# Virtual Group Dynamics and Social Networks

**a.a. 2015-2016**

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# *Personality, Self and Identity*

*The reflected Self*



## The Reflected Self Theory

*It was Cooley (1902) who, a century ago, first introduced the idea of a reflected or looking glass self. Cooley argued that the self we create for ourselves is a reflection of how we perceive that others view us. That is, we look to others to see how we are perceived and then incorporate those views or perceptions into our self-concept. In Cooley's view, changes in one's self-concept occur when there are changes in the way others perceive oneself.*

Reference: *Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*The reflected Self*



- Mead (1932) built on Cooley's theory by suggesting that t**he self-concept is also affected by the way a person believes wider society views them**, based on cultural norms and standards.
- However, as Tice (1992) has noted, the social interactionist idea of a looking glass self may be too simplistic. A growing body of empirical evidence shows that while people are indeed adept at knowing how others in general view them, **they are not very good at discerning how they are viewed by specific others** (e.g., Ichiyama 1993; Kenny and DePaulo 1993).
- Further, as Shrauger and Schoeneman (1979) argue, people often see 'through the glass darkly', meaning that **they often have certain a priori conceptions of self that they then believe (wrongly) others believe true of them** as well (see also Kenny and DePaulo 1993).
- In addition, **we may tend to 'be' and to be perceived by others quite differently across different social domains**. For instance, a person may have a cool and radical image among friends, while with co-workers she is hardworking and conscientious.

*Reference: **Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.***

# *Personality, Self and Identity*

*Multiple selves, multiple identities*

*The idea that individuals possess multiple senses of self and identity has long been discussed in psychology and sociology.*

- William James noted, '***A man has as many social selves as there are individuals who recognize him***' (1892: 179).
- One important historical version of the multiple self notion is the ***distinction between the public and private self*** (e.g., Baumeister 1986). Both Goffman (1959) and Jung (1953) focused on this distinction.
- For Jung, ***one's conscious ego*** (the self that is presented to others) ***is less authentic than is the unconscious ego*** – in other words, according to Jung, one's real individuality resides in one's private self.

*Reference: **Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.***

# *Personality, Self and Identity*

*Multiple selves, multiple identities*



**The idea that individuals possess multiple senses of self and identity has long been discussed in psychology and sociology.**

More recently, further distinctions have been made in the idea of multiple selves. The tendency for people to have potential senses of self that they have not yet realized and, indeed, may never realize, has been examined.

- Markus and Nurius (1986) first broached this concept of possible selves. ***Possible selves are those selves that we possibly might become in the future.*** They include versions of self that we would like to become as well as those we hope to avoid becoming (i.e., the 'dreaded self').
- Along similar lines is the conception of the '***ideal self***', which ***contains those attributes of self-hood that we would ideally like to possess and which we strive to become***. (Higgins 1987).

# *Personality, Self and Identity*

### *The True Self*



***The previous definitions of the current self remains incomplete because it does not take into account the conceptions of self that one does not express socially.***

- Rogers (1951) and Horney (1946), argued that ***aspects of self that go unexpressed and are not acknowledged by others nonetheless remain a fundamental part of an individual's sense of self.*** These self-defining yet unexpressed aspects of self make up what Rogers (1951) called the 'true self '.

*..... the true self is said to be comprised of identity-important aspects of self that an individual currently possesses, yet is generally unable to readily express to others in most situations, despite very much wishing to do so. Rogers likened the experience of those who are unable to express these hidden aspects of self to a prisoner in a dungeon, 'tapping out day after day a Morse code message, Does anybody hear me?' (1980: 10).....*

# *Personality, Self and Identity*

## *The True Self*

*The previous definitions of the current self remains incomplete because it does not take into account the conceptions of self that one does not express socially.*

- Rogers' (1951) conception of the true self was informed by Jung's (1953) distinction between the **unconscious self and the persona**, or the public, enacted version(s) of self.
- The **true self differs conceptually from the ideal self and from possible selves in that it actually exists psychologically**; it is a current rather than a future version of self. It also differs from other current versions of self, such as the ought self and the actual self (see Higgins 1987).
- **The ought self,** for instance, **contains those qualities an individual feels obligated to possess and express** and the actual self those they embrace themselves and actually, readily express to others in their everyday lives. In other words, these are the public versions of self that we generally share with others.
- **The true self**, on the other hand, **is said to be comprised of those qualities a person feels they do indeed possess at present but that are not fully expressed in social life**.

