Katherine Isbister, prior to joining the IT University of Copenhagen Center for Computer Games faculty as an associate professor in 2008, was an associate professor at Rensselaer Polytechnic Institute in New York, where she was founder and director of the Games Research Laboratory. Dr. Isbister's current primary research interests include emotion and gesture in games, supple interactions, design of game characters, and games usability. Isbister's book—Better Game Characters by Design: A Psychological Approach—was nominated for a Game Developer Magazine Frontline Award in 2006. Isbister serves on the advisory board of the International Game Developers Association Games Education Special Interest Group, and is the vice chair of the Game Studies Special Interest Group of the International Communication Association.

19.1 Why Social Psychology?

Good game design involves not just understanding the limits of the technology from which games emerge, but also, a deep understanding of how players react given a particular set of design choices. Social psychology offers game developers a very useful framework for understanding (and discussing) the effects that game design choices can have on players. The language of social psychology helps to put words upon effects that great designers are able to achieve, and thus helps those new to the field learn about and make good choices about what to do.

The focus of social psychologists is in understanding how individuals react and interact in social situations, with an emphasis on finding general patterns that hold true across groups of people. And where such generalization is not possible, understanding how people differ along well-defined lines of difference, such as age or
gender or nationality. Understanding how players will react in social situations is helpful in two broad categories of design thinking for games—crafting interactions with characters, and designing to support interaction between multiple players. I'll touch on both of these larger areas in this chapter.

The work practice of social psychologists is to come up with hypotheses about how people work, and then to test and confirm their hypotheses with rigorous studies. So a game designer who makes use of relatively well-established theories and results in social psychology can benefit from the fact that these principles have been tested out and validated.

Of course, the field of social psychology is huge, and can't be thoroughly explored in one chapter. I'll focus on introducing some of the effects that I'm familiar with and have found most useful to game developers, with recommendations for how to fold these into your user research and play testing.

19.2 Some Helpful Social Psychological Findings

19.2.1 First Impressions

Social psychologists have conducted a great deal of research on what happens in the first few moments that two people meet. It turns out that human beings form quick, and surprisingly enduring, assessments of others within just a minute or two. Interestingly these impressions can be surprisingly accurate when compared to impressions formed from a longer amount of time with someone. For example, one study examined impressions of teachers’ skills, and found that people who saw only a 30-second video of a teacher without sound made ratings of that teacher’s skill that had a .76 correlation with their end of semester rankings from students (Ambady and Rosenthal, 1993). However, first impressions can also have the unfortunate effect of distorting ongoing interactions. If a first encounter with someone was especially negative, then our impression of that person may continue to be negative, despite several positive interactions afterward.

This recognized bias toward forming quick and enduring impressions of other people has led to a whole self-presentation industry. Specialists coach businessmen and women, and even defendants in trials, in how to dress and behave in order to create positive first impressions.

All this is very relevant to game design and usability, in terms of the thoughtful crafting of game characters—both player characters and non-player characters (NPCs). Players will be using the same strategies for making judgments about game characters that they use in making judgments about other people. This might sound hard to believe, but it has been demonstrated in a series of studies by Stanford researchers, which substitute a computer for a person in classic social psychological studies (see Reeves and Nass, 1996). These studies have consistently found that people unconsciously use social rules and processes such as politeness, flattery, and judgments based on body language and the like, in their interactions with computers.
Therefore, game developers can make conscious choices about what qualities they would like to come across in a player’s first impression of his/her avatar, and of NPCs in the game, and then can use psychological findings to help guide the design choices that are made. User research can confirm whether or not the avatar or NPC is “reading” as it should for players. Researchers can even find and use the same measures that are used in social psychological studies to figure out whether the game characters are hitting the mark.

There are many facets to first impressions; what follows here is a targeted subset that may be especially useful in game character design.

**Attractiveness**

There is a reason that the cosmetics and beauty industry is so large. Social psychological research has demonstrated that people who are thought to be attractive are perceived to have other positive qualities that do not rationally follow—what is termed a “halo effect.” For example, they are also perceived to be more intelligent and capable, may be given preferential treatment in work situations, and are awarded bigger settlements in experiments that simulate jury trials. Making a character attractive (by the standards of your game’s target audience, that is) can create powerful positive attributions from players right from the start.

**Maturity (the “babyface” effect)**

The shape and features of a person’s face can have a powerful impact on first impressions, due to a phenomenon psychologists call the “babyface” effect. Babies have round faces, small brows, chins, and noses, and large eyes. When an adult has these features, people tend to react to that person as they would to a child—they see that person as more warm and trustworthy, but perhaps also less reliable and independent. A person with more mature features (longer face, large nose, prominent brow, strong chin, smaller eyes) will be seen as more independent and not in need of nurturing. There are many game characters that make use of babyface features. While it was once true, when pixel count was limited, that this was the only way to make a character’s features legible, it’s no longer true. This author believes one reason for the babyfaces lingering is that players find these characters trustworthy and likeable, due to the babyface effect. However, a designer wanting to create a strong, mature impression of a character probably does not want to use this feature set.

