not supported by the notion of social scripts. The scenarios in which violence is acted in games (i.e. walking around with guns) are rarely replicated in real-life, with the possible exception of military service people. While some games incentivize players to perform altruistic behavior like donate money to homeless people, which is

a transferable behavior that is socially acceptable in real-life. Regardless of which opinion is more accurate, these fears are not embedded in video games as a medium, but in their content.

Members of the industry are currently concerned about the content of games with respect to aggression, in terms of antisocial and prosocial behavior consequences in-game and in real life, immersion, in terms of how to increase player engagement through improvements and balances of narrative capabilities against limitations of gameplay mechanics, and empathy, in regards to how it can be used to increase engagement with story and characters, how it can be used as a mediating mechanism for aggressive cognitions, and how it can be more actively showcased as a style of play, in contrast to the traditional combination of logic or dexterity (Extra Credits).

## Chapter 2: Discussion and Definitions of Empathy

Empathy is a commonly referenced idea and a frequently cited panacea to the many of the most salient modern issues as well those simple interpersonal communication woes. While most people agree that it is a social good, there is a wide variety of debate on its potency, relevance to specific issues, and its exact meaning. Although it may seem that the concept of empathy has been around for ages, the term wasn't brought into focus until Robert Vischer coined the term *Einfühlung* in 1873 and Theodor Lipps developed the first scientific theory of *Einfühlung*, or “feeling into” in 1892. Lipps progressed the discussion of *Einfühlung* from how people experience inanimate objects to how people understood the mental states of others. He suggested that in observing another person, an “inner imitation” occurs in which an observer naturally mirrors the emotions perceived in the expression and movement of the observed. In 1909, *Einfühlung* was translated as Empathy by Edward Tichner (Montag, et.al). Since then, many researchers from a variety of disciplines such as philosophy, psychology, ethology, theology, and neuroscience have explored and further delineated ideas about empathy, blurring the exact definition of the term. While empathy has roots in the ideas of sympathy and understanding, the broadest delineations focus on how mental states of empathy differ based on whether the observer is feeling and/or knowing the mental state of the observed, how the observer is feeling and/or knowing (i.e. generally or specific to the observed), and whether the empathy is instinctive or conscious. Social psychologist, Daniel Batson, who writes extensively about altruism, delineated at least eight separate phenomena that are all referred to as “empathy” that will be unpacked next. These subtly different phenomena are not mutually exclusive and frequently occur in combination with each other.



The first empathic phenomenon he delineates is “knowing another person’s internal state, including his or her thoughts and feelings”. This is often referred to as *cognitive empathy* or *empathic accuracy*. Frequently, this phenomenon precedes the other phenomena because in order to mimic or project oneself into the observed’s inner state or situation more generally, the observer must know (or believe to know) the inner state of the observed. However, this understanding of the inner state of the observed can equally be realized from other phenomena discussed below wherein the observer mimics neural responses, replicates internal emotions intuitively, or imagines how the observed might feel based on knowledge of the scenario such that he or she comes to understand the observed’s inner state on a cognitive or affective level (Batson, 2009).

The second phenomenon is “adopting the posture or matching the neural responses of an observed other”. Typically, this is talked about as *facial empathy*, *motor mimicry*, *mimicked neural representations*, or simply *imitation*. In everyday circumstances this could be exemplified by a person involuntarily turning his or her face in disgust when he or she watches someone else eat something the observer finds disgusting or physically tensing when he or she watches a tightrope walker. Sometimes the mimicry is involuntary, while other times it is part of a learned social norm (i.e. nod, make small utterances to indicate understanding as a listener in conversation, and adjust facial expression to match speaker’s content and tone). This second phenomenon is most discussed in the field of neuroscience where there continues to be disagreement over whether the mimicked neural representation is automatic or not and whether it occurs with or without the observer’s awareness of the mirroring. Additionally, while some researchers believe that mimicry “serves a higher-order communicative function” in humans, mimicked neural representations also occur in primates. In 1992, Giacomo Rizzolatti and his

colleagues at the University of Parma in Italy showed that the same neural pathways in the premotor cortex of the parietal lobe fired when a monkey picked up food as when the monkey observed a researcher picking up food. Further the neural firing patterns differed in amplitude based on perceived intention (i.e. reach to grasp and eat vs. reach to grasp, but not eat). (Pollack). Such discoveries led to excitement about whether mirror neurons were responsible for higher-order behavior including empathy, complex social interactions, and language. Some researchers believe that by mimicking the neural firing patterns of the observed, the observer would come to feel as the observed does (third phenomenon) and know the observed's inner state (first phenomenon).

The third phenomenon is “coming to feel as another person feels”. This emotional or affective response is often interchangeably referred to as either empathy or sympathy, but has several more descriptive names such as, *shared physiology*, *emotional contagion*, *affective empathy*, *automatic emotional empathy*, or *rudimentary empathic distress reaction*. Notably, researchers in this area have said that in this phenomenon, the observer does not need to feel the exact same emotion as the observed, but only a similar emotion. However, it is still unclear as to how to determine if the emotion is similar enough. A famous study by Sagi Hoffman in 1976 showed that when newborn infants were played audio tapes of another infant crying, synthetic crying, or silence, that they cried the most when presented with the human cry. This was touted as evidence of a rudimentary empathetic distress reaction or innate matching the empathetic state of the other infant. However, it could equally be viewed as a competitive response to increase the likelihood of receiving resources (i.e. food or comfort) over the other infant (Batson, 2009). This again shows the divide over the motivation for empathic responses as well as whether or not these responses are automatic. In fact, this focus on one's own inner state can make it difficult to

transition to other-oriented feelings that can motivate the observer to help the observed. For instance, Batson discusses how he might notice as a plane passenger how other passengers become nervous during turbulence, and he too, would become nervous. He writes, “If I focus on my own nervousness, not theirs, I am likely to feel less for them, not more.” Nonetheless, the cognizance of such an inner state in oneself can serve as a crucial stepping-stone to understanding the inner state of the observed (first phenomenon).

The fourth phenomenon is “intuiting or projecting oneself into another’s situation”. Notably, this is a general projection, not specific to the individual observed. Imagine a person has a 25-year old friend named Molly who confides in you about losing her job. This phenomenon would have the person imagine what it is like to be a young woman who just lost her job, not what the person could predict Molly is feeling after losing her job given Molly’s personality, values, and life experiences. This is the phenomenon to which *Einfühlung* initially referred. Philosophers frequently describe this as *aesthetic projection* or *aesthetic empathy*.

The fifth phenomenon is “imagining how another is thinking and feeling” and is specific to the individual whose inner state is being intuited. It is often referred to as *projection*, *psychological empathy*, *perspective-taking*, or adopting an *empathetic attentional set*. Some researchers even view it as a specific form of perspective taking, referring to the phenomenon as an *imagine-other perspective*, in which “other” would refer to Molly based on the earlier example. *Theory-theory* proposes that individuals form intuitive theories throughout their lives that they revise based on their life experiences in order to understand the actions of others such that the individual can infer the intentions and predict future behavior of others. Proponents of *theory-theory* would assert that by using these intuitive theories of how others think, feel, and

behave, while adjusting based on knowledge of the specific observed, observers can successfully imagine the internal state of the observed (fifth phenomenon).

The sixth phenomenon is “imagining how one would think and feel in the other’s place”. This is similar to both the fourth (aesthetic projection) and fifth (imagine-other perspective) phenomena, but erases the emotional distance maintained by a distinct sense of self. It is often referred to as *role-taking*, *projective empathy*, *simulation*, *decentering*, *cognitive empathy*, *perspective-taking*, or as a more specific form of perspective-taking, adopting the *imagine-self perspective*. Proponents of *simulation theory*, which asserts that people anticipate how others feel, think, and react to behavior based on placing themselves within the general scenario and project their own mental state onto others, would argue that projecting oneself into the general situation of the observed (fourth phenomenon) or imagining what emotions one would feel if placed in the observed’s position (sixth phenomenon), the observer comes to feel as the observed does (third phenomenon) and can come to know the observed’s inner state (first phenomenon) by extrapolating from knowledge of his or her own mental state. This form of empathy is especially useful for observers attempting to empathize with an observed in a situation entirely unfamiliar to the observed. However, there is a risk of misinterpretation on the part of the observer if his or her own personal experiences are extremely divergent from those of the observed, rendering the observer’s inner state a poor proxy for understanding the inner state of the observed. Still, familiarity with the scenario of the observed (e.g. losing a job), could also inhibit other-oriented feelings as the recollection of the observer’s emotions might cause the observer to focus on his or her own emotions (e.g. anxiety, discomfort, and fear), rather than using his or her emotions as an emotional anchor from which to understand the observed and offer help (e.g. comfort and advice). In fact, familiarity with a scenario can induce personal distress at such a level that the

observer subconsciously attempts to distance themselves from the situation of the observed so as to avoid the feelings of personal distress that accompany the scenario and might induce negative other-oriented feelings, making the observer less likely to have a positive attitude regarding the observed than they would prior to the perspective-taking.

Batson and his colleagues performed several experiments that showed this anti-empathetic phenomenon of *defensive derogation*. In one of their experiments, they tested whether empathy inducement could induce positive attitude change toward stigmatized groups. In one of their experiments, they induced either high-empathy or low-empathy in subjects before having them listen to the experience of a person who had AIDs with either a story in which the victim was or was not responsible for the contraction of the disease. Afterwards, they measured the subjects' attitudes toward people with AIDs and found that high-empathy inducement prior to learning of victim-responsibility of AIDs contraction caused participants to have a better attitude towards AIDs victims than those who learned of responsibility before empathy inducement. Interestingly, this empathy inducement seemed to be generalized to the AIDs population as participants possibly perceived the AIDs victim with whom they empathized as a template for all people in that group. However, empathy-inducement did not work for people who felt too similar to the victim, but resulted in defensive derogation of the victim to help the subject maintain belief in a just world and place mental distance between themselves and the situation of the AIDs victim. The researchers explained,

...some of our female participants may have found it threatening to think about young women with AIDS just after imagining the feelings of a young woman who had contracted AIDS through unprotected sex. If they too had engaged in unprotected sex, then their own potential to get the disease may have been made salient, increasing the

personal threat and producing defensive distancing and derogation, thereby reducing empathy (Batson et al., 1997).

Belman and Flanagan also note this same phenomenon when discussing how perception of common ties by the observer (this time the player of a game) can humanize an unfamiliar or stigmatized group, making empathy more accessible. They postulate,

...a game depicting a close-knit family of undocumented Mexican immigrants to the United States might particularly resonate with players who value close family relationships. If I can relate to the immigrant family's values in one area, this may anchor a more holistic consideration and appreciation of their perspectives and experiences. In contrast, if the family's value system is portrayed in a way that makes it seem alien to my own, I may find it difficult to empathize even if I am willing to do so. (Belman and Flanagan).

Yet, defensive derogation can occur in the player who may become more insensitive to their plight if it hits too close to their own experiences. Belman and Flanagan explain, "if I belong to another immigrant group, I may resist identification with undocumented immigrants as a way of reaffirming my identity as a 'real American' (Belman and Flanagan). This sixth phenomenon and the potential for defensive derogation and prejudice will be explored more later as many games rely on perspective-taking for immersion and narrative purposes.