Reference: *Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Relational Self*

*Recent research into the relational nature of the self (e.g., Baldwin 1997; Andersen and Chen 2002) has shown that conceptions of self do not exist in a vacuum.*

- Rather, one also **tends to incorporate one's important relationships** – along with one's important group identities (Tajfel and Turner 1986; Deaux 1996) into one's sense of self.
- Considerable research has shown the strong, even automatic **associations between representations of these significant others and of the self**. By unobtrusive and sometimes subliminal priming techniques, activation of the significant other representation causes activation of those aspects of the self related to the type of person one is when with that other person (see Andersen and Chen 2002).

# *Personality, Self and Identity*

### *The Internet and the true self*
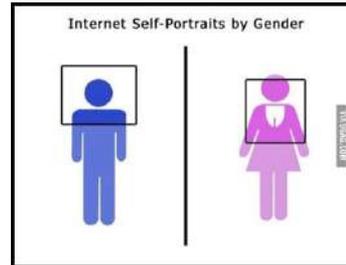


*The Internet – with its relative anonymity and multiple venues for social interaction – can be, as Sherry Turkle (1995) noted, a kind of virtual laboratory where an individual can express and experiment with different versions of self.*

Several unique aspects of the Internet enable people to

- take on various personae,
- to express hidden facets of themselves without fear of disapproval or sanctions from those in their real life social circle,
- to bypass many of the other barriers to self-expression that exist in face-to-face and telephone interactions (see McKenna and Bargh 2000).

*What are these special features and how do they facilitate greater self-expression and disclosure?.*

Reference: *Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Qualities of online communication
that facilitate self expression*



**There are several unique features of the Internet that foster self-expression.**

- First and foremost is the **ability for one to be relatively anonymous or non-identifiable** in individual or group interactions on the Internet.
- Further, the **cost and risk of incurring social sanctions** for the things said in that anonymous environment are greatly reduced.
- We may have **repeated interactions** with the stranger at the other computer. Thus our Internet self-disclosures may end up laying the foundation for an ongoing, close relationship.
- A second way in which the Internet facilitates self-expression is that it provides people the opportunity to **easily find others who share important aspects of identity** – hobbies, political views, sexual preferences – and who may not be readily identifiable in one's community.
- Membership and participation in such identity-relevant groups provides the opportunity to share these important parts of self with similar others and t**o have them socially validated** (McKenna and Bargh 1998, Howard et al. 2001; Joinson 2001, Joinson and Paine, 2007)

*Reference: Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Qualities of online communication
that facilitate self expression*

*For those who experience social anxiety when interacting with others in person and for those who, because of physical attributes (e.g., obesity, stuttering), find it difficult to get beyond others' stereotyped images of them, there is a third way in which online communication may facilitate self-expression.*

- *Interacting in the absence of physical cues and features on the Internet may enable these people to develop relationships* that otherwise would not have started in the first place (McKenna and Bargh 1999).
- For the socially anxious, *interacting in the physical absence of the other removes many of the situational factors that spark anxiety* (e.g., Leary 1983).
- Research has shown that in Internet interactions *socially anxious individuals feel more comfortable and confident* than when interacting face-to-face (McKenna et al. 2005, 2006).
- *Social anxiety has also proven to be a more reliable predictor of who will be more likely to feel that they can better express the true self* on the Internet rather than in traditional face-to-face venues (McKenna et al. 2002).

Similarly, *physical appearance has been shown to have a strong impact* not only upon first impressions but also in determining whether a friendship will begin between two people (e.g. Hatfield and Sprecher 1986).

We have a *tendency to immediately and unconsciously categorize others* based on physically available features – their ethnicity, attractiveness, age (Bargh 1989).

