

# **Social Psychology in the Era of the Metaverse:**

## **An overview of recent studies**

M. B. Benosman

MERL<sup>\*</sup>

### **Introduction**

On the one hand, social psychology is the specialization of psychology that studies all aspects of *real* human social existence, from love relationships to prejudice, exclusion, and violence, e.g., (Branscombe & Baron, 2017). On the other hand, the metaverse can be defined as a *virtual* reality space in which users can interact with other users within an environment generated by computer, e.g., (Hornby, 1995), (Mystakidis, 2022).

The aim of this short paper is to give an overview of some recent studies in social psychology in the context of the metaverse. Indeed, just recently one of the main players in social media, i.e., Facebook, has rebranded itself as Meta, short for Metaverse. Meta has announced that it will add an extra dimension to social media as we know it by lifting us to a 3D virtual world, where we could interact with each other via our avatars, e.g., (Zuckerberg, 2021).

<sup>\*</sup>Mitsubishi Electric Research Laboratories, Cambridge, MA 02139.

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Correspondence: m\_benosman@ieee.org

The questions that arise is: How will this new way of interaction affect all the dimensions studied by social psychology? Will daily interactions in the metaverse lead to an increase or a decrease of empathy between us? (Turkle, 2022). Will it lead to better overall mental health, or will it increase isolation and low self-esteem feelings?

These questions are becoming the focus of interest in psychology, e.g., (Wiederhold, 2022a), (Wiederhold, 2022b), Mandolfo et al., (2022), Gonzalez-Moreno et al., (2023), Wiederhold, B. K. (2023), and more specifically in social psychology, e.g., see the recent call for special issue papers, Khwaja et al. (2022), Riva et al. (2022).

In this note, we review the main findings of some recent studies on the subject of the metaverse and its impacts on (social) psychology.

## **Discussion of recent studies**

### **Study by (Henz, 2022)**

In this recent paper, the author presents the results of his study on the impact of the metaverse on our societies. The author starts by underlining two types of metaverses (Henz, 2022, Section 2). The first one pioneered by the company Microsoft pertains mainly to interactions in work environments, e.g., meetings between coworkers' avatars or students' avatars in study groups. The second main concept of a metaverse, led by the company Meta Platforms (previously known as Facebook) is the one focusing on social networking via users' avatars. Henz argues that the former metaverse aims at corporations rather than direct consumers and can be used to improve productivity, for example using the concept of Digital Twin environment, where users can conduct real tests on distant real machines using their virtual avatars. Whereas the later concept of

metaverse is aimed at maximizing the users' time on the virtual platform. This concept is the one with the most potential effect on social psychology.

Indeed, the author explains that spending extended periods of time in the virtual world, might lead to several psychological changes. For instance, cognitive dissonance, e.g., (Branscombe & Baron, 2017), might be felt by the users due to the gap between the users' real-life cultural norms with their associated attitudes, and the metaverse virtual norms, as experienced by the users. These virtual norms are dictated by the technology companies who design these virtual worlds. The author pushes this concept of 'corporation control' by introducing the idea of subliminal manipulation of the metaverse users. This manipulation can be implemented by introducing changes in the allowed behaviors of their avatars, which in turn, as argued by the author (Henz, 2022, Section 4), might lead to changes of the behavior of the same users in their real-life if they identify strongly with their avatars over time.

### **Study by (Bojic, 2022)**

In this study Bojic focusses on two main concepts related to the metaverse's effect on social psychology. The first concept is what he names 'power'. This concept concerns the power of the technology companies, who design the metaverse, on the users of the metaverse. This concept is in line with the concept of subliminal manipulation studied in (Henz, 2022). Therefore, for the sake of brevity we will not expand on it here. The second concept in (Bojic, 2022), more relevant for social psychology, is the one of addiction in the metaverse. Indeed, the author argues, based on several studies cited in his paper, that the metaverse has stronger addiction effect on its users than classical 2D social media platforms; see (Bojic, 2022, Result Section). For instance, in Figure 4 of (Bojic, 2022), one can see that the metaverse addiction rate is higher comparatively to other communication systems, because it has several sensory stimuli, i.e., audition, vision, touch, and

3D sense of space, due to the virtual reality headsets technology. These extra degrees of stimuli can lead, depending on the quality of the equipment, to an effect of ‘replicating reality’ which has been shown to be the most addictive feature of media, e.g., ((Bojic, 2022), page 12).

In fact, the author argue that this sense of replicating reality might lead to the concept of ‘escapism’ or also commonly referred to as ‘the substitution of real life’. Finally, the author discusses how this addictive behavior will lead to more power for the technology companies, because of the users willingness to share their personal data, and their higher exposure to the subliminal (manipulative) messages incorporated in the metaverse by design to achieve more control.

#### **Study by Usmani et al. (2022)**

In this study the authors focus on the effect of the metaverse on mental health, both from the perspective of treatment potential, as well as usage induced effects. Since this note is about social psychology in the era of the metaverse, we choose to focus on the second perspective of the paper, i.e., the usage induced effects on mental health. For instance, the authors argue that frequent interactions between users’ avatars in the metaverse, can lead to alleviation of users’ social isolation symptoms, e.g., anxiety, depression, low self-esteem. This is more likely to happen under the condition that the users identify with their avatars. For example, avatars could be used to practice self-compassion in depressed individuals, which could help lower their anxiety symptoms (Usmani et al. (2022), page 3).