The seventh phenomenon is "feeling distress at witnessing another person's suffering". In this phenomenon, the observer feels distress (i.e. anxiety or discomfort) because it is uncomfortable to witness the observed is experiencing distress. This is distinct from experiencing distress for the observed person (eighth phenomenon) or experiencing distress that the observed is feeling (third phenomenon). This phenomenon has been referred to as *empathic*

*distress* and *personal distress*. In this scenario, the observer may be motivated to alleviate the distress of the observed for egoistic, rather than altruistic, reasons because the distress is uncomfortable to witness and the observer wants to relieve his or her own empathic distress. Consequently, an observer's empathic distress does not increase the likelihood of that person helping the observed if there is a way for the observer to alleviate his or her own distress without having to alleviate the distress of the observed (Batson, 2009).

The eighth phenomenon is “feeling for another person who is suffering”. This is an other-oriented emotional response because the emotion is prompted by and is in-line with the perceived well-being of the observed. It varyingly been referred to as *empathic concern*, *pity*, *compassion*, *reactive empathy*, *sympathetic distress*, or *sympathy*. This phenomenon is the most popularly cited (of the eight phenomena) as the catalyst for an observer to respond to the distress of the observed with sensitive care and altruism. Frequently, one of other seven phenomena precedes the eighth phenomenon. For example, for the observed to feel for the suffering observer, the observed must at least be cognitively or affectively aware of the suffering either by knowing the internal state of the observed (first phenomenon) or by feeling as the observed feels (third phenomenon). Reaching the first or third phenomenon may also be preceded by any of the other phenomena that involve mimicry and projection. However, these other phenomena can directly result in a sensitive response to the observed from the observer without the intermediation of the eighth phenomenon.

The sixth and eight phenomena, “imagining how one would think and feel in the other's place” and “feeling for another person who is suffering” respectively, are the most relevant forms of empathy for a discussion of catalyzing player empathy via games. As a player, you have an in-game character whose perspective you take to play the game, and depending on the degree

to which you consider the backstory and values of the character or supplant those with your own, you take a perspective that is at the very least, slightly different than your own while you play. The player cannot maintain a purely *imagine-other perspective* because he or she must react to events in game and therefore, such psychological distance cannot be maintained. Depending upon how immersed the player becomes in the game and particularly, in its narrative and gameplay, that psychological distance can temporarily become reduced to approximate or fully become an *imagine-self perspective* that was discussed as the sixth phenomenon. In terms of catalyzing practical empathy, by which I mean empathy that generally results in an increase in prosocial behavior, this perspective-taking through gameplay is ideal for just that – having someone walk in another person’s shoes, especially someone from a group that the player has had little interaction with in the past or about whom the player possesses unfounded prejudices. While games can catalyze emotional empathy and care for the welfare of another being, games can also present new experiences that a player could not experience in real life. These simulated experiences will rarely, if ever, be as intense as they would be in real life, but they can provide some insight into how other people experience the world. For instance, white players who have a black avatar could gain a better understanding of microaggressions from how they are treated by other players in-game. Or, if this is an intent of the game, the game could go further to ensure that the player experiences microaggressions in-game by having the game explicitly expose the player to relevant scenarios, rather than rely on a probability of encountering a racist player. Regardless of the intensity of the simulated experience, perspective-taking via gameplay can demonstrate the dissonance between one’s current world view based on limited information and the more complex reality of the situation realized upon deeper inspection. Players can find that this challenge to their pre-existing world view forces them to re-evaluate their mental model of



how the world works in order to create a new model that is coherent with both personal values and the data the player has acquired through a simulated experience about how the world works, at least according to the perspective of the game developers. This of course means that developers who try to make games that reflect real world interactions have a duty of care to their future players to attempt accuracy, or at least not intentionally create inaccuracy. There is a difference between artistic expression of one's own perspective and painting one's own perspective as objective fact. While this is less important in games that are not primarily intended to teach or persuade, persuasive games must be held to a higher standard of accuracy of portrayal. There is obviously a great deal of good that such games can do to increase awareness of different perspectives and experiences. However, such games can function as propaganda to spread misinformation and prejudice as has been seen throughout history in every single entertainment medium. Games are still a young medium, and it falls upon all people attached to the games community to support games that better humanity, not sow prejudice.

However, commercially successful games already utilize the sixth empathic phenomenon, "feeling for another person who is suffering" by writing characters that we, the players, come to care about deeply as we spend more time with them in the game and feel reactive empathy for when their welfare is in jeopardy. Games do this via non-playable characters (NPCs) with whom the player interacts more easily than games can elicit empathy for the character the player acts as in game. This is because it is difficult to characterize a character such that the player feels for them without disrupting the immersion of the player, however situations can arise such that players feel parallel empathy (feeling as the character does) as the player both cares about the character's welfare and is currently taking that character's perspective. However, there are many beloved NPCs across countless games. But often the most

resonant NPCs are companions to the player. These characters can take many forms like the old friend, the comrade, the romantic interest, and most powerfully, the child figure. This makes sense because games that are most memorable affect the player emotionally or are mind-bendingly unique. The greater a player's emotional investment in the welfare of the characters in the game, the greater the pain and joy a player can experience as a game's story unfolds. The sixth empathic phenomenon is grounded in the player's care for the welfare of the NPC. Naturally, those who need the most help, like children, easily elicit concern for their welfare from others and result in others sensitive care and altruistic behavior towards this child figure. The parental-child relationship elicits an even stronger concern for the welfare of the child because the parent figure takes on a duty of care, and in games the parent figure is often the only dependable protector. The relationship in games often grows to be codependent with the child figure learning from the parent figure, taking on some of their best and worst traits, and coming into their own such that they can better take care of themselves. All the while, the often-naïve child figure often acts as a moral compass and teach the parental figure to face their own repressed trauma and identity, forcing the parent figure to come to terms with regret and loss or change such that they are a person of whom the child figure is proud. Tragically, this relationship often ends in a parental sacrifice to protect the child figure. Despite the obvious path of this trope, it is still one of the most moving and timeless storylines because it taps into intrinsic human desires and motivations, much like the Hero's Journey described by Joseph Campbell.

Some of the most notable examples of this deep empathy for a companion character are demonstrated in the relationships between Ellie and Joel from *The Last of Us*, Clementine and Lee from *The Walking Dead*, Atreus and Kratos from *God of War IV*, and Elizabeth Comstock and Booker DeWitt from *Bioshock Infinite*. These characters are also particularly great because

these characters come to be self-sufficient in the game such that the player isn't distracted from the traditional gameplay like combat because he or she is worried that the companion character is in danger. Further, these characters become a helpful asset to the player as they can provide aid as the player requests (i.e. find money, ammunition, health, or help combat an enemy).

Mechanics of helplessness can frustrate players and despite good narrative, driving players to be anxious when the companion is around and to associate this anxiety with the companion character. These mechanically self-sufficient characters therefore aren't beloved because they are self-sufficient, but rather player judgement of character quality is unencumbered by poor or frustrating gameplay mechanics.

These child characters elicit care because they have yet to experience the often-cruel world they live in and serve as foils to the often-jaded nature of their parental figures, and frequently also serve as mirrors to the younger selves of both the parental figure and the players themselves. These companions are able to metaphorically fill a hole in the player character's heart, showing vulnerability from the child figure and the parent figure, but perhaps more poignantly, showing the resilience of humans working through and living with or even recovering from trauma together. It is no coincidence that two of the cited examples occur in apocalyptic worlds where humanity has turned against itself in the form of zombies. First of all, it is a massively popular setting. Secondly, the premise mostly absolves players from any feelings of guilt for killing zombie enemies, while allowing the players to fully enjoy the violent catharsis of gunplay mechanics and the often-subsequent power fantasy experienced by the player. But third, this apocalyptic setting offers many narrative opportunities to question the nature of humanity and to dive into the only worthy narrative subject according to William Faulkner, "the human heart in conflict with itself." In opening scene of *The Last of Us*, parental

figure Joel loses his biological daughter, Sarah, and helplessly tries to comfort her as she dies in his arms on the eve of the zombie virus outbreak. It's an emotionally gripping scene that brings a tear to most players' eyes and calls to mind the bond they have with their own parents or children. Later in the game, Joel is tasked with escorting a young girl of the same age, Ellie, to a resistance group outpost where she is hoped to be useful in creating a cure for the zombie virus as she is inexplicably immune. Ellie quickly becomes a surrogate daughter to Joel and a helpful companion with an endearingly spunky personality despite having suffered tremendous personal losses, much like Joel. Throughout the game, they come to love, trust, and depend on one another through physical and emotional hardship and trauma, and develop a parent-child relationship. In the end of the game, it is revealed that Ellie's help in creating a cure would come at the cost of her life. Joel makes a choice that seems to doom humanity, but saves Ellie's life. When Ellie confronts him about this, he lies so that she doesn't shoulder the burden of choosing whether to live her life or to martyr herself for the good of humanity. Like any parent, he shields her from the cruelty of life. While this game is played from the perspective of Joel, the player feels most connected to Ellie due to the duty of care and concern for her welfare that the game elicits from players. Similarly, *The Walking Dead* also starts as the zombie outbreak occurs and the player meets Lee, a former professor, who gets in a car accident after the driver runs into a zombie. He gets injured and has to run away from a horde of zombies into a seemingly abandoned house, where he meets Clementine, a sweet and helpful little girl whose parents are in another city at the time of the outbreak and don't seem likely to make it back to her anytime soon, if ever. He becomes her guardian and although he starts out as a friendly stranger, he comes to care for her as a daughter and she comes to see him as a father figure. He teaches her how to survive and she acts as his moral compass, but her naivete doesn't allow her to

understand that the terrible things he has done were truly necessary for their survival and she is duped by a person claiming to have her parents, who by this point are zombies unbeknownst to either Clementine or Lee. The person was an enemy of Lee and Clementine's bitterness over Lee's morally-gray actions cause her to not disclose her communications with this other person and when she tries to meet him, he uses her as bait so he can try to kill Lee. Although this person doesn't kill Lee, his actions and also Clementine's inadvertently put Lee in a position where he is bitten by a zombie, meaning he will become one. He asks Clementine to handcuff him to a radiator so he can't hurt her and gives her life advice before he either chooses to have Clementine shoot him before he turns into a zombie or have her leave him to die and then turn. Either way, it's heartbreaking and another poignant example of the parental sacrifice for the child, this time made more tragic by Clementine's indirect fault for putting him in the fatal situation.

In *God of War* and *Bioshock Infinite*, the parent-child relationship is based on blood relation and both games are sequels in their respective game franchises, unlike both *The Last of Us* and *The Walking Dead*. In *God of War*, the player meets or reacquaints themselves with Kratos as he is chopping down a large tree before his young son, Atreus, runs up with some kindling for the pyre they are building for their respective wife and mother, Faye, who has recently passed away. There is a good deal of tension as Kratos is secretive, distant and stoic, while Atreus is eager to please, yet insecure about his relationship with his father, Kratos. Atreus seems to have been primarily raised by his mother while Kratos was frequently off hunting. Therefore, the two don't have a familiar relationship dynamic. Atreus is very kind and empathetic in the way he thinks about the world and nature. He loves animals and has trouble dealing a mercy blow to a deer he shot with his arrow, causing Kratos to have to intervene in the

very exercise he set up for Atreus to prove he is ready for a grand trek to the highest mountain top in the realms from which Faye wanted her ashes spread. When Kratos determines that Atreus isn't ready yet, Atreus becomes angry and shouts about how he is ready, how tough he is, and how he hasn't been sick in a long time, followed shortly by a bout of coughing. In response to this coughing bout Kratos only becomes more adamant in his decision to not allow Atreus to go on this trek yet. While Atreus thinks this is because Kratos thinks he is weak and an unworthy son to the macho Kratos, it couldn't be farther in truth. This sickness is a manifestation in Atreus of the god rage power that Kratos has and utilized to destroy the entire Greek pantheon in previous games. Kratos regrets that he was unable to harness his rage for his own purposes, but instead let his rage consume him and consequently, cause havoc and destruction in his own life and the lives of countless others. Faye had wanted to be the primary parenting influence on Atreus, and Kratos didn't want Atreus to turn out like himself, so he let her do this happily. Yet, Atreus not knowing he was a god due to his father's status as a god, led to some sort of bodily-cognitive dissonance that manifested in sickness whenever he got too angry the way Kratos could become god-level angry. The story is complex, deeply emotional, and unfolds beautifully in such a way that early quips are put into an entirely different perspective after learning end-game secrets, one of which hints that Kratos will sacrifice himself to protect Atreus in the future, fulfilling the parental sacrifice trope. The game explores themes of identity as well as free will versus fate. However, at its core the game is about parenthood via Kratos coming to grips with his ugly past and recreating his own narrative so that he can be a present father to Atreus and guide him actively to be better than himself, rather than try to stay distant from the boy in the hopes that reducing his parental influence will also decrease the likelihood that his son will make the same sorts of mistakes he made in the past.

