I'd Rather Die Than Be with You:
The Effects of Mortality Salience and Negative Social Identity on Identification with a Virtual Group

Lena Frischlich, Diana Rieger, and Olivia Rutkowski

University of Cologne, Department of Psychology, Richard-Strauss Str.2, 50931 Cologne
lena.frischlich@uni-koeln.de

Abstract. Research inspired by terror management theory has demonstrated that mortality salience (MS) triggers defense of one's self-esteem and cultural worldview, for instance in terms of in-group identification. A necessary precondition is that this in-group contributes to a positive self-evaluation by being successful in relevant social comparisons. Unsuccessful in-groups pose an identity-threat and trigger dis-identification. Nowadays, virtual worlds and avatars offer new pathways to in-group identification and self-enhancement, raising the question which virtual groups and self-representations serve terror-management needs. The current study examined this question in a life simulation game. Participants either wrote about their death or a control topic before they were confronted with an identity-buffering (successful) versus identity-threatening (unsuccessful) virtual in-group, manipulated via ethnicity. Subsequently, preference for in-group avatars and identification with the virtual group were assessed. The results confirmed an increased identification after MS only when one's identity was buffered. Results are discussed with regard to their implications.

Keywords: terror management theory, Negative Social Identity, Avatar Selection, Virtual Group-identification, Simulation Games.

1   Introduction

"I am not afraid of death, I just don't want to be there when it happens" [1, p. 99]
     Over the last decades, this desire to flee from death has been examined by research in the area of terror management theory (TMT, [2]). TMT is based on the assumption that humans are trapped in an existential dilemma between the innate desire for continued existence and the insight that their life is ultimately finite. To defend against the paralyzing terror resulting from the awareness of one's mortality (mortality salience, MS), mankind has developed a symbolic anxiety-buffer encompassing two interwoven components: (a) the *cultural worldview* one commits to; and (b) *self-esteem* if one matches the norms inherent in that worldview. Cultural worldview thereby reflects one's social identities [3]. Identification with them provides the individual with a level of existence that is immune to the limited existence of one's

personal identity [4]. Moreover, in-groups also influence one's self-esteem crucially: Besides providing group-norms which the individual can strive for to feel valuable [3], the comparison of one's in-groups to relevant out-groups provides the individual with important status informations [5]. The more positive one's in-group is evaluated, the better oneself can feel too. Evidence is large, that both, one's cultural worldview and self-esteem are defended under conditions of MS [6].

Nowadays, modern technologies and virtual realities enable their users new pathways to flee from life's inevitable end. As Malda [7] wrote in the Washington Post "I'll never write the Great American Novel or direct the Oscar Award Winning Film. But the Internet let's all of us live forever". Virtual realities that offer their users parallel realities 24/7, are especially well-suited to defend one's cultural worldview and self-esteem. Their users can (a) represent themselves as a self-esteem enhancing avatar [8]; and (b) affiliate with desirable in-groups via mouse-click [9]. Yet, the quasi-infinite options for avatar creation and virtual group attachment raise the question which characteristics of a player might be transmitted to virtual realities under conditions of MS. If anything is possible, what will persist?

This question is particularly relevant when it comes to the transmission of real-life characteristics that might trigger aversive experiences, such as ethnic-discrimination. Indeed, it has been found that ethnic diversity is lower in virtual than in real environments [10]; with most created avatars being White. This disappearance of, for example, Black characters in virtual worlds has raised attention and concerns [11]. Albeit, the effect is partly due to fewer options to create ethnically realistic Black avatars [12], Lee [13] found a vicarious circle triggered by low ethnically diverse virtual environments. Black participants who were confronted with a predominantly White second-life community, created more White-looking avatars as compared to Black participants confronted with an ethnically diverse community. Moreover, those in the low ethnic-diversity condition also reported less willingness to reveal their real-life ethnic identity through their avatars.

