eludamos
Journal for Computer Game Culture
Vol. 6, No. 1 (2012)

http://www.eludamos.org

What Makes an MMORPG Leader? A Social Cognitive Theory-Based Approach to Understanding the Formation of Leadership Capabilities in Massively Multiplayer Online Role-Playing Games

Andrew Ee, Hichang Cho

Eludamos. Journal for Computer Game Culture. 2012; 6 (1), pp. 25-37

What Makes an MMORPG Leader? A Social Cognitive Theory-Based Approach to Understanding the Formation of Leadership Capabilities in Massively Multiplayer Online Role-Playing Games

ANDREW EE AND HICHANG CHO

Leadership is an important skill that players can acquire and hone in MMORPGs (Jang and Ryu 2010). MMORPGs foreshadow new possibilities for effective leadership as our society becomes increasingly distributed and globalised (Reeves et al. 2007). The rationale is that skills and values needed to cope with the effects of a changing society–such as "faster paced" and "intensely competitive" businesses–are similar in nature to skills and values players need to function in MMORPGs (DeMarco et al. 2007, p.3; IBM 2007). For example, collaboration among geographically distributed employees requires similar skills to communication among team members of MMORPGs since both forms of communication are: 1) mediated by computer-mediated communication (CMC) channels, and 2) limited in social cues, among other common traits (Dannecker et al. 2008). Due to the similarity of these skills, players may transfer leadership skills honed in MMORPGs to offline contexts as they become leaders in societies of tomorrow, heralding new forms of leadership nurtured in MMORPGs (Jang and Ryu 2010; Reeves et al. 2008). The importance of MMORPGs in leadership studies thus cannot be neglected, as with an understanding of how leadership skills are developed in MMORPGs.

The purpose of this study was to examine leadership development in MMORPGs. Given that previous studies are largely prescriptive in proposing what should be done to foster such development without adequately examining how their proposed ideas can do so (Dannecker et al. 2008; Jang and Ryu 2010; Shaw et al. 2006), we applied Bandura's (1986) Social Cognitive Theory to examine how leadership skills are developed in MMORPGs. Using interview data from 20 MMORPG players, we explored how three factors–the gaming environment, players' actions, and their personal factors, such as self-efficacy, influence leadership development in the collaborative gaming environment.

Literature Review

Qualities of Effective Leadership in MMORPGs

Using the Sloan Leadership Model developed by Ancona et al. (2007) as a guiding framework, Reeves et al. (2007) found that MMORPG leadership included all four Sloan leadership capabilities–1) *visioning*, which refers to setting team-level goals, and tying these goals to a leader's personal values, 2) *relating*, which refers to building relationships within the team and outside of it, 3) *sensemaking*, which refers to knowing and understanding the contexts in which a team functions, as well as

Eludamos Vol. 6, No. 1 (2012)
pp. 25-37

comprehending ambiguous situations surrounding the team, and 4) *inventing*, which refers to implementing/executing processes to turn team-level goals into realities, hence ensuring team effort in achieving these goals (Ancona 2005; Ancona et al. 2007).

Reeves et al. (2007) specifically list three properties of MMORPG environments that foster leadership: 1) in-game incentives that reward team performance in game quests, such as virtual currency and experience points, 2) transparency of in-game information access, which refers to how easy it is for players to obtain information in the game, and 3) connections with other players through communication channels. On a more specific level, Chen et al. (2008) found that communication styles of MMORPG leaders affect overall team communication, suggesting that with increased ease of team management afforded by more communication channels, MMORPG leaders can spend more time chatting with members, leading to friendlier ties and possibly more cohesive and effective teams.

Bandura's (1986) Social Cognitive Theory (SCT)

Although research on MMORPG leadership has provided interesting insights into new possibilities of leadership development, this has been limited by the lack of more in-depth research that can examine the intricacies of MMORPG leadership development using more specific approaches and theories (Dannecker *et al.* 2008; Jang and Ryu 2010; Shaw et al. 2006). Such lack of research impairs the understanding of MMORPG leadership development given that it can be understood from many perspectives (e.g. sociological and psychological), having being just as complex as other forms of leadership–if not more (Reeves et al. 2008; Reeves et al. 2007). Since leadership is frequently studied in social psychology literature, approaching the topic of MMORPG leadership from a social psychological approach would be one valid way to address this limitation (Yoo and Alavi 2004).