In *Bioshock Infinite*, the player immediately takes the perspective of a grizzled private investigator with both gambling and drinking problems, Booker DeWitt, who is hired to retrieve a girl, Elizabeth Comstock, from the floating city Columbia and bring her to New York in order to wipe away his debt. When he meets Elizabeth, she is a bubbly, witty, naïve, kind and awestruck young lady who behaves much like Belle from *Beauty and the Beast*. She had been locked in a tower for most of her life with only a mechanical bird for a companion, causing her to develop a fascination with anything relating to escape like lockpicking, codebreaking, and most notably, traveling to Paris. As you explore the world with her she is constantly in awe of the world around her and wants to experience everything she can. She serves as a strong contrast to Booker, who is less well-read, more jaded, and focused on his mission, not on experiencing life. As the story unfolds, the two develop a bond of camaraderie and Elizabeth assists Booker however she can, most frequently with her magical power to open tears to parallel dimensions, as this game is based on the many-worlds interpretation of quantum mechanics wherein many parallel worlds can exist as unique dimensions that exist in the same space and time. Through the course of the story, Elizabeth becomes less naïve as she realizes that people want to use her, and Booker becomes less focused on fulfilling his mission to get her to New York and cares more about protecting Elizabeth, especially from torture, abuse, and exploitation for the sake of fulfilling the prophecies of the megalomaniac, Zachary Hale Comstock. In a mind-bending interpretation of the many-world interpretation, it is realized that this man is not Elizabeth's real father, but he is her blood relation because Elizabeth was born in a different parallel world as Anna DeWitt, the daughter of the Booker DeWitt the character from whose perspective the player interacts. In the past, Booker was overcome with grief and guilt over his actions as a Pinkerton and a soldier at Wounded Knee and came to a creek to be baptized and try to get a

fresh start. In one timeline, Booker refuses the baptism because he believes there is no atonement possible for his sins and he becomes a private investigator with gambling and alcohol problems. In the other timeline, he takes the baptism and becomes Zachary Hale Comstock. Comstock goes on to support the development of the flying city of Columbia and founds a white-nationalist sort of party, called the Founders. His support and proximity to the parallel-dimension technology that allowed Columbia to float rendered him sterile, and as his influence as a religious prophet grew, he wanted an heir, but could not have one. So, he used this same technology to retrieve an heir from an alternate timeline in which he refused the baptism. A man offered the Booker DeWitt, who was a new father and recent widower with a gambling and alcohol problem, an exchange “give us the girl and wipe away the debt.” He accepted the money and gave up his daughter, Anna. But moments later, he changed his mind and ran after the man and wrestled through an inter-dimensional portal to try to retrieve his daughter, to no avail, but she reached out to him and as the portal closed, it severed the tip of her pinky finger which ended up giving her powers to open access to different dimensions as she already existed in two separate dimensions. In memory of what he lost, he carved her initials “AD” into his hand, creating a scar of that shape on his hand. After both Elizabeth and Booker realize their parent-child connection, Booker is happy that they are together now and that Comstock is dead, having paid for what he did to Elizabeth. But Elizabeth points out that only in these two dimensions is that the case, but in so many others, Comstock is still alive. Booker elects to kill the possibility of Comstock in all realities by going back in time and killing himself before he can choose to reject or accept the baptism. So, upon his request, Elizabeth takes him back to the creek where he made that choice and she and many other Elizabeths from other dimensions drown him under the baptism waters. It is all very mind-bending yet heartbreaking as his only way to make right what he did wrong to



his own daughter means sacrificing himself in all timelines, and the ending is unclear as to whether this also erases Elizabeth in all timelines or as was later revealed, that it erases all Elizabeths but the one the player meets in their playthrough. It feels like a Shakespearean tragedy where mistakes and violence are amplified, innocence dies, and the only resolution is death. Booker sacrifices all he can to make up for his mistakes and improve his daughter's life. Yet, it is not enough. The girlish and exuberant Elizabeth all the players fell in love with metaphorically dies in response to the trauma she endures and she becomes understandably vengeful, jaded, calculating, cold, and strongly independent. Although she still has empathy and cares deeply for helpless people like young children, she is singularly focused on exacting revenge against all Comstocks who evaded her father's self-sacrifice and still exist.

The emotional power of these sorts of narratives are amplified by the engagement and autonomy offered by games as a medium. The control of the main character by the player encourages perspective-taking and well written characters and stories elicit empathy and emotional investment in the game. This sixth empathetic phenomenon is the most cited empathetic phenomenon for eliciting a response in the observer of sensitive care and altruism. Perhaps playing more games that encourage empathy from the player for characters in the game can more frequently activate neural paths relating to sensitive care and altruistic behavior and in turn create a history of frequent activation of these prosocial neural paths that help create prosocial behavior scripts that might find some activation in similar real-life scenarios. If so, this would not only help practice prosocial skills, but would also drive immersion, which for developers is the goal. Perhaps games can even help reverse prejudices by eliciting empathy and increasing familiarity with other groups, such that players gain simulated experiences that can help them find and re-establish their opinions and prejudices. Likely, players might also realize

that people from other groups are more similar to themselves than they expected after getting to know them a bit, reflecting a simulated “contact hypothesis.”

## Chapter 3: Discussions of Prejudice and its Reversal through Empathy

Discussions of prejudice are incomplete without discussing stereotypes and frequently, the two terms are even used interchangeably. However, there are many theories as to the differences both in their development, difficulty to reverse, and their relationship with both the associated cognitive structures and resultant behavior. One theory, the “Tripartite Model of Attitudes” (or ABC Model of Attitudes), asserts that attitudes are a combinatory evaluation of affective assessments, behavior with respect to the object, and cognitive assessments of the object about which an attitude is being formed. Under this model, one’s emotions (e.g. I am scared of snakes), thoughts (e.g. I believe snakes are dangerous), and past and future behavior (e.g. I will avoid and run away from a snake if I see one) around the object come together to form one’s attitude towards the object. The strength of this attitude is largely mediated by both the degree of confidence one has in the knowledge in which the attitude is rooted and by the degree personal relevance or importance of the object of the attitude. So, an attitude formed from personal experience will be stronger than one formed through second-hand source information. Likewise, an attitude that is integral to conforming with a group identity or an in some way is very relevant to their lifestyle will be much stronger than less personally relevant attitudes (McLeod). Naturally, attitudes with greater strength also have greater impact on the holder’s behavior. Within this theory, the stereotype is part of the cognitive contribution to a prejudiced attitude (Devine).

Other theories make the claim that stereotypes are a post-facto internal explanation for a person’s prejudice toward a person or group. Similarly, many researchers ascribe to an “inevitability of prejudice” argument that asserts that as long as stereotypes exist, prejudice must as well. The idea is that ordinary categorization processes that all humans perform (and are

evolutionarily practical) are the same as those associated with stereotypes. And once stereotypes are learned, prejudice is inevitable. This theory has serious ramifications in that knowledge of stereotypes is embedded into societal and cultural heritage. Learning stereotypes is truly inevitable in any society, and it is arguably even more inevitable than ever in the interconnected modern era as common knowledge, as well as the ease of dispensing and accruing it, expands beyond what one might personally or vicariously experience and learn about locally to what occurs on a global stage. This also provides a greater opportunity for dispelling false notions and encouraging greater communication. But this is an area that will be discussed in greater depth later. Patricia Devine points out that the inevitability of prejudice argument fails to point out a distinction between knowledge of a stereotype and espousal of that stereotype. She goes on to explain, “Although they may have some overlapping features, it is argued that stereotypes and personal beliefs are conceptually distinct cognitive structures.” Beliefs, which are held to be truths, can diverge from both an individual’s cognitive and affective evaluations about an object, idea, or group. Devine goes on to perform experimental studies in which she differentiates automatic (mostly involuntary) and controlled (mostly voluntary) mental processes involved in stereotype and prejudice activation. She explains the relevance of this distinction very well, writing,

Automatic processes involve the unintentional or spontaneous activation of some well-learned set of associations or responses that have been developed through repeated activation in memory. They do not require conscious effort and appear to be initiated by the presence of stimulus cues in the environment. A crucial component of automatic processes is their inescapability; they occur despite deliberate attempts to bypass or ignore them. In contrast, controlled processes are intentional and require the active

attention of the individual. Controlled processes, although limited by capacity, are more flexible than automatic processes. Their intentionality and flexibility make them particularly useful for decision making, problem solving, and the initiation of new behaviors. Previous theoretical and empirical work on automatic and controlled processes suggests that they can operate independently of each other. For example, by using a semantic priming task, [J.H.] Neely demonstrated that when automatic processing would produce a response that conflicted with conscious expectancies (induced through experimenter instructions), subjects inhibited the automatic response and intention-ally replaced it with one consistent with their conscious expectancy.

This finding is very critical for the differentiation between knowledge of a stereotype and belief in a stereotype, otherwise known as prejudice. Neely discovered that subjects whose beliefs and knowledge of a stereotype were incongruent needed sufficient time and cognitive capacity in order to inhibit automatically activated responses (i.e. responses congruent with the well-entrenched stereotype knowledge) from occurring.

The deeply-entrenched nature of stereotypes is supported by “strong evidence that stereotypes are well established in children's memories before children develop the cognitive ability and flexibility to question or critically evaluate the stereotype's validity or acceptability” (Devine). She continues,

As a result, personal beliefs (i.e., decisions about the appropriateness of stereotypic ascriptions) are necessarily newer cognitive structures... stereotypes have a longer history of activation and are therefore likely to be more accessible than are personal beliefs. To the extent that an individual rejects the stereotype, he or she experiences a fundamental

conflict between the already established stereotype and the more recently established personal beliefs (Devine).