This is striking because it has been demonstrated that avatars generally display one's personal [8] as well as social identities [14] and identification with virtual groups also follows the principles of social identity theory (SIT [5]). Identification with a virtual group is an integral part of the players' overall identification with a virtual world [15] and also affects one's real-life identities [16]. Due to the relevance of social identities for one's self-esteem [5] in-groups that lose a relevant social-comparison (because they are numerically underrepresented [13], negatively presented [17], or simply not successful [18]) not only lose their death-anxiety buffering potential, they even pose a self-relevant threat themselves and consequently trigger defensive behaviors [19]. Hence, although group-identification has been found to be effective in transcending the own mortality [4], this effectiveness strongly depends on the status one's in-group has compared to relevant out-groups: In case of identity-threatening in-groups, individuals preserve their self-esteem by distancing from them even more after MS [17]. Most plausible, this effect will be even stronger concerning the (dis-) identification with virtual ethnic groups, as it is much easier to distance from them than from a real-life ethnic in-group. The buffering-potential of one's ethnic identity in face of MS thus might contribute to an understanding of the low ethnic-diversity in virtual worlds.

1.1   Terror Management Theory and Negative Social Identities

The basic assumption underlying TMT is that humans are ultimately caught in the existential dilemma between the desire for continuous living and the awareness that life is not endless. Within this dilemma lies the potential for paralyzing terror [2]. In order to cope with this threat-of-death and to ensure continuous functioning [20], humans subconsciously1 strive for symbolic immortality by becoming part of a cultural worldview larger than the own limited existence [3]. Referring to social identity theory (SIT, [5]), cultural worldview is related to one's social identities. Castano [21], [22] has pioneered the idea that the shift towards social identity and the depersonalization from an individual to a group member is particularly well suited to transcend the own physically limited existence [4]. Yet cultural worldviews are fragile social constructions [23] and thus need constant consensual validation by others.

The main hypothesis of TMT therefore predicts that under conditions of MS, individuals prefer those who share their cultural worldview (the in-group) and derogate those who question it (the out-group). Supporting this hypothesis, MS has been demonstrated to increase a variety of in-group biases. For instance, subjects were found to evaluate essays criticizing their nationality more negatively under conditions of MS [24]. They also have been found to prescribe their in-group more positive traits [21], to prefer in-group products [25] and to show pro-social behavior predominantly towards in-group members [26] after MS. These effects have been found for religious [27], national [22] as well as ethnic in-groups [28].

Albeit the ample evidence for increased in-group biases under conditions of MS, the positive effect of a certain in-group for one's self-esteem is a necessary precondition for increased in-group biases. Due to the identity-threatening nature of negative in-groups ([19], [29]) individuals have been found to distance from such in-groups even more after MS. For instance, Arndt, Greenberg, Schimel, Pyszczynski, and Solomon [17] found Hispanic participants after MS to evaluate Hispanic art more negatively if they had read an identity-threatening description of a negative in-group member (here: A drug dealer) than following an identity-buffering positive in-group example (Identity-buffer, here: A missionary). In a related vein, Dechesne, Greenberg, Arndt, and Schimel [18] provided evidence that the identification with a successful sports team (identity-buffer) increased after MS, whereas the identification with an unsuccessful team decreased (identity-threat).

Most plausible, this effect also holds for virtual self-representation and group-identification as both have been found to mirror real-life mechanisms. Moreover, identification with a virtual group can be regarded as more permeable than real-life boundaries. Research has shown that dis-identification in order to protect a positive self-evaluation is particularly effective if group-boundaries are permeable [29].

1.2   Avatars and Virtual Groups as Extensions of the Real-Life Identity

Avatars are computer-generetaed self-representations [30], that usually allow for a large control over one's appearance and soetimes also over one's personality characteristics [31]. Gamers usually refer to their avatar as "I"[15] and avatars form part of one's self-

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1   For the difference between the conscious and unconscious death-anxiety defenses see Pyszczynski, Greenberg, and Solomon [54].

concept ([32]), expressing actual as well as ideal self-aspects [33]. Bessière, Seay, and Kiesler [8] for instance found smaller differences between World-of-Warcraft avatars and the ideal self of their players, than between these players actual and ideal selves. In line with that, avatars have been demonstrated to have similar effects than real-life behavior in terms of the effects of self-discrepancy [34], for example between actual and ideal physical appearance [35], and the influence of behavior-perception [36] on subsequent self-image [16].