SCT explains how people acquire and maintain certain behavioural patterns including gaming behaviour (Shaw et al. 2006) and leadership capabilities (McCormick 2001). It postulates that portions of an individual's knowledge acquisition or behavioural change are directly related to social modeling or observational learning–observing the actions and outcomes of others' behavior within the context of interpersonal interactions, experiences, and media (Bandura 1986). SCT explains and predicts human behaviour based on the triadic reciprocality of three factors: 1) behaviour, 2) environment–social and physical factors external to an individual, and 3) personal factors internal to an individual such as his/her beliefs, thoughts, and emotions.

Applying SCT to Leadership Study

Proposing a leadership model that utilises SCT to explain leaders' behaviours, McCormick (2001) lists three types of leadership variables–derived from the triadic factors of SCT to gain a full appreciation of the dynamic and social nature of leadership processes: 1) a leader's behaviours, 2) the situation or environment in which leadership is called for, and 3) a leader's personal factors. Echoing Bandura (1986), McCormick (2001) mentions that personal factors such as: 1) self-efficacy

beliefs, 2) an individual's knowledge, skills, and abilities (i.e. KSAs), 3) relevant experiences, 4) task strategy development, and 5) relevant goals, play key roles in self-regulated leadership behaviour. It is also suggested that these five specific types of personal factors interact with each other, influencing and being influenced by one another (McCormick 2001; McCormick and Martinko 2004).

However, it is important to note that McCormick (2001) considers only generalised notions of leadership rather than more specific types of leadership as elaborated by previous leadership studies (e.g. Lindell and Rosenqvist 1992; Zaccaro *et al.* 1991). This may limit the validity of his suggestions, given that leadership schools of thought are multi-faceted and focus on different aspects of leadership.

Research Objective and Questions

The objective of this paper was to examine MMORPG leadership development by focusing on how leadership skills are developed in MMORPGs through the lenses of SCT. Since several leadership taxonomies exist, this paper approached leadership from the angle of the Sloan Leadership Model because this model: 1) is integrative in considering most other leadership taxonomies in its formulation, and 2) has been specifically examined in the context of MMORPGs (Ancona 2005; Reeves *et al.* 2007). A synthesis of two types of taxonomies: 1) the Sloan Leadership Model, and 2) SCT models of leadership developed by McCormick (2001), was therefore in order, resulting in the creation of three main research questions.

Research Questions

Since Bandura (1986) proposes that SCT essentially comprises of the triadic and reciprocal interaction of three main factors such as environment, personal factors, and behaviour, each main research question endeavoured to examine the role of each of the SCT factors on MMORPG leadership development based on the Sloan Leadership Model.

RQ 1: How does the game environment and context players are situated in help to foster their leadership qualities (in terms of Visioning, Relating, Sensemaking, and Inventing) in MMORPGs?

RQ 1 is related to the effect of game environment on players' MMORPG leadership development. More specifically, we focused on the game environment specific to the nature of gameplay in *World of Warcraft* (Blizzard Entertainment 2004) (e.g. game interface, game design, and mediated communication channels afforded by the game such as keyboard messaging and *vent* [a popular Voice over IP program]).

RQ 2: How do players' individual characteristics help to foster their leadership qualities in MMORPGs?

RQ 2 is related to the role of personal factors on players' MMORPG leadership development. In line with Bandura's (1986) SCT, we focused on three important personal factors in leaders' self-regulation such as: 1) knowledge, skills, and abilities (KSAs), 2) relevant prior experiences, and 3) self-efficacy.

RQ 3: How do the actions of players in MMORPGs help to foster their leadership qualities in MMORPGs?

RQ 3 is related to the role of behaviour on players' MMORPG leadership development. Players' actions and behaviours in MMORPGs are, in part, a result of the requirements of MMORPG gameplay as afforded by their game design–such as rapid decision-making behaviour needed to complete time limited quests. These actions consequently foster new types of leadership qualities that are relevant for MMORPG gameplay as well as real-world contexts, particularly in distributed and computer-mediated work settings.

Method

The present study undertook a qualitative research approach in order to investigate the more qualitative dimension of how leadership capabilities are developed in MMORPGs. We used semi-structured interviews which allowed for flexibility in eliciting responses and insights from participants by according some control of the interview process to them, while using guiding questions focused the scope of the interviews in line with the paper's research questions (Bernard 2000). These interviews were conducted at times, dates, and locations of participants' convenience so as to create more conducive atmospheres–posited to make participants feel more comfortable and consequently furnish richer responses and insights, in attempting to minimise the possibility of participants providing socially desirable answers.