Reference: *Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Qualities of online communication
that facilitate self expression*

**A further way in which online interactions can differ from those which occur in person, is the degree of control an individual has over the way they present the self.**

- Because online interactions are at the minimum slightly asynchronous (as in instant messaging) and at the maximum wholly asynchronous (as in email) an individual has more time to formulate, and even edit, what they wish to say than usually is the case when one engages in synchronous, spoken interactions. In the absence of one's physical presence, there is no 'leakage' of non-verbal cues accompanying one's stated information. ***In other words, one is able to consciously engage in more strategic self-presentation online.***

*For these reasons, the Internet is a potentially powerful means by which people can express their true selves and meet important social and psychological needs that are not being met in real life.*

*Reference: **Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.***

# *Personality, Self and Identity*

*Activation and expression of the
true self online*

*If it is the case that the unique qualities of online communication facilitate the expression
of the true self, then one would expect:*

1. **an individual's true self concept to be cognitively more accessible during an Internet interaction** with a new acquaintance than in a traditional, face-to-face interaction**.**

2. **Conversely, if a person typically expresses the actual self in the face-to-face environment, then the actual-self concept should be cognitively more accessible during face-to-face than during Internet interactions.**

*Several studies were conducted to test these predictions.*

*Reference: **Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.***

# *Personality, Self and Identity*

*Activation and expression of the true self online*



***Bargh et al. (2002) conducted two laboratory experiments in order to assess the degree to which the true self, as opposed to the person's actual self concept, was more accessible and activated while interacting on the Internet versus face-to-face.***

In line with the predictions:

- Participants were ***faster to respond to content related to the actual self following a face-to-face interaction*** than following an Internet interaction.

- Conversely, ***content related to the participants' true self was more accessible following an Internet interaction*** than following a face-to-face interaction.

Reference: *Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Activation and expression of the
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- Additional conditions showed that it did not matter for the obtained differential accessibility effects whether the interaction lasted for 5 minutes or for 15 minutes. Thus *the effect was not an artefact of differences in the amount of information that can be conveyed in a face-to-face versus an Internet encounter* (see Walther 1996).

- A second study showed that the t*rue self did not become more accessible when participants merely anticipated but did not actually engage in an Internet versus a face-to-face interaction*.

*This argues again for the naturalness or automaticity of true-self concept activation as a consequence of Internet communication conditions, because if its activation and use were part of a deliberate and conscious strategy on the part of the individual, the anticipation of Internet-level communication should have caused it to become active in preparation for the interaction.*

Reference: **Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.**

# *Personality, Self and Identity*

*Activation and expression of the true self online*



*Thus the self-concept accessibility effects seem to be a consequence of the Internet interaction experience itself. Indeed, the default or baseline state seems to be for the actual self to generally be more accessible for use than the true self-concept.*

**These two experiments indicate that an individual's true self concept will become more accessible and ready to use in Internet interactions than in face-to-face interactions – but does that mean that true self-aspects are actually expressed in online interactions and, if so, are they perceived by one's online interaction partner?**

Bargh et al. (2003) conducted a further experiment to find out if people are more successful at getting the true self across to others in online versus face-to-face interactions:

- Participants successfully conveyed *more true self than actual self features in Internet interactions*.
- In contrast, *in the face-to-face condition there were significantly more actual self than true self matches with the partner's spontaneous description of the person*.
- Thus, *on the Internet* – as assessed by their partner's own candid and spontaneous descriptions of them – *participants were better able to convey their true selves*.

*Reference: Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Activation and expression of the
true self online*

*Thus the self-concept accessibility effects seem to be a consequence of the Internet interaction experience itself. Indeed, the default or baseline state seems to be for the actual self to generally be more accessible for use than the true self-concept.*

The Bargh et al. (2002) studies demonstrated that:
(a) *true self characteristics become more activated and accessible in online vs. face-to-face interactions*,

(b) that *this greater activation does not appear to be the result of a conscious, self-presentational strategy*,

(c) that *people are, indeed, expressing and effectively conveying these true-self characteristics more so in their online vs. offline interactions*.

## *Personality, Self and Identity*

*Activation and expression of the true self online*



## *Are they, however, aware that they are doing so?*

- McKenna et al.(2006) conducted a study replicating the Bargh et al. (Study 1) findings of *greater activation of true self characteristics in online vs. face-to-face interactions*. This study also included explicit measures assessing the degree to which participants were able to report having expressed actual and true self characteristics during their interactions.

- Results showed that *online and face-to-face participants looked identical as to the degree to which they felt they had expressed these aspects of self*. Thus it appears to be the case that, while people are indeed expressing more true self aspects in their online interactions, they are often unaware of doing so.

*Reference: Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Activation and expression of the true self online*



## *Are they, however, aware that they are doing so?*

As previously mentioned, true self characteristics were found to be, on average, significantly less positive than the actual self characteristics. (However, it is important to note that both true and actual selves tended to be positive in valence.)