Avatars can also be understood from a social identity perspective, reflecting personal as well as social identity aspects. On the one hand, avatars which are distinct from others can be regarded as the expression of one's personal identity, characteristics that distinguish the individual from others [37]. On the other hand, avatar selection and creation also reflect one's social identities. The adaption to group-norms has been found to be as present in virtual as in real-life contexts [38]. Accordingly, virtual contexts also influence avatar selection and creation. Players tend to (partly) adept their self-representation to a virtual context. For instance, Trepte and Reinecke [39] found game competitiveness to foster creation of avatars dissimilar to their players. In a related vein, Vasalou and Joinson [40] found participants to adapt their avatars for instance for virtual dating purposes. People even breathe life into virtual agents and computers [41]. For example, the nonverbal behavior (such as smiling) of avatars stimulates the same brain regions as real human behavior [42], causing similar effects [43] and nonverbal behavior follows the same rules online as offline [44]. This even exceeds to computers becoming members of one's in-group an fostering increased in-group cooperation, just as found for cooperation in real groups [45]. The identification with virtual groups forms part of one's social-identity [15] wherefore players strive to evaluate their virtual groups as positively as their real ones to preserve their self-esteem [29].

Most of time, avatars mainly display the actual self of their creators, for instance in terms of gender. Gudagno, Muscanell, Okdie, Burk, and Ward, [14] found that only 5.7% of the female and 9.8% of the male second-life users used an avatar of the opposite gender. However, when it comes to the expression of one's ethnic-identity, the willingness to play a non-White avatar seems to be strikingly reduced [46]. Higgin even speaks from "blackless fantasies" [11]. Although, the lack of options to customize ethnically-realistic non-White avatars [12] and a potential "White-avatar norm" ([10], [47]) have been discussed, research so far did not address the role of a loss of a social comparison for the identification with a virtual ethnic group and avatar selection directly. Further, most studies focused on Black players ([13], [47], but see Groom, Bailenson, and Nass for an exception [48]). Yet, if there actually is a "White-avatar norm" in virtual realities ([10]), this does not allow for a direct comparison of the same ethnic-identity as identity-buffer and identity-threat (for instance after one's in-group had won versus lost a relevant game). Moreover, it does not control for pre-existing real-life discrimination experiences [49] that might underlie the decreased willingness to play a Black avatar (see Lee [13] for a discussion).

Thus, the current study was designed to examine the effects of MS on avatar selection and group identification depending on the identity-buffering versus threatening potential of one's ethnic identity. Using the SIMS 3 [50] (a life-simulation) as virtual reality, we examined whether participants in the MS versus a Control-group would

prefer an in-group (White) over an out-group (Black) avatar and how much they were eager to identify with a virtual group after having watched a Human chess game that had been either won by their in-group (identity-buffer) or the out-group (identity-threat). Based on the literature, we predicted MS to increase preference for in- as compared to out-group avatars (H1). Furthermore, we expected that MS would increase identification with an identity-buffering virtual group (H2a) but decrease the identification with an identity-threatening virtual group (H2b).

2   Methods

To test these hypotheses, we realized a 2(Condition: MS versus Control) × 2(Identity-buffer versus Identity-threat) design whereby ethnicity of participant and avatar served as social identity manipulation.

2.1   Sample

A total of 82 subjects participated in the study. Eleven of them had to be excluded because they reported non-White ethnicity. The remaining $N = 71$ subjects (35 female) were all German and on average 24.59 years old ($SD = 4.13$). Gender, $\chi^2(2) = 2.07$, *n.s.* and age, $F(3,69) = 1.04$, *n.s.* were equally distributed among the conditions. The majority of participants ($n = 58$) was studying at the moment of data collection. Nearly all reported pre-experiences with computer games ($n = 68$). Neither educational level, $\chi^2(6) = 6.46$, *n.s*, nor pre-experience, $\chi^2(3) = 2.17$, varied with the experimental condition.