**Dominance and friendliness**

Practically speaking, human beings are trying to glean useful information for the future when forming first impressions. Two of the most important questions each seeks to answer about the other are:

- Is this person friendly toward me?
- How powerful is this person?
The answers to these two questions shape the strategies a person will take in interacting with the other. Will this person become an ally? Is the person a potential threat? Where do they fit in the social hierarchy in relation to me? What sorts of relationships are possible and desirable between us? Because social encounters unfold so quickly, people are very adept at reading cues of friendliness and power in others in just a few moments. As a game designer, you can make strategic use of these cues to telegraph to the player what a character's social position and relationship to the player's character are. Social psychologists have made in-depth studies of the various cues of dominance and friendliness, and these can be used as guidelines for developing character appearance and behavior (for a detailed taxonomy of these cues, see Isbister, 2006).

**Power of the situation**

One thing that has complicated the rigorous study of forming first impressions is how powerful the situation and surrounding circumstances are, in shaping how one person perceives another. The same behavior from someone that is encountered in one setting, may have a very different meaning to it when seen in a different setting. For example, acting very outgoing and exuberant comes across very differently at a New Year's Eve party versus at a funeral. This is because human beings intuitively grasp how powerfully circumstance shapes everyone's behavior, and we modulate our impressions of one another to take situation into account. However, we are also to some degree insensitive to this difference. That is to say, if a person meets another in a very happy context, where that person is happy because of the situation at hand, there will still be a tendency to attribute greater general happiness to that person, as a result of forming a first impression of them in a happy circumstance. It's another sort of halo effect.

Game designers can take advantage of the power of situation, because game designers are able to control both the character and the situation. A designer can heighten the first impression of a character's qualities, either by contrasting them with the situation at hand, or by using the situation to emphasize and add to the impression s/he wants to make of a character.

**Marks of belonging**

Another very practical set of judgments that people are making when forging a first impression, are ideas about what sorts of group memberships a person has—what cultural and subcultural groups does this new person belong to? This includes social class, political stance, and many other factors. Getting a read of group memberships helps establish potential common ground, or potentially troublesome conflicts.

People literally "wear" these cultural and subcultural memberships, encoded in the choices they've made about how they dress, how they move, their style of speaking and the language they use. Game designers can use these group memberships to develop a plan not just for how a character will dress, but also, for how the character will move and speak, and how s/he will behave toward others depending upon their
own group markers. Showing these nuanced reactions among characters is a very powerful way to create heightened believability and engagement for players.

**Mood management**

Another very helpful category of social psychological findings for game designers is results concerning the mechanics of emotions. There are two specific results that I’ve found to be very useful in understanding why certain design choices work well to create player emotions:

**Emotional contagion**

This result was initially put forward by social psychologists, and since then, neuropsychologists have found complementary information that backs up what was observed in the laboratory. Essentially, it is the case that human beings are highly susceptible to feeling the feelings of others. When a person talks with another person who expresses a feeling, s/he subconsciously and subtly mimics the expression of those feelings, and also internally begins to feel those feelings as well. Evolutionary biologists have suggested that this is part of how the powerful social bonds among people (and other primates) are formed. Neuropsychologists have found that there is physiological support for these observations—they’ve found what have been termed “mirror neurons,” which fire in the brains of primates when they observe others taking an action such as expressing an emotion. These neurons fire as if the primate itself were taking this same action.

What all this means for game designers, is that you have a very powerful psychological mechanism at your disposal. In particular, designers can use the expression of emotions in both the player character and in NPCs in a game to powerfully influence the feelings of the player him/herself. For example, if the player sees his/her avatar gleefully celebrating a victory, this can heighten his/her own feelings about that victory. Conversely, if the player sees his/her avatar calmly navigating obstacles despite the player’s own nervousness, it can help to steady that player’s nerves. Emotional contagion is also a very useful principle to consider in the design of social games. If the designer wants to evoke a certain mood in the group of players, s/he can use the actions and reactions of their on-screen avatars to encourage and exaggerate to move people toward this mood state.

**Physical feedback loop**

This result is complementary to the emotional contagion research, and may be a part of how that effect occurs. Basically, the idea is that a person gets part of his/her information about how s/he is feeling, by noticing what his/her body is signaling. In other words, if I notice that I’m acting as if I’m happy in how I move or with a smile on my face, I may decide that I’m happy. Social psychologists have isolated this effect with some clever experiments to rule out actual happiness or sadness. For example, Strack, Martin and Stepper (1988) had people try out an interface that
they had to use by holding a penlike device in their mouth. Half of the participants were told they should purse their lips around the device as they used it, which happened to activate their frown muscles. The other half were told they should clench their teeth with lips parted, which happened to activate their smile muscles. The latter group reported a more positive impression of the device!