*This also supports the conclusion that the effects of the Internet communication situation are unintended and nonstrategic.*

*Reference: Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Same old friends, same old self*

**In contrast to interactions with new acquaintances, online or face-to-face we generally express the same aspects of self to members of our existing social circle.**

- In line with the findings of Andersen and Chen (2002), results from a recent survey and laboratory studies reveal that t*he average person generally continues to express the 'actual self' to those whom he or she initially met in person, whether the interaction takes place online or not* (McKenna et al. 2005, 2006).

*Reference: Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Same old friends, same old self*



*In addition to conscious self-regulatory processes that are likely to be at work (e.g., the need for consistency in one's self presentation to family and friends), non-conscious processes may also be at work to inhibit the expression of the true, or inner, self with existing friends while interacting online.*

- Recent research (e.g., Fitzsimmons and Bargh 2003; Shah 2003) suggests that *when important mental representations of others become activated, so too do the self-goals and motivations that are associated with that relationship become activated*. These goals then operate, outside of the individual's conscious awareness, to affect the individual's behaviour, even in quite unrelated situations.

*Reference: Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Same old friends, same old self*

This suggests that when one is interacting online with a friend or family member the mental associations that one has with that person are likely to be activated, and strongly so. Thus the same self-qualities that one generally presents when with the friend in person, along with the same goals and motivations, are also likely to be activated and expressed during the online interaction.

- Results from a recent laboratory study (McKenna et al. 2006, Study 3), suggests that this is indeed the case.

- Research by Tice et al. (1995) found that ***when two strangers meet (face-to-face) for the first time and the meeting takes place in the absence of any friends or acquaintances, they tend to behave with less modesty***. That is, they tend to present more of their ideal self-qualities to strangers than they do to friends.

Reference: *Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

## *Personality, Self and Identity*

*Same old friends, same old self*

- *The presence of a friend at the meeting provoked more modest self-presentation*. In a replication and extension of this study, including two additional and comparable online conditions, McKenna and colleagues (2006, Study 3) found that individuals are indeed

  ○ more likely to present a *significantly less modest version of self when interacting face-to-face with a stranger alone than if a friend is also present*.

  ○ The results become quite interesting when it comes to the online conditions, however. When a friend was a present (although passive) participant in the chat room, *the participant presented a version of self in line with that of the stranger–friend face-to-face condition – more modestly than when two strangers interact alone face-to-face.*

  ○ When two strangers interacted *online and alone, however, the most modest version of self was elicited.*

Reference: *Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Same old friends, same old self*

*Thus it does seem that individuals are motivated to present themselves in the same, relatively modest, way in the presence of friends, regardless of interaction venue. Further, they tend to be even more modest in their self-presentation when they interact online solely with a stranger. Modesty goes out the window, however, when one meets a new person face-to-face and in the absence of any known acquaintances.*

*Reference: Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Consequences of expressing the true self on the Internet.*



*We turn now to an examination of the consequences that may stem from expressing the true self on the Internet.*

**If an individual does begin to express their true self with others on the Internet, what effects might this have on their self-concept? Research conducted with people who have socially marginalized aspects of the true self may provide some insight.**

McKenna and Bargh (1998) studied Internet users involved in electronic newsgroups catering to marginalized aspects of identity. One study focused on those who have marginalized sexual proclivities (e.g., homosexuality, bondage) and a replication focused on stigmatized ideologies (e.g., believers in government conspiracies).

*Reference: Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# *Personality, Self and Identity*

*Consequences of expressing the true self on the Internet.*



*We turn now to an examination of the consequences that may stem from expressing the true self on the Internet.*

- The assumption was that *active participation in identity-relevant electronic groups would lead to the same benefits for individuals as has been found for group membership and identification in traditional face-to-face groups* (e.g., Ethier and Deaux 1994; Deaux 1996).
- Specifically, to the extent that participation in these groups leads to stronger group identification, the individual should come to accept the marginalized identity as part of, rather than distinct from, their self-concept.
- Results indicated that *active participation in the online groups did allow these individuals to reap the self-related benefits of joining a group of similar others*.

## *Personality, Self and Identity*

*Consequences of expressing the true self on the Internet.*

*We turn now to an examination of the consequences that may stem from expressing the true self on the Internet.*

- Moreover, because these groups dealt with stigmatized identities, for most participants this was the first time and the only way possible for them to find similarly minded others.
- Participation in the groups allowed these individuals to disclose, in a social context, a long-secret yet important part of their identity, and in return gain emotional and motivational support from their fellow group members (see Derlega et al. 1993; Jones et al. 1984).