2.2   Procedure and Measurements

Subjects participated via an online-survey. They were informed that the study would be about the relationships between cognitive abilities and computer games by testing a new feature of the SIMS 3 game. After the assessment of the demographic variables (*age*, *gender*, *educational level*, *nationality*) and game-experience, participants completed a set of bogus personality questionnaires, used later on to serve as cover story for the told similarity between player and avatar [51].

Condition. Following the standard manipulation of MS [6], participants then answered two open ended questions about their own death [52] or a control topic (here: dental pain) before they worked on a delay task for five minutes to enable their distal defenses [53].

Identity-Buffer Versus Identity-Threat. Afterwards, ethnicity was made salient via a gameplay video of a SIMS human chess game by EA-games[2] (duration 01:00 minute) with White and Black avatars as chess figures. To compare identity-buffer

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2   The Sims Movie Mashup Tool Example 3, `http://www.gamespot.com/articles/the-sims-3-exclusive-hands-on-making-movies-with-the-sims-3s-mash-up-tool/1100-6207981/`

and identity-threat, participants randomly saw either a video that was manipulated to present the in-group (White) or the out-group (Black) as winner. Moreover, an introductory scene was added showing a White, respectively Black avatar as team-master. Avatars differed only concerning their skin color and few ethnic characteristics (for instance, lip-size, see Figure 1). After the video, a scene was added in which the team-masters expressed happiness or anger, depending on their teams' success. Scenes were produced with the SIMS 3 moviemaker [50]. Each video was accompanied by the same neutral piece of classical music ("Pictures at an exhibition" by Mussorgski [54]). Furthermore, gender of participant and avatar were matched: Female participants always saw a female chess master and vice-versa.

Avatar Choice and Team-Identification. Subsequently, participants were informed that they would play the Human chess game themselves and should choose which team-master (and team) they would prefer to play. To control for the effects of avatar and player similarity ([15], [39]) participants were informed that, based on their answers on the personality-questionnaires filled out before, both avatars were 25% similar to them. After making their choice, identification with the virtual group was measured with the six-item scale by van Looy et al. [15]. Wording of the scale was changed to "team" instead of "guild" to match the experimental situation (for instance "*My team members are important to me*"). Reliability was good (Cronbach's α = .84). After the last question, participants were checked for suspicion and released.

Fig. 1. Black and White team-master avatar on the avatar choice slide. Order of avatar presentation was random.

3   Results

3.1   Avatar Choice

H1 predicted an increased selection of the White in-group avatar for participants in the MS condition. However, avatar choice was not associated with Condition,

$\chi^2(1) = 0.41$, the Black avatar was always preferred. Odds ratio to choose the Black avatar was $OR = 1.59$ in the MS and $OR = 1.75$ in the Control group. This pattern did not change, when Identity-threat was included in the analysis, the interaction revealed no significant differences, $\chi^2(1) = 0.29$.

3.2   Identification

A 2(Condition) × 2(Identity threat) ANOVA on the aggregated team identification score revealed no significant main effect for Identity-threat, $F < 1$. The main effect for Condition reached marginal significance, $F(1,65) = 3.12, p < .09, r = .20$. The predicted interaction became significant, $F(1,65) = 6.81, p < .02, r = .30$ (see Figure 2)
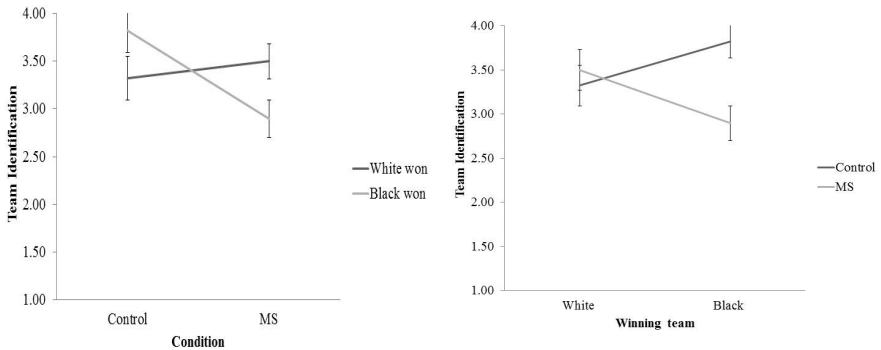

Fig. 2. Effects of Condition and Identity-buffer (White won) versus Identity-threat (Black won). Each item was answered on a 5-point scale ranging from 1(= *totally not*) to 5(= *totally*).