World of Warcraft (*WoW*) (Blizzard Entertainment 2004) was chosen as the context for the interview questions because of its popularity among MMORPGs worldwide and the numerous MMORPG studies that are based on it (e.g. Lim and Nekmat 2009; Reeves *et al.* 2007). In addition to more general questions intended to elicit general perceptions of MMORPG leadership, we formulated specific sets of questions using specific player behaviours as examples of the four Sloan Leadership capabilities–based on Reeves *et al.*'s (2007) findings that the Sloan Leadership capabilities manifested themselves in MMORPGs through certain behaviours. For instance, *sensemaking*, in the context of MMORPGs, refers to leadership behaviours such as helping others to adjust to changes in the internal or external game environment (Reeves *et al.* 2007). As such, questions concerning *sensemaking* were divided into two categories: 1) helping others make sense of the external environment–such as game-level changes–through sharing novel information with other *guild* members like game updates and strategies (e.g. "In *WoW*, have you ever shared first-hand information on game updates with other members of your *guild*?"), and 2) helping others make sense of the internal environment–such as *guild*-level changes like new members' induction into a *guild*–through helping other members cope with these changes (e.g. "In *WoW*, have you ever helped other members of your *guild* cope with *guild*-level changes?").

Sampling & Recruitment

The theoretical frameworks used in our study have been validated across cultures. For instance, Earley's (1994) cross-cultural study on organisational efficacy and

productivity which suggests that the functional beliefs of self-efficacy can be generalised across cultures. Hence, we contend that although gaming cultures may differ across nations, this is not necessarily a critical issue in our choice of sample. In light of this, Singaporean *WoW* players possessing at least one *WoW* avatar that has attained level 30+ were recruited via convenience and snowball sampling. In line with Edery and Mollick (2009), a *WoW* player with at least one avatar of level 30+ would be assumed to have some degree of familiarity and experience with the game, therefore rendering his/her insights more relevant than amateur players. To ensure some degree of diversity in responses, we tried to recruit male and female participants from different *guilds* and of different *guild* positions–*guild* members, *guild officers*, and *guild leaders*.

Twenty participants were ultimately recruited, with a breakdown of thirteen males and seven females with ages ranging from 21 to 28. Seventeen participants had at least one avatar of level 80–the maximum attainable level in *WoW* thus far–and the remaining three participants had at least one avatar above the minimum level stipulated above. Five w were *guild leaders*, seven were *guild officers*, and eight were *guild* members.

Analysing the Data

Miles and Huberman's (1994) specific thematic analysis approach was used to review each interview recording following pre-determined data inclusion and reduction criteria, based on their relevance to the paper's research questions. For instance, participants' comments on confidence were considered under RQ2, specifically the personal factor of self-efficacy, since McCormick (2001) had noted that confidence and self-efficacy were intertwined. This is in line with Miles and Huberman's (1994) evaluative criteria of internal validity which determines if a particular finding made sense in relation to the research questions. The remaining data gathered from all interviews was then arranged so that relevant themes and ideas could surface at a glance.

Findings

RQ 1: How does the game environment and context players are situated in help to foster their leadership qualities in MMORPGs?

On the whole, the findings concerning the role of game environment suggest its ambivalent role on developing *relating* (taken in the context of *WoW* to mean building intra-*guild* and inter-*guild* relationships), *sensemaking* (understanding changes to the internal and external contexts in which a *guild* operates and helping *guild* members to understand them as well), and *inventing* (co-ordinating task and strategy execution among other *guild* members). Participants suggest that the game environment can: 1) afford, 2) hinder, or 3) both afford and hinder the development of these capabilities. Reasons for affording include encouraging introverted members to socialise (*relating*), ease of sharing important game updates (*sensemaking*), and lastly, ease of member co-ordination (*inventing*) in *instances* through a

comprehensive and easy-to-use game interface as well as having a game design where players fit into pre-defined roles (Participants[1] 2[2], 7[3] and 20[4]).

> It's very easy to share game updates since we can just cut-and-paste information from the WoW wiki or forum boards. (Participant 3[5])

> The game interface is very user-friendly and helps coordinate instances better. For example, our leader will tell us which enemy to kill first by using icons to mark the kill order. (Participant 20)

Reasons for hindering include tendency for player chat logs in the game interface to "*flood* [be cluttered with text] when everyone's trying to update each other" while running *instances*–making coordination difficult (Participant 19[6]), and not being able to see facial cues when socialising–encumbering building of inter-member relations (Participant 6[7]).