This fundamental conflict can also give some insight as to why it is not only difficult to form new beliefs that conflict with longer understood stereotypes, but also the difficulty of consistently behaving or more accurately, reacting to the world, in a way that is consistent with more newly held beliefs that don't have such a long history of activation as formerly believed stereotypes. As Devine puts it, "nonprejudiced responses require both the inhibition of the automatically activated stereotype and the intentional activation of nonprejudiced beliefs. This should not be surprising because an individual must overcome a lifetime of socialization experiences...the attitude and belief change process requires attention, intention, and time." In fact, research has suggested that declines in prejudice in school-aged children is associated with "increases in cognitive and sociocognitive skills concurrent with the transition from preoperational to concrete operational thought" (Doyle and Aboud). While children who had mastered conversation were found to be less prejudiced, this is not the only cognitive structure responsible for decreases in prejudice since many children still show prejudice by age 9, when most children have mastered conversation skills. Another cited structure is the ability to develop more complex classification structures such that the same trait (whether good or bad) can be attributed to multiple groups, suggesting an ability to see more nuances within intergroup differences and moral gray areas. Still, another cited structure is the ability to reconcile different perspectives, a central tenant of Piaget's often-cited cognitive development theory. In 1951, Piaget and Weil suggested that the development of perspective-taking skills would allow children to understand the perspective of other groups, and consequently display less prejudice toward members of those groups. Piaget noted that the children's understanding of nationality or

racial relationships was predicated upon their understanding of reciprocity (i.e. that other groups prefer members of their group to members of another group as much as the child prefers members of his or her ingroup) as well as reconciliation through an understanding that both of these scenarios were okay. This reconciliation is crucial because without it, the assumption could be reciprocal prejudice, wherein a child could assume that each group liked members of their own group and disliked members of other groups, without developing the distinction that preference is not a binary system of liking and disliking. This ability to reconcile two different racial perspectives tends to increase between ages 5 to 9 and correlates with social perspective taking (Doyle and Aboud). So, the complex cognitive structures responsible for stereotypes have at least a five-year head start, while also concurrently continuing to develop while structures associated with questioning stereotypes and developing personal beliefs are just developing. This further elucidates the degree of mental energy required to override engrained automatic stereotype activation. This degree of mental energy required could also serve to explain why many whose lives are not directly impacted by a stereotype are relatively apathetic or do not try (or are unable) to overcome automatically-activated stereotypical responses when reacting to a situation relevant to a stereotype despite holding beliefs that diverge from or even contradict the stereotype in question.

The way Devine explains this automatic processing of a stereotype is not that the presence of a symbol or a member of the stereotyped group triggers behavior consistent with the stereotype, but that the activation of the stereotype makes those stereotype-congruent attitudes more salient or easily-accessible in future processing. This notion is congruent with the idea of confirmation bias. Even when observers are not seeking to confirm a bias (assuming that they do not believe in the bias), they are knowledgeable of the bias and thus, will unconsciously interpret

behavior through the lens of this stereotypical bias. For instance, people observing children playing may think nothing much when they see a white boy push another child, but may consider a black boy to be a bully when he does the same due to the unconscious priming from the stereotype of the aggressive black man. In fact, it has been shown that stereotypes not only have an impact on the behavior perception by observers, but also on behavior acted while taking a different perspective. A study of the impact of racial representation on both player identification with the character and post-videogame play hostility found that “white players displayed more hostile thoughts when playing as a Black character than they did playing as a White character” (Eastin, et al.).

However, perspective-taking has been shown to improve attitudes toward members of a stereotyped or stigmatized outgroup when mediated by empathy. At the crux of prejudice, typically defined as negative attitudes held toward an outgroup, lies the maintenance of a psychological distance between the prejudiced person and the outgroup target of their prejudice. This psychological distance offers little motivation for the prejudiced person to attempt to understand the perspective of the person or group against whom they hold prejudiced beliefs. Reducing this distance, whether through cognitive or affective empathy, makes it more difficult to cling to stereotypes and prejudiced beliefs as one’s own personal beliefs or personal truths. Naturally, broader psychological distances are harder, but not impossible to narrow, as can be seen in intractable conflicts. Additionally, psychological distances that are created intentionally or as a protective defense-mechanism are especially difficult to narrow, as we can see in cases of defensive derogation in which the psychological distance is maintained because a prejudiced person feels endangered by their own similarity to the object of prejudice and fears being the recipient of similar treatment from others (Batson et al., 1997). In these cases, attempts to induce



empathy may actually increase psychological distance. It seems that in both cases of intractable conflict and defensive derogation, the psychological distance serves to protect the prejudice holder. In the case of intractable conflict, where both sides typically dehumanize the other and view their conflict as one for survival or moral righteousness, this distance makes it easier for people to treat their opponents in ways that normally would be incongruent with their self-perception, but are validated when their opponent is so psychologically distant that their actions are “less bad” or morally necessary for survival. However, these sorts of responses are the minority.

Broadly, reduction of prejudice appears to be done in two ways – the mitigation of prejudice response and the replacement of the cognitive structure (stereotype) underlying the prejudice response. Through affective empathy and cognitive empathy (i.e. perspective-taking), activation of prejudice can be mitigated, although stereotypes are still activated. This affective empathy can broadly be classified as reactive empathy (based in concern for another’s welfare) and parallel empathy (based in feeling as the other feels in a situation) (Stephan and Finlay). Reversal of stereotypes, which are more cognitive than affective, naturally takes more time to reverse through activation and practice of new knowledge patterns relating to the object of former stereotypes in question. As discussed earlier, simply having a cognitive belief about a stereotyped group does not mitigate the activation of a stereotype, even once a person no longer believes the stereotype to be true. Because the negative stereotype is so deeply-engrained and has a long history of activation that has become unconscious, the activation of new (negative stereotype incongruent) cognitions has to be intentionally and repeatedly practiced in tandem with the mitigation of old (negative stereotype congruent) cognitions and related prejudicial affects and behaviors (Devine).

There are many theories about exactly how perspective-taking and affective empathy can improve intergroup relations by reducing biases. Five mechanisms have been identified in research: 1) generalizing positive affects about a member of an outgroup to the entire outgroup, 2) caring more about the welfare of others, 3) arousing affects and perceptions of injustice relating to the treatment of members of an outgroup or outgroups, 4) adjusting how the observer thinks about members of the outgroup, and 5) inhibiting stereotype activation (Dovidio, et.al.)

The first three mechanics are related to affective or emotional empathy and the first two center around eliciting empathetic feelings of concern or sympathy for a member of an outgroup prior to hearing this person's experience. This elicitation can be done explicitly (e.g. by asking observers to imagine how the speaker is feeling and how their life has been affected by an event rather than focusing on maintaining an objective stance) or implicitly (e.g. by giving no direction or by priming the observer for empathy in a prior activity) (Batson, et.al, 1997; Stephan and Finlay; Dovidio, et. al.). When this empathy elicitation occurred first, observers focused on the feelings, rather than the situation of the outgroup members, even when they were responsible for their own position as an outgroup member (e.g. contracting AIDS through unprotected sex) (Batson et.al., 1997). However, if the outgroup status was the victim's fault and the observer learned that prior to empathy elicitation, it was significantly more difficult to arouse empathetic feelings toward the outgroup member. So, it appears that empathetic feelings have some inertia once aroused. In fact, arousal of empathetic feelings of concern for an outgroup member could be generalized to the entire outgroup, and sometimes even multiple outgroups. In these scenarios, outgroup members for whom observers felt empathetic concern were taken to be paragons of their entire outgroup, so these feelings of concern were transferred to the entire group. And in cases where the plights of one outgroup seemed similar to those of another outgroup (e.g. racism

toward African Americans and Latinx), transference of empathetic concern could occur across multiple outgroups. This ease of transference of empathic concern is more common when the empathic concern is elicited through perspective-taking or parallel empathy, wherein the observer does not only feel *for* the observed in his or her situation (i.e. compassion), but feels *as if* they were in the situation of the observed (i.e. parallel empathetic emotions). Generally, prejudice reduction reactions rooted in concern for the welfare of an individual were less transferable than those rooted in perceptions of injustice (Dovidio, et.al.) In this third mechanic, strong feelings of empathic anger or disgust in the face of discrimination and injustice, in contrast to empathic concern, seem to result in greater reduction of prejudice in the observer (likely because his or her implicit assumption that the world treated people justly and people received “what they deserved” was broken), were more easily transferrable to multiple outgroups, and were associated with greater motivation to engage in social activism to reduce the perceived injustices (Stephan and Finlay). It seems that the mediating empathic emotion varies depending on the situation and the response elicited from the observer. If bias towards an outgroup manifests as injustice, affects of anger, frustration, annoyance, or alarm can act as the mediator in the observer. For other bias manifestations such as avoidance of an outgroup member, eliciting empathic concern can act as the mediator in the observer. The fourth and fifth mechanic are more cognitive in nature than the prior three mechanics. The fourth mechanic involves reducing psychological distance and recategorizing members of various groups into one group with a shared humanity as a result of perspective-taking and taking the *imagine-self perspective*, as discussed in the prior chapter on empathy. This is thought to result in a “self-other merging” wherein the outgroup member becomes integrated into the observer’s self-representation, and therefore the observer feels more positively oriented towards the entire

outgroup as a result of this merging and the dilution of intergroup boundaries (Dovidio, et.al.). People tend to be more responsive to perceived injustice when it is applied to member of their ingroup than when it applies to members of an outgroup. This dilution of intergroup boundaries through perspective-taking is also a key feature of the fifth mechanic, wherein stereotype activation is often mitigated when observers are asked to take a perspective prior to making a judgement about an outgroup member, causing the observer to rely less on existing cognitions (i.e. stereotypes) relating to the outgroup and rely more on their intuitions based on an *imagine-self perspective* relating to this outgroup member's experience independent of their categorization as a member of the outgroup (i.e. decategorization).

While the evolutionary utility of stereotyping as a means of rapid processing is undeniable, we live in an increasingly polarized and prejudiced age in which the utility of stereotypes is frequently overshadowed by the antisocial consequences of applying false stereotypes. Inherently, a stereotype cannot be fully true because as more people are represented by a stereotype, it becomes less accurate in describing all of these unique people. With the spread of social media, access to information, both factual and false, is easier than ever. This makes it easier than ever to spread false information that gains virality due to the frequently exciting or threatening nature of its content. This viral spread of information continues to happen today and some people have responded by cushioning themselves within virtual echo chambers, wherein they are only exposed to ideas from their own ingroup. This lack of discourse only makes it harder to dilute intergroup boundaries and observe commonalities between groups, ideas, and individuals. It also makes it harder to learn which stereotypes are accurate and which are false. This paradoxically leads to increased ignorance despite increased availability of information. Frustrations by all misrepresented parties seems to only result in louder declarations, rather than

a consideration of the alternative ideas and discourse between parties. While conflict is far from novel, it does seem that the back and forth between parties is more frequently vitriolic than it was a few decades ago. Perhaps some of this is a result of structural mirroring. For example, in the United States, there are two main representative parties and if an issue of the day is to be championed for public display to the American people, it must either be placed as a Liberal/Democratic idea or a Conservative/Republican idea. There is little room for a middle ground. While perhaps even that is a function of the increased visibility of public, and increasingly even private, action. Regardless, many conflicts seem to be increasingly represented as being more binary, despite being quite complex in reality. These conflicts appear to be a zero-sum game, preying on tribal instincts to fall into camps of “us” versus “them.” Increasingly, modern conflicts appear intractable.

## Chapter 4: Deep Dive into Intractable Conflict

Intractable conflicts are characterized as violent, protracted, vitriolic, self-perpetuating, and exhausting zero-sum conflicts that are not only resistant to normal conflict resolution strategies like mediation, but are actually made worse by such strategies. They are perceived as irreconcilable and often, the parties involved have a vested interest in the conflict's continuation. The parties involved see the conflict as concerning needs or values that are critical to their survival and continued existence and the people within these conflicts are preoccupied with the conflict. Although these conflicts can occur at any level, from interpersonal to societal, and with varying intensities, they are best typified by the more extreme societal conflicts like the Israeli-Palestinian conflict and the Pro-Choice vs. Pro-Life debate. These conflicts frequently center around irreconcilable moral issues (good vs. evil), distribution of a scarce resource (ex. land), or hierarchy. Peter T. Coleman has described them as having, "an extensive past, a turbulent present, and a murky future."