*Participation in the online group resulted in increased feelings of self-acceptance of one's marginalized identity, and also caused the person to feel less isolated from society in general.*

*Reference: Joinson, A. (2007). Oxford handbook of internet psychology. Oxford University Press.*

# DIGITAL SELF

# Where do we start?

A **new** future  +  An **old** question

**Digital**

More than 700 million people worldwide now have profiles on on-line social networking sites (OSNs)

**Identity/Self**

<<It is difficult to craft a formal definition of identity>>
Abelson, 1998

# Identity in Psychology:

*In psychology, identity is understood as a continual experience of the individual self; of that person's uniqueness and authenticity, as well as the identification with life roles and the experience of belonging to bigger or smaller social groups*

Vybíral, 2004

# Can we talk about experiencing one's identity in the virtual environment?

In answering this question one must consider the credibility of digital identity information found on the Social Web

(such as age, nationality, sex…)

These biometric characteristics are protected in real space because they are embedded in the <u>physical body</u> of the person…

…but this is lost in cyberspace

# Main author's studies about virtual identity

| Author | Year | Study's results |
|--------|------|-----------------|
| Abelson | 1998 | Control of identity consequently facilitates apparent anonymity, full disclosure, and selective revelation of identity. At one extreme is apparent anonymity, at the other extreme is complete identification. These extremes mark the endpoints of a spectrum: we can have a strong link, weak link, or no link at all between our cyberspace and our real world identities. |
| McKenna | 2000 | The Internet provides the opportunity for individuals to engage in greater identity and role construction than is possible in the non-Internet world. |
| Yee | 2007 | See slides later: experiment in detail. |
| Back | 2010 | See slides later: experiment in detail. |
| MCCreery | 2012 | See slides later: experiment in detail. |

VIRTHULAB

# Back's studies (2010)

## He has two hypothesis:

### idealized virtual-identity hypothesis:

*profile owners display idealized characteristics that do not reflect their actual personalities*

### extended real-life hypothesis:

*OSNs may constitute an extended social context in which to express one's actual personality characteristics*

# Back's studies (2010)

➢Participants: 236 OSN users (ages 17–22 years) from the most popular OSNs in the United States and Germany

➢Measures: NEO Five-Factor Inventory, TIPI, Big Five Inventory

➢Procedure: **Accuracy criteria** (i.e., indices of what profile owners were actually like) were created by aggregating across multiple personality reports. **Ideal-self perceptions** was created by rephrasing the TIPI and the BFI-10 rating instructions: participants were asked to "describe yourself as you ideally would like to be."

# Back's studies (2010)

## <u>RESULTS</u>:

Back tested the two competing hypotheses.
His results were consistent with the **<u>extended real-life hypothesis</u>** and contrary to the idealized virtual-identity hypothesis.
These results suggest that people are not using their OSN profiles to promote an idealized virtual identity.
Instead, OSNs might be an efficient medium for expressing and communicating real personality.

# McCreery's studies (2012)

Virtual self has become a new component of one's overall identity, existing in conjunction with the public and private persona.
Virtual self refers to the technology-mediated self, simulated in virtual environments.

Findings suggest that although the existence of a **virtual self** appears likely, it does not appear to be an equivalent persona, but rather **a projection of psychological characteristics** (e.g., personality traits)
that are necessary to work in conjunction with the content, purpose, constraints, and affordances of the environment in which the <u>avatar</u> exists.

**VIRTHULAB**

# *THE AVATAR*
# Yee's studies (2007-2009)

# What is an avatar?

In the environment of the Internet, the individual is not present as a physical subject, but only as a "*virtual representation*".
A virtual representation does not have an identity in the psychological sense. It is a "cluster" of digital data, a set of data that is ordered in some way.

## AVATAR:
"a perceptible digital representation whose behaviors reflect those executed, typically in real time, by a specific human being"
(Yee, 2009)

...But little is known about the relationship between who a person is and the avatar he or she creates!

*Ganesh, 2012:*

Long-term players of online role-playing games incorporate the avatar into their self-concept.

Some gamers seem to identify even more strongly with their avatar than with their real self.

Sense of agency and control over the avatar as well as the intense emotional involvement of gamers during online role-playing may facilitate this kind of self-identification.