With regards to *visioning* (sharing visions and ideas with other *guild* members), however, many participants generally felt that the game environment "doesn't really matter" because what matters is "how much your thoughts [when sharing] contribute to the *guild* [interests]" (Participant 9[8]).

Taken as a whole, these findings contest the overly positive tone of Reeves *et al.*'s (2007) suggestion that properties of MMORPG environments foster, and not hinder, leadership development in terms of the Sloan leadership capabilities. Where SCT is concerned, the findings on the role of game environment support Bandura's (1986) notion of the reciprocal nature of the three main factors of SCT because all participants suggested that the game environment had an influence on their behaviour and personal factors. For instance, Participant 11[9] mentioned that playing as a *tank*–which is an avatar that can take massive amounts of damage–is "good learning ground for leaders" because the role is such that they "have to protect everyone else from taking damage, else they get *wiped*" because of their vulnerable constitutions. This suggests that playing in pre-defined roles–which are part of the game design–can foster certain types of behaviours, which may influence personal factors in turn.

RQ 2: How do players' individual characteristics help to foster their leadership qualities in MMORPGs?

Self-efficacy

Most participants generally felt that self-efficacy primarily helps to foster *inventing*, but not so for the other three capabilities (i.e. *relating*, *sensemaking*, and *visioning*). A possible reason for this is that self-efficacy translates to being confident in one's abilities and consequently making one more assertive, which is important for players to learn and master making decisions on-the-fly–especially in *instances* where not only making good decisions, but also the speed with which they are made, is crucial.

> Being confident [with regards to non-inventing behavioural examples] or not doesn't really matter as long as you've got something to say that's important to the guild. However, command and control [inventing] is different because you're

> the one everyone needs direction from lest the team gets wiped [defeated]. (Participant 4[10])

These findings therefore provide further elaboration on McCormick's (2001) SCT-applied leadership models–in the context of MMORPGs–by suggesting that self-efficacy influences assertiveness, which is critical for players to model and develop *inventing* in MMORPGs. However, the findings concerning the minimal effect of self-efficacy on the development of the other capabilities were somewhat unexpected, considering that McCormick had posited on the importance of self-efficacy as the most influential personal factor in his leadership models. Being only partially supported, McCormick's model–taken in its entirety–is therefore contested by these findings.

Interestingly, almost all *guild leaders* and some *guild officers* insinuated that self-efficacy becomes an important influence on the development of all Sloan leadership capabilities when *guild* leadership is taken offline, such as when a *guild* convenes offline–which happens when the *guild* has members who are either offline friends prior to playing *WoW*, or are situated in the same geographical context. Participants feel that self-efficacy becomes more crucial in offline contexts because of greater possibilities of social repercussions, such as running the risk of "looking stupid" (Participant 8[11]), that come with the increased salience in social environment. For Participant 7, self-efficacy becomes important when organising *guild* outings offline because he needs to feel "confident enough to brave embarrassment" should no one else show up. Also, it was mentioned that "there is more at stake because not only our real selves are involved, but also our friends [as well as their relationships with their friends]" (Participant 3). Self-efficacy for participants wielding *guild* authority, therefore, seems to become more salient when tied to risks which may jeopardise their real-life social identities.

Knowledge, Skills, and Abilities (KSAs)

All participants suggested that KSAs are important for developing *inventing*, especially when completing *instances*.

> Beating a difficult instance becomes second nature after running through it [as well as] similar types of instances a few times, with good leaders knowing exactly what to do and how to co-ordinate member actions. (Participant 13[12])

Participant 13's comments also allude to the role KSAs play on developing self-efficacy–especially where *inventing* is concerned–as participants felt that KSAs, after being honed by experiences, can empower them to the point where they become confident in co-ordinating *instances*.

Participants also suggested the important role of KSAs on the development of other Sloan leadership capabilities (*relating*, *sensemaking*, and *visioning*). For instance, most *guild officers* and *guild leaders* felt that KSAs are also important for developing those capabilities since general skills can be applied to a spectrum of gaming scenarios that are related to *guild* management such as "knowing how to empathise with others [*relating*]" (Participant 6) and "able to present information [*sensemaking*]" (Participant 9).

> Communicating guild-level goals [visioning] on a daily basis, like creating a conducive guild environment by telling members to play fairly and collaboratively, depends a lot on tact so that I don't look naggy. It's important to convey the message indirectly, like thanking members beforehand [prior to running instances] and saying things like 'it's gonna be a great game, I just know it!!' (Participant 2)

All in all, the findings here suggest that by: 1) reinforcing KSAs through experiences that come with the repeated application of KSAs under uniformed conditions such as completing similar types of *instances*, or 2) applying generalised KSAs under non-uniformed conditions related to *guild* management, MMORPG leaders can develop their leadership capabilities.