Society members learn to cope with the stress of the conflict and the demanded behavior that might otherwise conflict with their own self-image through shared societal beliefs. The most successful of these shared beliefs tend to cluster around such themes as: 1) the justness of one's own goals, 2) security, 3) the adversary's de-legitimization, 4) positive self-image, 5) own victimization, 6) patriotism, 7) unity, and 8) one's own wish for peace (Bar-Tal). While it is common for societies or individuals to maintain a positive self-image as a justification for actions taken during a conflict, what is unique to intractable conflict is the absolute black-and-white perspective through which parties view the conflict in which their side is completely correct and their adversary is entirely wrong. This is complemented by a blind partisan loyalty to their position and an unwillingness, whether conscious or unconscious, to accept any information

that conflicts with their beliefs, with members often twisting any conflicting information to fit consistently within the narrative they espouse. Broadly, these beliefs serve to inform and motivate society members engaged in the conflict.

These aforementioned eight thematic clusters bolster each other. First, to deal with the demands of a vitriolic intergroup conflict, members must be firmly convinced of the morality of their position and the complementary immorality of their adversary. As such, members only listen to their group's perspective, and entirely disregard that of their adversary, in line with the contemporary refrain of "fake news". Further, beliefs about the justness of one's own cause not only fuel the continuation of the conflict, but also justify its initial eruption.

Second, security becomes a central concern for both parties in a societal intractable conflict because these conflicts result in incredible violence with usually both military and terrorist actions, all of which require exhaustive societal, political, economic, military, and human resources. Consequently, members express societal values of national survival and personal safety. On a personal level, individuals have concerns about loss of life, injury, and property damage due to conflict. Most generally however, these beliefs serve to ensure national survival and continuation in line with existing national values and goals, especially through determent, containment, and victory against the adversary.

Third, de-legitimization of the adversary essentially dehumanizes the adversary such that members no longer expect the adversary members to act within the framework of expected human norms. Through use of political labels, negative trait characterization, group comparison, and general dehumanizing, a society explains to its members why its adversary opposes the society's own goals, the reasons for the adversary's antagonistic goals, positions, and actions, and subsequently, offer a justification for the society's own actions and goals within the conflict

as a moral and just necessity due to the adversary's complete culpability for the eruption of conflict. The adversary is characterized as irrational, malevolent, extremist, and utterly unwilling to reconcile. This characterization helps explain the extremely vitriolic and violent behavior of both sides, whereby one side perceives the other to be inhuman and thereby their own violent behavior is justified either as a way to even the playing field, avenge past violence from the adversary, and preempt the adversary's future violence through current violence, or worse, that their adversaries are not worthy of human respect and so, such violence is somehow not as condemnable.

Fourth, the society maintains their own positive self-image through beliefs about positive traits, skills, values, contributions to civilization, and positive past actions common to the society as a whole all serving the purposes of self-praise, self-glorification, and self-justification, often with an ethnocentric touch, as a way of rallying members as a group in the face of danger and exhaustion (Bar-Tal). These positive characteristics and stories are strongly contrasted with that of the adversary. For example, look back to the visual propaganda of Nazi Germany that contrasted idealized Aryan Germans against the depictions of physically deformed and behaviorally grotesque Jews, particularly Jewish men trying to rape German women. The propaganda served both to dehumanize Jews and to elevate Germans, making previously unthinkable actions seem at the very least, more palatable to some, and even justified to others. The same themes are seen throughout history, especially that of protecting innocent and vulnerable ingroup women from outgroup predatory or lascivious men, whether it is the KKK's horrid depiction of African-American men, the USA's depiction of Japanese men during World War II, or more recently, Poland's depiction of Islamic men. Stereotypes and prejudices of the



adversary are amplified and exaggerated to serve both as a contrast and to create urgency to conform to a militaristic viewpoint.

Fifth, the society views itself as the victim and this belief only grows stronger with time as more casualties of the conflict accrue. This is a functional belief because it places blame for conflict initiation and perpetuation on the adversary and provides the moral high ground as a victim and justification for violence as a way to seek justice and oppose the morally corrupt adversary. This belief of victimization also complements all of the previously mentioned beliefs about being on the righteous, just, and human side of the conflict that is opposing injustice, immorality, and inhumanity as well as not being responsible for the initiation or continuation of the conflict. This position as the victim fighting for survival also gives rationale for continued struggle against the unjust adversary.

Sixth, society promotes the internalization of patriotic beliefs. These beliefs serve to elicit positive affects of love, loyalty, pride, care, and commitment to the cause and promote the importance of the many over the few, rewarding self-sacrifice for the greater good. Seventh, patriotic beliefs are further complemented by beliefs about unity, wherein intergroup conflicts are placed aside in order come together to face a greater outgroup foe. These affects of solidarity and cohesion are crucial for successful mobilization, whether of a military nature or in terms of the emotional energy of the masses. A lack of unity when combined with intractable conflict amplifies existing polarization and intergroup tensions, which only serves to weaken the society as it faces an adversary. Eighth, the society yearns for peace, often imagining utopic futures after the conflict. This hope and optimism serve as a necessary buoy amidst prolonged intractable conflict and give meaning to the otherwise in-vain casualties of the conflict (Bar-Tal).

Although intractable conflict is very complex and varies across conflicts, it is helpful to model it from a dynamical social psychology perspective, breaking the conflict down into key concepts to understand how these conflicts work as system. Breaking down the conflict gives insight into how to transform conflict from intractable to tractable over the long-term. From a system view with many elements, intractable conflict revolves around an *attractor*, “a subset of potential states or patterns of change that coordinates or integrates the elements” (Vallacher et al.). Metaphorically, the attractor “attracts” system elements, like a gravitational force, and integrates and provides meaning by contextualizing these elements within a common framework or pattern, especially in the face of new and confusing experiences like unexpected events or ambiguous information. This idea can be scaled to different sizes of systems. In a mental system, an attitude or belief about an outgroup could serve as an attractor if it contextualizes and offers a common meaning for different events, memories, and pieces of information about the outgroup, even if taken separately, these elements would be interpreted differently. In a social system, an ideology can serve as an attractor if it provides a “shared reality and frame of reference for collective action, even if the individual members of the group or society each have divergent needs and interests.”

The key here is that within a system, even potentially divergent elements all gravitate toward the attractor and are perceived through a common frame that paints a reality consistent with the ideas of the attractor. Over time, divergent elements will come to behave similarly as is the norm with respect to the attractor. In fact, systems governed by attractors are hard to change and even strong outside forces, as if disturbing an equilibrium, will only temporarily change the system before it reverts to the known patterns (habits, norms, internalized constraints, etc.) of the

attractor. But in the absence of the gravitational pull of an attractor, systems and people in a society will change with respect to whatever outside forces they encounter. Due to this,

“[a]ttempts to challenge a person’s firmly held attitude or a group’s ideology regarding outgroups are thus likely to backfire, strengthening rather than weakening the attractor. If the attitude or ideology is associated with conflict, an attack on the legitimacy or function of the attractor is likely to intensify rather than reduce antagonism and violence.”

This concept of an attractor explains why common conflict resolution techniques like mediation are not only futile in intractable conflict, but frequently worsen the conflict.

Further expanding this model of intractable conflict, through a phenomenon called “multi-stability”, there can be more than multiple attractors in a system but only one can be manifest, while the others are latent. Under the right conditions, one of the latent attractors can become manifest. For example, mental systems are characterized by many emotions that contextualize how people perceive their reality. A person can start the day with an optimistic outlook or attractor, but if they have many negative encounters, they can reach a threshold of negativity at which point their mental system can become reconfigured around a pessimistic attractor such that every new element they encounter upsets them and confirms their pessimistic outlook. However, these same elements would have confirmed an optimistic outlook if encountered earlier in their day. While it is possible for events in this scenario to elicit optimism, it is unlikely for these events to be internally categorized as such while the system is governed by pessimism as the manifest attractor. Likewise, social systems can be characterized by conflicting ideologies and values such as personal privacy versus collective security, with one of the attractors providing coherence and stability at a single point in time. These shifts between attractors, dependent upon the presence of prerequisite conditions, explain how social conflicts

can arise or die out rapidly and dramatically. This is typified by examples like the sudden flare-ups of violence in Northern Ireland after decades of peace as well as equally sudden transitions to peace in Mozambique after 16 years of brutal civil war. The triggering of the latent attractor to become manifest demonstrated here is referred to as “nonlinear change”

Within this model, an attractor is also characterized by its *strength* and the dimensions of its associated *basin of attraction* and depth. This is best understood by looking at Figure 1 below where the ball represents the current state of the system. The two valleys represent two distinct attractors, A and B, within a system. Attractor A is weaker in strength as evidenced by the shallower valley and less gravitational pull, so a relatively weak outside influence could dislodge the ball and reconfigure the system around a new attractor. However, its basin of attraction is wider, meaning that attractor A is able to attract a broad range of states, even those that may seem inconsistent with the attractor. In a real-world example,

“[a] peaceful overture or a logical appeal emphasizing the non-productive nature of the conflict, for example, may be taken at face value initially, but over time it will become reinterpreted until it provides evidence in support of, rather than in opposition to, the predominant response tendency.”

Attractor B has a narrower basin of attraction, meaning that it attracts a relatively narrow range of states and is unable to integrate ideas and events that are inconsistent with the attractor. However, attractor B has a much deeper valley and is therefore stronger. This means that while attractor B attracts fewer states, once it becomes the manifest attractor, it takes a much stronger outside influence to dislodge the current state from attractor B and most attempts will be futile once the force stops being exerted. This idea is a direct corollary to introducing peace-keeping troops because as soon as the troops are removed, the “ball” will roll back to its former attractor

and old patterns of behavior will re-emerge. This model appears consistent with the perception of intractable conflict as extreme and uncommon as intractable conflicts representing only 5% of conflicts, but are incredibly difficult to escape or de-escalate. The triggering of the latent attractor to become manifest is referred to as “nonlinear change”

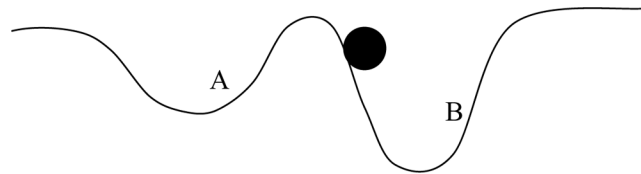


Figure 1 - A dynamical system with two attractors (A and B). From Vallacher et al.

Within dynamical perspective model, there are two complementary ways to resolve intractable conflict by changing the *attractor landscape*. The first method revolves around the potential for multi-stability within a system. Within an intractable conflict, the most visible attractor represents negative cognitions, affects, and behavior characterizing the relationship between the two conflicting parties. However, there may be latent attractors that could be activated under the right circumstances and with a longer the history of conflict comes a greater variety of types interactions between the conflicting parties. Amongst this rich history of interactions, there are likely to be other patterns of interaction that are more positive and latent attractors which correspond to these more positive patterns. This is exemplified by the change in US and USSR relationships after perestroika due to a non-linear change. US and USSR citizens had a rich history of positive and cooperative patterns of behavior, even during the Cold War, the period of highest tension between the conflicting parties. Leading researchers offers a good rule of thumb for this strategy, explaining,

“...identifying and reinforcing latent (positive) attractors, rather than attempting only to undermine the manifest (negative) attractor, provides an important aim of conflict prevention and intervention. There may be little immediate effect of fostering opportunities for positive relationships between the groups, but such efforts plant the seed for a possible transformation should conditions change in a way that destabilize[s] existing mental, affective, and behavioral patterns. If such a seed is not planted, it cannot take root even if the negative attractor is somehow discredited or otherwise destabilized. A dynamical system does not change unless it has a new space to occupy. A latent attractor essentially represents a new space or potential for intergroup relationships” (Vallacher, et.al., 2010).