Game designers can use this physical feedback loop particularly in the case of input devices that allow for physical movement, such as the Sony EyeToy or the Nintendo WiiMote. Getting players to move as if they feel certain ways can then lead them to attribute these feelings to themselves as they play—for example, I’m smiling and gesturing as if I’m happy so I must be happy.

19.2.2 How to Use these Findings in Design and Evaluation

Now that you have a few of these patterns in mind, how can you use them to improve the player experience of your game? Here are three suggestions that can go a long way:

1. Use these principles to make explicit design choices that you can test against. Where possible, include established social psychological metrics that you can use to confirm whether you’ve achieved what you hoped.

   For example, when you sketch out concepts for your main characters, discuss how they relate to the player in terms of dominance and friendliness, and what cues you’ll use to convey this. When crafting the player character visuals, consider whether you’ll use the baby face effect, and if so, make note of the classic features that evoke this effect. If you want a player to feel specific emotions at certain moments in gameplay, consider using characters to generate this emotion through emotional contagion.

2. Provide design specifications to all who work on game development, as well as those who will conduct any usability and play tests.

   Social and emotional impressions come from a wide range of very subtle cues, which unfold moment-to-moment. It’s essential that everyone who will shape the player’s experience of your game understands the effects you are aiming for, otherwise you may end up sending mixed signals to the player. For example, inconsistent emotional signals from a person’s face, body, and tone of voice can be interpreted by an observer to mean that the person is lying. So both animators and voice actors need to have a strong vision for the emotional signals you want a character to send. And programmers who will handle the feel of a player-character need to know target emotional effects in players so that they can contribute to this through responsiveness of that character. If all team members understand that you value certain social and emotional impressions, they will find ways to achieve these effects through subtle, in-the-moment development decisions that may never have occurred to your design team in pre-production.

   Testers will likely have a full sheet of issues and target effects they are looking at, and may not notice issues with the social and emotional impressions your game is making unless they know to look for them. Passing along and explicitly
valuing these qualities in your testing results will help ensure that they catch any problems as they emerge.

3. Make decisions and tradeoffs throughout production based upon these criteria.

Inevitably in the course of production, many features of a game end up cut due to time and budget limitations. If your team has decided it values certain social and emotional impressions on players, then it's important to weigh these in decisions that get made about cuts. There may be ways to preserve these impressions with creative reworkings of key moments or qualities in the game, but this will only happen if the team is keeping an eye on these effects and making sure they are preserved when things get scaled down.

19.3 How to Find More Useful Patterns?

Perhaps you would like to learn more about social psychological research findings, to see if there are more results that are of practical value for you in your particular design challenges. There are a few tactics I would recommend:

- **Have someone on your team read a couple basic textbooks, or attend an introductory course.** I've included some textbooks in the resources section of this chapter, which highlight certain areas. You can also find a list of introductory social psychology textbooks here: http://www.socialpsychology.org/texts.htm#intro. Many community colleges have courses, and there are online distance courses available as well.

- **Hire someone on your team who has a background in social psychology.** Many people in the usability field have psychology training—you might find that your user testing lead can also help the design team to come up with some valuable design principles based on sound research about human social and emotional tendencies.

- **Work with an outside expert.** It might be worthwhile to bring in someone with a strong background in social psychology and an interest in applying this knowledge to design challenges, to consult directly with your team. For example, if you are venturing into new genre or input device territory, and can't rely on prior successes or design intuition to keep you on the right path. You can find such experts by looking for people with research training and credentials who also write and speak in the game design community. Such individuals will be more likely to be able to quickly translate results into practical and actionable guidelines for your group.

19.4 References


19.5 Resources


A thorough overview of cognitive approaches to understanding social behavior—topics like the use of social categories and schemas, how we form impressions and inferences about one another and what attracts our attention, how we form attitudes about thing and each other, and much more. Great material for building interesting in-depth characters that feel realistic to players in terms of their assumptions and problem-solving strategies in interaction. Also great for understanding how to set up multi-player dynamics and situations, and casts of playable avatars.


A classic text that analyzes interpersonal interaction in unexpected and very useful ways for design thinking. Goffman introduces notions of what drives the dynamics of interaction such as the idea of “saving face.”


Includes valuable research findings on emotion and culture, and other topics that become very relevant when designing games that appeal across cultures.


Another excellent overview textbook that covers all the fundamental research in how nonverbal communication works. Very helpful for designing characters that have realistic and engaging nonverbal behaviors.


A recent and comprehensive introductory text that covers the basics about emotion—from cues that you can see in people's bodies, to the physiology of emotion, to cultural and social factors. A great place to begin if you are looking for more information about how emotion works and how to use it in your designs.


A great overview of some of the main psychological effects associated with faces, including attractiveness and babyface findings.