On the other hand, the authors emphasize some potential negative effects as well. Indeed, the authors refer to the well documented self-enhancement effect, e.g., (Branscombe & Baron, 2017) in classical social media, i.e., 2D social media, and argue about the potential increase of this effect due to the 3D effects of the metaverse, i.e., the extra stimuli might lead to more identification

with the virtual avatar, which in turn might lead to more self-enhancement attempts, by continuously improving the avatar. The authors refer to this effect as ‘the proteus effect’ when the users spend an extended amount of time and effort to improve their avatar image.

This proteus effect can lead to attitudes and behaviors changes in the real word if the users end up identifying with their avatars; see ref. [30] in (Usmani et al. (2022)). Another negative facet of excessive usage of the metaverse is the so called ‘Hikikomori effect’ which has been identified in Japan, where some virtual reality users reach a level of addiction that make them reluctant to leave their houses, i.e., disconnect with real life. This effect is related to addiction symptoms that we already discussed in the Section ‘Study by (Bojic, 2022)’.

#### **Study by Zhang et al. (2022)**

In this paper the authors base their study on the principle of the embedded social presence theory (ESP), e.g., Mennecke et al. (2010), where under certain conditions, the users of virtual reality are considered to have an embodied presence in the virtual world, i.e., identified with their virtual characters, and can also reach an embodied co-presence, i.e., identify with the interactions with other virtual characters. When the users have reached this level of embodied presence and co-presence, their attitudes and actions in the virtual world can lead to direct psychological and physiological effects in their real-world, e.g., Mennecke et al. (2011).

If we agree with these findings based on ESP theory, then we can conclude that under these conditions of embodied presence and co-presence, users might have positive as well as negative effects from their virtual interactions, similar to the effects that they might experience in real-life social interaction.

### **Study by Lee, et al., (2022)**

This study focuses on another facet of social psychology, which is social psychopathology due to autism spectrum disorder (ASD). Indeed, ASD is a developmental condition that implies chronic challenges in social interaction. Various behavioral therapies have been proposed to improve the symptoms of ASD patients. For instance, the program for the education and enrichment of relational skills (PEERS) is a manualized evidence-based social skills program developed for ASD treatment, e.g., Laugeson et al. (2015). This important treatment, however, is based on a face-to-face interaction between the patient and the therapist. The recent COVID-19 worldwide pandemic event has constrained such face-to-face interactions, costing valuable treatment time for ASD patients.

Lee et al. (2022) proposes to use the virtual reality of the metaverse to emulate a virtual PEERS treatment. The study conducted by Lee et al. (2022) consists of a treatment over a period of 4 weeks, in the form of 60 mins session per week. The patients (children from 7-12 years) undergoing the treatment were fitted with wearables to collect their biometric information in real-time. In addition, a webcam was used to record the children's behavior and facial expressions in real time during the sessions. A specific program from PEERS treatment was implemented in the metaverse, namely, the 'Being a Good Sportsman' social program. The conclusion of this study showed statically significant improvement of the ASD patients, in the form of an improvement of the overall social skills, frequency of social engagement, and social skills knowledge, while reducing ASD symptoms, such as anxiety, aggression, and irritability.

The conclusion of the authors was that the metaverse can increase the scalability and freedom of the PEERS treatment in that it can provide the characteristics of surrounding people who can help ASD youth. In addition, if the program is conducted using metaverse rather than

simply delivering education on the internet, it is possible to provide not only theoretical content but also practice using actual peer groups, thus enabling interactive learning. Similarly, more recent studies are supporting the benefits of interactive learning via the metaverse, e.g., Artolotta et al. (2023), Said, G. R. E. (2023).

### **Study by Oh, et al., (2023)**

In this study the authors consider the impact of the metaverse on the social behavior of young generations; millennials and Generation Z in south Korea. After observing 300 participants, the authors concluded that social presence; the sense of psychological perception of virtual social actors as being vividly simulated in sensory or non-sensory ways (Lee, 2004), is enhanced in the metaverse due to its realistic immersive experience. This in turn can lead to enhanced supportive interactions between users, e.g., showing empathy, validating thought, complimenting each other, etc.

Furthermore, the authors found that enhanced supportive interactions in the metaverse led to more positive perception of social self-efficacy in the real world, which is defined as ‘one’s perceived competence in initiating social contact and developing new relationships’. This improvement in social self-efficacy was found to be a good predictor of reduced feelings of loneliness in everyday life.

In conclusion, this study showed a clear positive impact of the metaverse on its users’ mental health and social life, if the predominant social interactions experienced in the metaverse are positive and supportive.

## **Summary and Conclusion**

Based on the reported studies, it is clear that the field of social psychology will play a paramount role in improving the metaverse and understanding its impact on our society. Indeed, one common finding from these studies is that the metaverse, due to its realistic 3D interaction, will lead to more identification of its users with their virtual presence, i.e., avatars, this strong identification will most likely influence the attitudes and behaviors of the metaverse users in their real-life. Social psychology studies can be conducted to quantify the effect of this 'new' 3D virtual society on our real society and perhaps help mitigate some of foreseen negative impacts on the mental health of the individual users, as well as on our society as a whole. For instance, social psychology can help us understand how strong identification with avatars will affect attitude and behavior changes in the real-world.

On the other hand, we also found a study that showed positive effect of the metaverse on mental health of autism spectrum disorder (ASD) patients with debilitating social anxiety, who could benefit from novel interactive virtual therapies that could be made easily accessible to patients, regardless of their socio-economical background and geographic location.

Overall, as with any new powerful technology, it is up to us to control its usage, and make sure that there is enough scrutiny to maximize the benefits of the technology while mitigating its potential harmful effect on our society.



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