The second strategy involves “reverse-engineering an attractor for negative relationships”. In the heat of a conflict, the most pressing need is to suppress it, but this is akin to a physician treating the symptoms rather than the underlying disease. The destructive attractor still exists and may develop into a stronger gravitational force in the face of poorly-executed mediation and its own self-sustaining nature. Rather, long-term conflict resolution demands that the negative attractor be deconstructed, not just suppressed. This is crucial to understanding the genesis of the conflict and how to calm flare-ups during early stages by recognizing them and taking appropriate counter-actions. Examining these early stages means objectively identifying the elements that form the pattern of conflict by “calling attention to specific actions, events, and pieces of information without noting their connection to the pattern in which they are embedded.” This approach shares similarities with the conflict resolution practice of identifying and discussing the many human needs that can underlie inflexible positions in conflict.

Once these individual elements are separated from the pattern of conflict, they can be

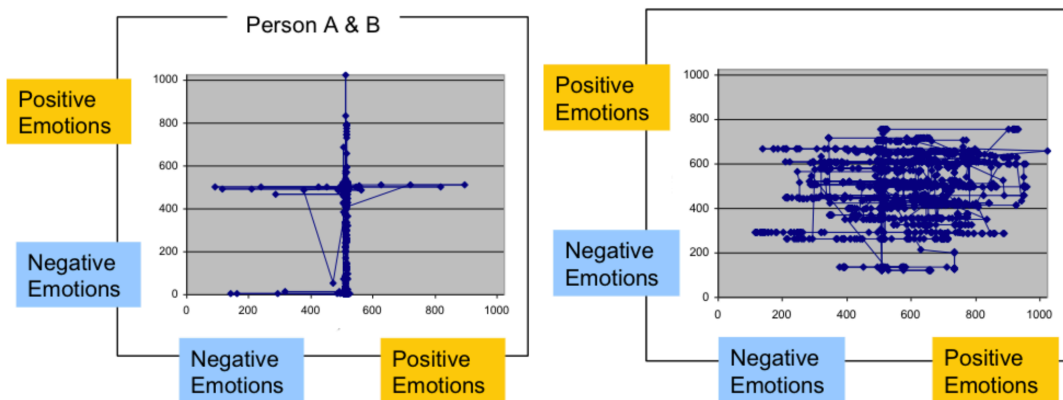
rearranged to create new patterns of behavior, like peaceful and cooperative interactions between former enemies. This alternative approach to dislodging a toxic attractor avoids the trap of strengthening the attractor through direct confrontation. Researchers made a particularly salient point to this end about structures that support toxic patterns, writing,

“Attacking the pattern itself is likely to intensify rather than weaken the pattern because of the tendency for attractors to resist change, so one should focus instead on isolating elements and thereby weakening or eliminating the positive feedback loops among them” (Vallacher, et.al., 2010).

These positive feedback loops strengthen the attractor’s gravitational pull. Through the second strategy deconstruction of the negative attractor, gradual progress can be made toward a “negative peace” (i.e. a lack of the affronting behavior fueling the conflict), while the first strategy of developing or promoting a positive attractor to become the manifest attractor around which a “positive peace” (i.e. prosocial or constructive relationships between the conflicting parties) can take hold (Galtung, 1996).

At the Difficult Conversations Laboratory at Columbia University, social psychologists led by Peter Coleman study interactions between individuals from opposing parties of various intractable conflicts. The team surveys participants to determine their opinions on several polarizing topics and pair them with an individual who is strongly disagrees on the same topic. When the participants meet, they spend about 20 minutes creating a statement about the issue that they would both feel comfortable hypothetically publishing to the world with their names attached. Predictably, some of these conversations go so poorly that the team decides to intervene before time is up, while others go less terribly. Afterwards, both participants are taken to separate rooms where they listen to the conversation they just had and report the intensity of

the negative and positive emotions they felt at each point. The emotions were quantified as a number on a continuum where the most intense negative emotion was represented as zero and the most intense positive emotion was represented by 1000. The conversation was represented graphically by plotting the emotional points of each participant on separate axes on one graph. The team observed that the bad conversations looked different than the more constructive conversations, as shown below in Figure 2 below.



Graphic displays of a more negative conversation (left) and a more positive, complex one (right). Courtesy of Peter Coleman/Columbia University

Figure 2 - Destructive vs. Constructive Conversations (from Amanda Ripley's article, "Complicating the Narratives")

Amanda Ripley explains, “The better conversations looked like a constellation of feelings and points, rather than a tug of war. They were more complex.” Next, the team tried to replicate these complex and constructive conversations. They exposed each participant to an article about a different polarizing issue prior to their primary conversation with another participant. The team tested two conditions – simple and complex. The simple article that outlined both sides of the debate and the arguments put forth by both sides, illustrating a binary issue. The complex article covered the same material, but read a bit more like “anthropologist’s field notes”, emphasizing the complexity of the issue and discussing the nuances and viewpoints of both sides in an appropriate emotional context and their resulting stances. The subsequent conversations developed a pattern – participants who read the simple articles tended to have more negative



conversations, while participants who read the complex articles had more complex conversations where both sides asked many questions and left more satisfied with their conversations. Peter Coleman talks about the complex conversations saying, “They don’t solve the debate, but they do have a more nuanced understanding and more willingness to continue the conversation” (Ripley). Entertaining complexity appears to chip away at the thematic clusters that bolster polarized thinking about conflict, restoring the humanity of the opposition and uncertainty of one’s own absolute moral conviction on the issue, values that are more in-line with more prosocial and constructive attractors than the destructive and toxic attractors around which intractable conflict forms.

## Chapter 5: PeaceMaker Experiment

While games can undeniably elicit empathy in players for the characters they meet in the game, I wanted to explore how a game could elicit empathy and reduce prejudice in a tenuous context. In my research, I found many accolades for the game, *PeaceMaker*, a real time strategy game about the Israeli-Palestinian conflict. I had developed an interest in empathy, prejudice reduction, and intractable conflict and this game dealt with all of those issues, was considered a good game by many, and was free to play on multiple platforms, making it a good candidate for my own experiment. Further, it was a subject that I already had personal insight into conflict nuances as my own father grew up in Israel as a boy and I had done prior research about Arab representation in games and how the Israeli-Palestinian conflict had manifested in asset swapped or reskinned video games that were played in the Middle East.

*PeaceMaker* was developed by Eric Brown and Asi Burak in 2004 while they were graduate students at Carnegie Mellon University and they later created a game development company, *Impact Games*, in 2006 to continue their work in socially responsible gaming and e-learning. *PeaceMaker* is a peace education game rooted in the mechanics of commercial turn-based strategy games. These mechanical conventions influence the perspective of players as they watch the consequences of their actions unfold from a distance and are encouraged to think more strategically, rather than in an emotionally reactive way that is supported by games that allow players to have greater autonomy of choice and action timing like a first-person game. In particular, the presence of a map to contextualize the conflict, multiple action alternatives with advisor commentary, and the turn-based mechanics wherein the player makes a choice, ends his or her turn, and must wait for consequences before he or she can take another action, force the player to think like a long-term strategic leader with multiple complex and often-conflicting

priorities, rather than as a simpler citizen with a shorter-term priorities and immediate concerns. *PeaceMaker* was designed with Israeli and Palestinian teenagers in mind, so the game was released in Hebrew, Arabic, and English and is available for free download on both personal computers and mobile devices (Burak, et.al.). The game starts with footage from 1948 to 2007 of events in the territory or relating to the conflict. Then, the title screen appears and the player can start a new game and choosing which perspective to play from – either the Israeli Prime Minister or the Palestinian President. There are three difficulty levels to choose from, Calm, Tense, or Violent, which make it easier or more challenging to get to the winning condition, peace via the two-state solution (i.e. Israel is a state and Palestine is a state and they occupy the territories in question). Depending on which perspective the player chooses, they will see different footage about the people and government they are about to lead before receiving a brief of the current situation and access to a timeline of past events from 1920 to 2006. The brief lays out the player’s objective for the game as shown below in Figure 3.

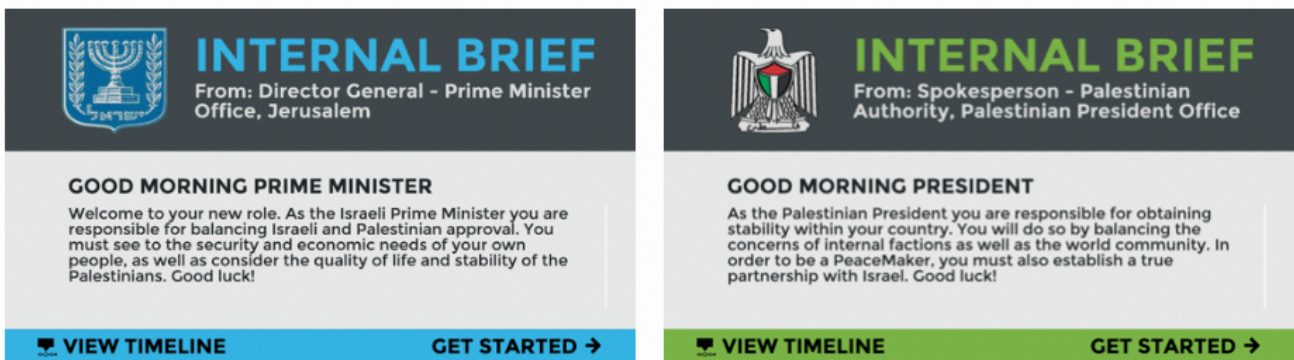


Figure 3 - Internal Briefs from *PeaceMaker* Game

From there, events occur that the player must respond to by choosing actions that are either focused on Security, Politics, or Construction. The most effective players do not solely focus on any single one of these branches, but take a more varied approach. The events are shown as

boxes on the map and once clicked on, show a video clip and explain what happened in the form of a news report as shown below in Figure 4.



Figure 4 - Event News Reports received in role as Israeli Prime Minister (left) and Palestinian President (right)

There is an overwhelming amount of options for action that the player can then take. Fortunately, the player can “ask advisors” for insight into the benefits and potential risks of each action. Israeli advisors will be categorized into “Hawkish” and “Dovish”, reflecting the primary camps within Israeli politics despite multiple parties. Simplistically, the hawkish camp can be thought of as conservative, religious, and defensive while the dovish camp can be thought of as liberal, secular, and idealistic. The Hawkish advisors are concerned with ensuring Israeli citizens security regardless of the consequences to Palestinian people, and tend to recommend more military and security-centric actions. Their mindset is the result of centuries of passive Jews being scapegoated, murdered, and receiving discrimination in every land as outsiders. Now that the Jews have come back to the “promised land” of the Torah that was granted to them legally and that they believe is the Jewish people’s birthright because of a covenant that God made with Abraham, the biblical forefather of Judaism. The Dovish advisors want to come to peace with the Palestinian people and are willing to make concessions to try to achieve this goal, advising against actions that would increase tension and recommending actions that show good faith to the Palestinian people. They believe that despite legally receiving the land, it still is wrong to

occupy Palestinian lands where settlements are contested. The dovish advisors tend to push for peace through a two-state solution, which can only be achieved by creating trust between the two groups and their respective governments. Palestinian advisors are categorized into a “National Advisor” and a “Foreign Advisor”, the first of which is concerned with managing impressions and concerns of local factions and the Palestinian people, while the latter is concerned with how the world views Palestine. The National Advisor thinks in the shorter term because the President must retain the support of his people if he or she is to stay in power long enough to make progress in the conflict. The Foreign Advisor thinks in the longer-term and considers what actions the outside world would approve of and move Palestine closer to peace with Israel. This is very important because Palestine’s survival depends on the world’s perception and subsequent willingness to provide aid and funding to the resource-strapped area. The President must balance the people’s survival needs (which when not met through funding, can result in violence) with the perception of the outside world (which is afraid of violence and unwilling to fund suspected terrorism). Some actions the player can take on either side are not immediately available and first require building trust with the other side, and some actions are available but aren’t wise to use. The actions and advisors offer a good simulation of possibilities, concerns, and the political climate of the area.