Hypotheses were tested via one-tailed independent t-tests. Results showed the predicted disordinal interaction. Only under conditions of MS, $t(31) = 2.95$, $p < .001, r = .47$, identification was higher when Identity was buffered (Mbuffer = 3.82, SDbuffer = 0.72) than when Identity was threatened (Mthreat = 2.89, SDthreat = 1.00). No differences were found for the Control group (Mbuffer = 3.32, SDbuffer = 0.64, Mthreat= 3.50, SDthreat = 0.94), t < 1. Moreover, in comparison to the Control-group, participants after MS identified more with an Identity-buffering virtual team, $t(26) = -1.93, p < .04, r = .36$ (H2a), and less with an Identity-threatening team, $t(31) = 2.00, p < 03, r = .31$(H2b).

4   Discussion

Overall, our results confirmed the hypotheses derived from TMT and SIT for the identification with virtual groups (H2a,b) but not for avatar selection (H1). White participants increased their identification with a virtual group under conditions of MS if their ethnic in-group was presented as winner in a social comparison (Identity-buffer) but decreased it when their in-group had lost the comparison (Identity-threat).

There with our results partly support the assumption by Blascovich and Bailenson [10] that "existential anxieties are at the heart of humans penchant for psychological travel away from grounded reality to virtual reality" (p.142). Mortality salience did influence the willingness to "travel to virtual reality" only when the virtual reality buffered their worldview and presented their in-group as more successful. Our results are therewith in line with the assumption that the identification with virtual groups follows the same mechanisms that have been described for real groups [15] with identification decreasing for unsuccessful in-groups ((19], [55]). Our results are also compatible with recent research demonstrating in-game success as a key factor for game enjoyment and the effectiveness of games in regulating aversive states ([56], [57]).

In contrast to the expectations, participants did not prefer the White avatar in general or under conditions of MS. Albeit numerous studies have shown a greater number of White as compared to Black avatars in virtual worlds ([12]), participants in our study always preferred the Black avatar. Different explanations for this finding are possible and should be addressed in future studies. On the one hand, it might be that the ethnicity manipulation was too obvious. Although only three participants assumed the study to deal with racism or ethnicity, it might be that social desirability influenced the choices [58]. Although excluding those three participants did not change the pattern of results, future studies should include more ethnic manipulations, for instance by using a football game (such as Fifa 14 [59]). On the other hand, it might be that the reported low-similarity of participant and avatar (always 25%) has contributed to the effect. In line with this assumption, Frischlich, Rieger, Dratsch and Bente [51] could show that in online dating environments, dissimilar ethnic in-group members raise the least dating interest as compared to similar in-group and dis- as well as similar out-group members under conditions of MS. In order to better compare our results to those by Frischlich et al.'s [51] online dating study, next steps should add a high similarity condition as well as a cross-gender setting to further disentangle the important factors for avatar selection under MS and its potential moderators.

Several limitations of the current study have to be noted. First of all, only White participants were examined. It is thus unclear whether Black participants would show the same pattern after MS under conditions of identity-threat. Although research on the response of Black participants towards identity-threats in virtual worlds point towards this assumption [13], future studies should test this more directly by replicating the results with a Black sample. Yet, the high likelihood that Black participants (examined in a pre-dominantly White country) have pre-existing discriminative experiences [49], has to be regarded by selecting an adequate context were Black ethnic-identity can serve as identity-buffer too.

Further, in our study, participants were told that they would play a chess game themselves. However, this explanation was only used to make avatar selection necessary. Nevertheless, mapping the actual virtual behavior of participants after MS would shed light on the real implications of MS and the consequences of the respective avatar selection and team membership. Future studies therefore should aim at investigating real consequences of the awareness of death anxiety. Virtual environment seem especially useful for this purpose.

Summarizing, the current study was the first to directly examine the effects of existential concerns on the identification with threatening and non-threatening virtual groups. We hope that future studies will address the questions that can be pulled out of our results.

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