# Yee's studies (2007-2009)

Studies have shown that people infer their expected behaviors and attitudes from observing their avatar's appearance…

… this phenomenon is known as ***Proteus Effect***

*"The Proteus Effect builds on existing studies in **self-perception theory**, which showed that people infer their own attitudes and expected behaviors by observing themselves as if from a third party".*

it has been demonstrated that observations can lead to

changes in behavior.

# Yee's studies: description
*Avatar Choice in World of Warcraft*

WoW is an online game where users interact via customized avatars.

Users move their avatars via the keyboard and mouse, and mostly communicate with other users via typed chat.

In the character creation portion of the game, users are asked to choose a male or female avatar from one of eight races (e.g., gnomes, elves, humans).

Within each selected race, there are a small predefined set of fairly limited faces and hair styles that users can choose from.

# Yee's studies: description

In WoW, races have specific visual traits that tend to be highly similar within a race, but highly dissimilar between races. For example, all *Gnomes* are short and in fact have the exact same height, while all *Night Elves* are tall and also all have the exact same height.

Thus, height and attractiveness vary mildly within a race in WoW, but tend to vary a great deal between races.

While avatars of the same race all have the same height, given that it would be difficult to measure the attractiveness of thousands of avatars, we used an avatar's race as a proxy for their attractiveness.

# Yee's studies: description

Variable: attractiveness



To test attractiveness of each of the eight races that serve as avatars in the game, we captured screenshots of each race from the character generation segment of the game.

The character generation segment has a "random generation" option that allows a user to randomly select and combine one of the possible hair styles, face textures, skin tones and hair colors available of the selected race.

We used this random generation feature to generate sample avatars of each race.

# Yee's studies: description

<u>Variable: height</u>
Same procedure for selections.

<u>FINDINGS</u>

Avatar height and attractiveness do **play a role** in character performance in an online game and tall attractive avatars do outperform other avatars, but that these physical attributes may interact with each other in unexpected ways.

Thus, it is not as simple as stating that attractive avatars tend to outperform unattractive avatars.

Nevertheless, these findings show that an ***<u>avatar's appearance can influence a user's behavior in an online environment</u>***.

# Yee's studies (2007-2009)

*Before Yee: Frank and Gilovich*

➢In their study, participants were asked to wear either black or white uniforms.

➢Participants were asked to select 5 games (from a list of 20 games) in which they would like to compete. The list of games had been previously rated in terms of aggressiveness.

➢It was found that participants in black uniforms selected games rated as being significantly more aggressive than participants in white uniforms.

# Yee's studies (2007-2009)

➢ In line with self-perception theory, it is argued that **participants in black uniforms observed themselves as if from a third party to infer their expected attitudes and behavior.**

➢ In this case, people in black uniforms are perceived to be aggressive. Participants in black uniforms thus inferred that they are aggressive and behaved accordingly. When presented with the choice of games, they selected the games that were more aggressive.

THIS EFFECT HAS ALSO BEEN REPLICATED IN A **DIGITAL GAME-LIKE SETTING**, WHERE USERS WHO WERE GIVEN AVATARS IN A BLACK ROBE EXPRESSED A HIGHER DESIRE TO COMMIT ANTISOCIAL BEHAVIORS THAN USERS GIVEN AVATARS IN A WHITE ROBE (YEE, 2009).

# Deindividuation theory…

A line of research has shown that the impact of identity cues is particularly strong when people are deindividuated.



*Zimbardo* originally used ***deindividuation theory*** to argue that urban or crowded areas cause deindividuation that leads to antisocial behavior

# ...and SIDE theory

However, it has also been shown that deindividuation can lead to affiliative behavior as well.

Infact the ***social identity model of deindividuation effects*** (***SIDE theory***) argued that factors that lead to deindividuation, such as anonymity, might thus reinforce group salience and conformity to group norms.

# Future research

• It would be interesting to examine the motivations for avatar selection. In particular, we might gain interesting insights as to the personality traits that might lead a user to pick a particular avatar.

•While avatars are usually perceived as something of our own choosing, it is also the case that our avatars come to influence our behaviors and interactions with others.

•Psychologists could develop and use virtual environment to conduct scenario-based assessments and interventions.

•Future research regarding the Proteus Effect may generalize to other fundamental aspects of self-representation, such as gender or race. For example, when male participants employ female avatars, they may behave in a more gender-stereotypical manner.