Once the player takes an action, he or she can see how eight different groups and leaders respond and adjust their perception of the Prime Minister or President. Each group has different types and levels of political power, goals, fears, and possible actions they can take in the game. For the Israeli Prime Minister, these other actors are the Israeli Public, USA, Yesha (Israeli Settlers Council who are a vocal right-wing minority who want to expand Israeli settlements on contested land), Palestinian President, United Nations, Palestinian Public, the Arab World, and

Militant Groups (these groups are associated with Hamas and Fatah and want to end the Israeli occupation, gaining Palestinian public support by offering social infrastructure and violently resisting Israel). For the Palestinian President, these other actors are the United Nations, the Arab World, the Palestinian Public, Fatah (one of two major Palestinian political parties and a nationalist secular group associated with the PLO with access to armed factions and backed by public support), Hamas (the other major Palestinian political party which is based in Sunni Islam and gains public support through social welfare programs, but also has access to armed factions which it uses to engage in a Jihad against Israel), United States, Israeli Prime Minister, and the Israeli Public. In addition to these eight actors, the player can access polls about their performance. The Prime Minister can view polls relating to Israeli Security (how safe citizens feel), Israeli Leadership (how the world views the player as a good political leader of Israel), Militant Activity Suppression (how well Israeli security forces are suppressing Palestinian militant activity), Palestinian Cooperation (how much political capital the player has with the Palestinian President and government), and Israeli Sympathy (the degree to which Israeli citizens are concerned about the quality of life for Palestinians, which is contingent on whether Israeli citizens feel they are safe). The Palestinian President can view polls relating to Israeli Cooperation (the degree to which Israel is willing to work for peace with Palestine to improve the well-being of Palestinians), Palestinian Economy (the strength of the economy in terms of international trade and economic growth through new jobs and improved infrastructure), Palestinian Independence (the amount of control the Palestinian government has over borders and resources in the area as Israel relinquishes control to the Palestinian government), Palestinian Presidents Leadership (how the world views the player as a good political leader of Palestine), Palestinian Government Authority (the degree to which the government's authority over Gaza

and the West Bank is effective via security forces, legal system, and tax collection), and Palestinian View of Israel (how the average Palestinian views Israel as an oppressive enemy or a partner for peace). These mechanics of independent actors and polls offer a robust feedback loop to the player, allowing them to understand how groups react to certain actions, what different groups value, and what increases versus decreases tension in the conflict. The game can be very frustrating as the player learns these unwritten rules through experience and forms an understanding of the political climate and important issues (i.e. Israelis care about security and Palestinians care about access to resources for survival).

In the beginning of the game, few options most parties, let alone all parties, and the player has to balance his or her position as a champion of the people against their role as a conciliator. Although military actions can help sometimes, they usually don't. The most effective players use a mixture of political and construction actions. The political actions work to buy time for long term strategy by communicating plans and desires to the people and the world. Construction actions on both perspectives work to improve economic conditions, improve access to education and healthcare, and help Palestine become self-sufficient.

While the game is not a perfect simulation of the conflict, it is a well-developed one and is based in several prosocial assumptions about the conflict: the winning state is peace via two-state solution, the players actions can make a difference in the tide of the conflict, the other side also wants peace, the player cannot completely control the behavior of their own side, small concrete steps work better than grandiose plans, and “don't let the perfect be the enemy of the possible” (Impact Games).

Before explaining my experiment methodology, I'd like to address prior research in order to explain where my own work fits into the larger compendium of research. Saleem Alhabash

and Kevin Wise have worked together to study how playing *PeaceMaker* changes the explicit and implicit stereotypes and attitudes that subjects hold prior to play. The studies were aimed at assessing the effects of role-play on attitude change through a process of self-persuasion. Across their studies they found that the subject's attitudes changed to be more favorable to the perspective they had just played and less favorable to the opposing side. However, in one study their findings seemed to show that subjects who played the Palestinian perspective tended to report a positive change in their explicit attitudes towards Palestinians and a negative change in their explicit attitudes towards Israelis. While subjects who played the Israeli perspective reported no meaningful change in their attitudes (Alhabash and Wise, 2012). This makes sense because the game highlights the Palestinian people's lack of survival resources and relative helplessness. Meanwhile, Israeli people don't have an everyday survival concern as much as they have immense concerns about security and safety. While both concerns are crucial and ought to be human rights, the Palestinian concerns for survival are slightly more pressing. However, another study they performed showed that when subjects played the game for 20 minutes, those who played the Israeli perspective reported negative explicit attitude change for both Israelis and Palestinians, while those who played the Palestinian perspective reported negative explicit attitude change towards Israelis, but no significant attitude change towards Palestinians (Alhabash and Wise, 2014). They also found that subjects tended to view Israel more favorably than Palestine prior to gameplay, but that their implicit attitudes were more favorable towards Palestinians than Israelis. The subjects' implicit attitudes did not change after play, which is congruent with the Associative Proposition Model (APE), which posits that people change their attitude when presented with new facts in order to avoid cognitive dissonance and hence, self-persuade themselves. This change occurs in explicit thoughts and attitudes that people can



control, rather than implicit attitudes that are like “gut instincts” and are cultivated through a long history of neural activation. In their 2012 paper, Alhabash and Wise surmised their beliefs about the utility of *PeaceMaker* and role-playing games generally to reduce prejudice,

video game role-play leads to bias reduction through the activation of cognitive control exerted over the expression prejudiced thinking. In the case of evaluating Palestinians and Israelis, American students might not feel politically incorrect to express bias toward one side over the other, compared to social inhibitors found when evaluating domestic social groups (e.g., Blacks). Playing *PeaceMaker* provides participants with a framework of reference that adjusts their bias by inhibiting the expression of negative evaluations.

Esra Cuhadar and Ronit Kampf studied whether being a direct party to conflict versus being a third party changes the effectiveness of *PeaceMaker* as teaching tool for knowledge acquisition, ease of perspective taking, and attitude change. They did a cross-cultural study of students who were Israeli-Jews, Israeli-Palestinians, Turkish, and American. They found that being a direct party (Israeli-Jews and Israeli-Palestinians) did were able to resolve the game conflict more successfully on average than third parties (Turks and Americans). This makes sense because these subjects already had a greater working knowledge of the conflict, allowing them to spend less time learning through trial and error about which actions were more or less likely to help them achieve the winning condition and what behaviors the different actors would value and help the player gain increased approval from more groups. Cuhadar and Kampf write, “compared with other groups, [direct parties] are exposed to both narratives.” They also found that the game increased the subjects’ knowledge of the conflict across all cultural groups, indicating that *PeaceMaker* is an effective pedagogical tool. They found that the game contributed to perspective taking and changed third party subjects’ attitudes about the conflict and that they

typically adopted a more impartial view (Rohit and Kampf). This suggests that the simulation of conflict illustrated the complexity of the conflict and supplanted the black and white perceptions endorsed by media. Ronit Kampf also researched whether playing in groups of two (dyads) influenced successful resolution of *PeaceMaker*, and found that more dyads successfully resolved the conflict than did single players (Kampf). He also found that the most successful dyad pairing was one person of Jewish descent and one of Palestinian descent. He observed that dyads favored political actions over security actions and actually were somewhat averse to security actions. Because the experiment structure for dyads required mutual agreement for each decision taken, discourse became an added level of interactivity and naturally a pairing comprising of both perspectives in the conflict would make choices that addressed the concerns of both parties, moved slowly, and were equitable to both parties – which is the most effective way to resolve the conflict via two-state solution, according to the design assumptions of the game. Cleotilde Gonzalez, Ronit Kampf, and Jolie Martin researched strategies patterns of play used by Israeli students playing *PeaceMaker*. They saw that the background and attitudes help prior to play heavily influenced patterns of play. While action diversity is important to success in the game, students displayed reduced action diversity when playing the Israeli perspective compared to when they played the Palestinian perspective. This suggests that their developed attitudes about the conflict and opinions about which actions Israel should and shouldn't take in the real world, which does not reflect the design assumptions of the game, limited the set of actions they were willing to take in game. Since their opinion about what the Palestinian government should and shouldn't do was less developed, as they were not Palestinian people, it stands to reason that they had a broader set of actions they were willing to take. Additionally, they found that subjects who were more conservative politically (i.e. hawkish) or more religious

that found it harder to compromise in the Prime Minister role and took less diverse actions in the President role, as compared to more dovish and secular subjects. Researchers suggested this finding was due to conservative subjects having stronger identification to Israeli values and Israeli group identity, as occurs common in intractable conflict, and posited that cognitive dissonance prevented these subjects from taking more diverse actions that would be incongruent with the values of their Israeli group. Effectively, this cognitive dissonance hindered their ability to take the other perspective and successfully resolve the conflict of the game (Gonzalez, et.al.).

When I designed my own *PeaceMaker* experiment, I wanted to study how existing attitudes, cognitive empathy, and affective empathy played a role in the player's experience. As such, it meant I would need to gather a large amount of qualitative data, which led me to opt for a phenomenological approach and a small sample size of five subjects. I suspected that the degree of attitude changes and the type of game experience the player had would be influenced by their own attitudes, specifically their existing knowledge of the conflict, their openness to new ideas, and their ability to empathize. I assessed their existing knowledge through a "pre-play" interview where I asked the following open-ended questions that relate to the biggest issues of controversy in the conflict.

- 1) What is your opinion on the Israeli-Palestinian Conflict?
- 2) What do you think about the humanitarian issues on both sides of the conflict? What issues do you think are most pressing?
- 3) What do you think are the common stereotypes of Israelis and Palestinians?
- 4) What is your opinion about the leadership of both sides of the conflict (Israeli Prime Minister and Palestinian President)? Who are the current leaders of both sides?
- 5) What do you believe about the validity of statehood for Israel?

- 6) What do you believe about the validity of statehood for Palestine?
- 7) What do you think about the possibility of a 2-state solution or other potential conflict resolutions?
- 8) Why do you think this conflict is so controversial and hard to solve?

Before instructing them to play the game, I then asked them to take two surveys, one of which was the well-known Openness to Experience portion of the Big Five Personality Inventory and the other was M.H. Davis' Interpersonal Reactivity Index (IRI) which measures empathy based on four subcomponents (ease of perspective taking, absorption into fantasy, empathic concern for others, and personal distress). I've summarized this pre-play data in Figure 5 below, with highlighted cells representing higher relative scores within my sample.

Subject number	Perspective	Difficulty Level	Knowledge Level	Openness to Experience	IRI Score	IRI - Perspective Taking	IRI - Fantasy	IRI - Empathic Concern	IRI - Personal Distress
1	Israeli sympathy	Tense	Medium	3.6	2.82	2.86	3.71	3.14	1.57
2	Neither	Tense, then Calm	None	3.7	2.89	1.86	3.29	3.86	2.57
3	Israeli sympathy	Tense	Very High	3.6	2.39	3.43	2.57	2.57	1.00
4	Neither	Calm	Low	4.9	3.36	3.43	4.00	4.00	2.00
5	Slight Palestinian Sympathy	Violent, then Calm	High	3.2	2.86	3.86	2.71	3.43	1.43
			Average	3.80	2.86	3.09	3.26	3.40	1.71

Figure 5 - Subject pre-play background data

The Openness to Experience survey questions are based on a one to five scale (one being strongly disagree and five being strongly agree). The IRI survey questions are based on a zero to four scale (zero being strongly disagree and four being strongly agree). So, the average scores for Openness to Experience and general empathy (IRI) are fairly similar with only 0.06 variation. I had subjects play both perspectives of the game, but instructed subjects who displayed pre-existing sympathy for one side over the other to play the opposing side prior to playing the side they were already primed for. I asked them to play until they had achieved the winning condition of peace via a two-state solution. In one case, they were unable to reach the winning condition.

Once they had played, we had a “post-play” interview where I asked them the same questions from the first interview and a few new ones listed below.

- 1) What did you think about the game?
- 2) Do you think that your opinion on the Israeli-Palestinian Conflict has changed? If so, why?
- 3) Were there any memorable moments in the game that surprised you? Challenged your opinions? Taught you something?
- 4) Do you think this game changed any of your beliefs? If yes, which ones and how? If no, do you think it made you more open to discussion of the conflict? Do you feel more empathy for either side than you did before? Were there any memorable inflection points that stood out to you or made you question your pre-existing knowledge/beliefs?

My experiment was designed to explore the efficacy of a perspective-taking/role-playing game to induce empathy, especially in members of parties of an intractable conflict for the adversary party (i.e. Israeli sympathizer feel empathy for Palestinians, or vis versa). My own experiment overlaps with much of the existing research in evaluating the impact on player’s knowledge acquisition, attitude towards groups involved, and party identification. However, it diverges in that I did not classify by party identification, but by party sympathy and that I measured empathic pre-disposition (via IRI) and pre-disposition to new ideas and experiences (via Openness to Experience), as I thought higher scores in these two areas would make players more likely to empathize and to adjust their attitudes in the face of new information, respectively. Finally, I also tried to isolate what it was about the game that was memorable, impactful, persuasive, or challenging in terms of decision moments, mechanics, and game-catalyzed player revelations.

My most critical observation was that people bring their own perspectives or “frames” to their gameplay and these frames heavily influence how they play and what they get from the game. The lower the pre-existing knowledge level, the more influential these frames are in contextualizing new information. The most common frames were knowledge of a similar conflict (i.e. India vs. Pakistan in Kashmir) or ideological (i.e. human life is paramount). The second big observation was that subjects with similar subcomponent empathy scores had similar gameplay strategies and emotional responses to the gameplay. Subjects with higher Perspective-Taking scores were more likely to figure out how to best play the game and find winning strategies faster. They were also more likely to understand the messages of the game (i.e. address concerns of both parties, avoid most security actions and focus on infrastructure to build trust and political actions to buy time for peace). This makes sense because the game is deeply rooted in perspective-taking as a method to reach the winning condition. Subjects with higher Fantasy scores were more likely to become very invested in the game events and get emotional in reaction to what is happening to them in game. They seemed to really insert themselves in the role they were playing rather than play the game distantly. Subjects with high Empathic Concern scores tended to think more about the welfare and concerns of people throughout the game, rather than view their situation as a Prisoner's Dilemma, intractable conflict, or approach the game from a stance of negotiating with the enemy, but refusing to let their guard down. These players tended to weigh the likely outcomes of each action in terms of how it affected the people on both sides of the conflict. They were more likely to come away from the game with a feeling that the conflict is complicated and developed a more neutral and nuanced opinion. Subjects with high Personal Distress scores were more likely to get overwhelmed or frustrated by how the game reacts to their play style. There may be some correlation or slight confounding with the IRI

Fantasy scale because the subjects who had the strongest reactions like this also had relatively high scores for Fantasy. However, those with higher personal distress scores than fantasy scores reacted in a way that showed being overwhelmed and anxious, while those with higher fantasy scales tended to not get anxious, but would also become emotional in a way that was reactive to game events and game groups rather than a traditional Personal Distress empathy response.

Despite the fascinating predictive value offered by IRI scores, Openness to Experience scores didn't offer any predictive value, which might simply be due to my small sample size. It could also be less predictive due to self-selection, wherein the fact that people who volunteered to play this game and talk about it were already likely to have high openness to experience scores. The third observation, which was expected, was that people became more knowledgeable about the conflict after playing the game and were more willing to continue discussing the conflict and learning about the conflict. In fact, many subjects were spurred to do their own research while they were playing the game. Clearly, the game is a great pedagogical tool in for understanding the complexity of the conflict and the many diverse values and concerns that are frequently in opposition. It also serves as a great starting place for further discussion and appears to incent players to drive their own learning outside of a classroom or commitment to any other person. Most people wouldn't be willing to buy this game either because they found it frustrating or difficult (which simply reflects the reality of this conflict) or because it was not congruent with their normal motivations for play (e.g. escapism, social, achievement, etc.) and was therefore not a way they like to spend leisure time (Yee 2006). However, they all adamantly believed it was a great teaching tool and many would even recommend it to their friends, especially for those who hold very strong positions on the conflict. The fourth observation was that although there were many different paths to peace, most players had similar experiences or trajectories in the way

they got there. In the beginning, they would find it difficult to please both sides and felt very torn between conciliatory actions that helped the opposing side and actions that championed the people they led. In the beginning these motivations are in opposition, but over time and through gradual steps in political and infrastructure branches, they are able to take actions that please both parties to the conflict. For many subjects, reaching this point where concerns and efforts were aligned was immensely gratifying. The fifth observation was that the most compelling part of the game is the ability to simulate decision-making in a complex logical framework with opposing values and to receive immediate feedback, allowing the player to better understand how and why the conflict is so complex and difficult to resolve, especially when they consider design assumptions that simplify the game and allow it to have a cogent message for how to achieve peace. Secondly to this, subjects found that the real-life images and video clips made the casualties of conflict far more salient and meaningful, despite their pre-existing statistical and distant knowledge of the casualties of the conflict. Said another way, these images and videos elicited empathy that made it easier to take opposing perspectives and better understand the values and reasons for distasteful behavior of the opposition. Although people who had a pre-existing sympathy did not change their allegiance, so to speak, they generally developed more empathy for the opposing side.

My findings showed that *PeaceMaker* incited cognitive empathy (i.e. perspective-taking) and elicited affective empathy (i.e. concern for the welfare of others), as well as serving as an engaging medium of knowledge acquisition and a jumping off point for further discourse and self-driven learning and research. As I suspected, people did not change their overall opinion, but they did develop more understanding and empathy of the opposing side or remain neutral with a greater understanding of the complexity of the conflict. My expectation when



designing the experiment to isolate for empathetic disposition was what I saw from players with high empathic concern scores. I was interested and fascinated by the variation of play style predicted by variances in individual IRI subcomponent scores. I don't think game developers could truly use empathetic disposition since there is such great variance between individuals and a market, rather than an individual, is who developers design consider as they design games. However, I do think the predictive value of these subcomponent scores of empathetic disposition point to common styles of play and motivations for play based on social and personal values that may present an average player background for games with a defined niche (e.g. middle-aged women like to play hidden object games on their phones).

## Chapter 6: Recommendations for Developers and the Industry

Regardless of their title (serious games, impactful games, games for good, academic games, etc.), I believe more research into what makes these games engaging and what makes them disengaging (e.g. people don't like to be tricked into learning by playing edutainment games that feel like "chocolate-covered broccoli"). I think that narrative is crucial to impart a meaningful message, but that mechanics must be fun and engaging if the player is expected to finish the game and receive that message. Until games like this are genuinely as fun to play as less serious, but traditionally commercially successful games, they will not be commercially viable and will at best, have a spot in teacher's classrooms and more experimental studies.

Games also create engagement and investment by encouraging the players to see themselves in the characters they play as and interact with while playing. The greater the surface level similarity, the easier it is for players to take the character's perspective and to understand motivations and consequent actions as the story progresses. While people are generally quite able to take perspectives of people who look different, representation, especially of under-represented identities in media, not only improves the ease of perspective taking and immersion, but also can empower players who begin to emulate aspects of their character, reflecting a phenomenon called the *Proteus Effect*.

The relevance of the perspective-taking for changing opinions is that the player notes the dissonance between what the player thought and what the reality is, and that the player adjusts his or her world view accordingly. This is largely dependent on the player ruminating on the game and what they learned and often doesn't happen if the message isn't too obvious. But usually games with an obvious educational purpose aren't "fun" or more accurately, don't fulfill the player's motivations for play (e.g. escapism, competition, socializing, etc.) This is fine if the

game is played in a setting where the play is a form of training (i.e. academic or corporate simulations to be discussed in the real world and take lessons to apply them; utilizing the nature of a simulation with coded rules for how the simulated world works for the player to explore and gain an understanding of what works and what fails in this world and apply it to the real world). However, most people don't pay money for games that are another form of a classroom. Which is why there are only a few commercially successful, or even viable games that also teach lessons very obviously, and when they do, the engagement with the lesson is secondary or tertiary to engagement with the narrative or mechanics of the game, which are what typically drive immersion in game so that the player enjoys and finishes the game.

Where serious games are concerned, explicitly telling the player the context of your message (e.g. Israeli-Palestinian conflict or racism in America) seems to create a barrier of some sort to pure information absorption as the player has some understanding that you are presenting a conflict, and therefore tries to contextualize this new information through frames with which they already are familiar. Some games try to veil the context of the message. For instance, the game *Deponia* is a warning about global warming, but the driving narrative is about a narcissistic, yet endearing, boy pursuing a dream to escape his poor origins and enter a life of luxury in high society through eccentric schemes and inventions. When playing the game, the message about global warming is an undercurrent that is easy to spot upon reflection or rumination on the game, but is not the emotional crux of the story and the game can be played fully and enjoyed without the player picking up on this broader message. Perhaps, this slow reveal makes the message, and the game associated, more palpable once realized because players have already invested in the game world and characters, making them more willing to truly listen to a message they normally would avoid. I envision this as an extension of the contact hypothesis

from interactions between individuals to interactions between individual players and ideas traditionally ascribed to partisan interests. While often occurring outside of gameplay, information absorbed during gameplay can be re-contextualized or recategorized when the player is faced with new information that offers a new perspective to events that occurred in-game or encounter similar scenarios in real-life to what they experienced in game, allowing behaviors learned in gameplay to become social scripts for real-life. I think that games should offer multiple levels of engagement with stories and messages so that players don't feel they are "hit over the head" with the developer's opinion or personal agenda, especially if they disagree greatly. Games can provide opportunities, but not mandates, of tangential learning. As Winston Churchill once said, "I am always willing to learn, but I do not always like being taught." When done more subtly, players can "opt-in" to a richer experience that deals with more meaningful subjects without alienating players who want more superficial, yet satisfying, gaming experiences. And based on what I've learned, eliciting empathy is the most efficient way to engage players in the lesson you'd like to them to interact with in your game and hopefully, persuade the player to develop an interest in that lesson or idea outside of the game and maybe utilize what they've learned to be more empathetic and knowledgeable humans.

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## Biography

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