Prior Experiences

Throughout the interviews, all participants seemed to suggest the importance of prior experiences on all the development of all four Sloan leadership capabilities–each having cited at least one past experience in explaining how it proved beneficial towards developing the behavioural examples used in the interviews. For instance, Participant 20 recalled a particularly bad experience of task and strategy co-ordination (*inventing*):

> The co-ordinator tricked us into fighting an optional boss [special non-player enemies that are significantly lower in number and harder to defeat than regular non-player enemies] and we were caught unawares 'cos we've not played that instance before. Quite a few of us were wiped. Since then, I've vowed not to cheat others because it sucks. Don't do unto others what you don't want them to do unto you, right?

RQ 3: How do the actions of players in MMORPGs help to foster their leadership qualities in MMORPGs?

Participants generally felt that their behaviour in *WoW*–with regards to the behavioural examples used in the interview questions–is important insofar as to adding on to their in-game experiences, which in turn influence KSAs and self-efficacy in ways as aforementioned. For instance, Participant 17[13] mentioned that trying to build relations with other *guild* members (*relating*) meant making small talk during *instances*, which was initially a problem for him:

> I was chatting on the vent when it was supposed to be used for leader-member communications. People started ticking me off. With time and experience, I've learnt when to use the vent and when to shut up and listen.

Participant 17's experience therefore helped him to foster KSAs needed to develop a *relating*-type skill given that diplomacy (the art of conversing with others) is a fundamental leadership skill. When asked if this experience made him feel more confident when trying to make small talk for similar scenarios in the future, he felt that confidence "doesn't really matter, just that you're more familiar with the [implicit] rules [of communicating during *instances*]".

In line with SCT, Participant 17's experience and opinions also exemplify the influence of behaviour on environment when he remarked that his *vent* chatting behaviour irked other members–which form the social environment in which he is situated in-game. All *guild leaders* and most *guild officers* somewhat echo this notion, when they suggested the importance of exhibiting exemplary behaviour in creating conducive *guild* climates.

> It's important for leaders to share their ideas [visioning] nicely with members so that everyone can be encouraged to speak their minds freely, which is good for the guild so that all of us are on the same page. (Participant 10[14])

The environment can, in turn, result in a change of behaviour which may come in the form of players' reaction to the changed environment, as Participant 8 suggested in hoping that by "fostering care and concern among *guild* members, members will be more responsive to each others' needs [*relating*], even if they're talking about their offline worries".

The role of behaviour is therefore important in fostering all four Sloan leadership capabilities, as participants' experiences and opinions suggested. This importance stems from the influence of behaviour on the other factors of SCT that are directly responsible for the development of these capabilities (e.g. KSAs), which in turn influence future behaviour–in line with the notion of a triadic reciprocity among the three main factors of SCT, as Bandura (1986) had suggested.

Discussion

Bandura (1986) had posited on the importance of the three main factors of SCT (i.e. environment, personal factors, and behaviour) on behavioural modeling, with McCormick (2001) translating this to the context of leadership behavioural learning. In summary, the findings of this paper provide support for Bandura's SCT and McCormick's SCT-applied models of leadership, albeit some contradictions in relation to self-efficacy.

On the one hand, this study exemplifies the validity and usefulness in extending both frameworks to leadership study in different contexts to gain a better appreciation of leadership development from a social psychological angle. For instance, the game environment possesses certain features, such as message boxes, that can facilitate leader-member communication (behaviour). Players, via repeated use of these features (behaviour), thus reinforce KSAs (personal factors) needed to develop successful leader-member communication. Furthermore, the findings reveal that participants can develop all four Sloan leadership capabilities (*inventing*, *relating*, *visioning*, and *sensemaking*) in playing *WoW*, in line with Reeves *et al.* (2007). For example, *inventing* can be developed via repeated use of the user-friendly *WoW* game interface which aids in co-ordinating of *guild* members' task execution.

On the other hand, although the findings do provide support for the theoretical frameworks employed in this study, the findings related to self-efficacy contest previous literature to the extent that the impact of self-efficacy on leadership development is rather conditional. To recap, the findings reveal that self-efficacy

plays an important role for *inventing* but not for the others. This is surprising in that self-efficacy is considered to be the most important personal factor (McCormick 2001). Based on participants' responses, the possible reason for this is that self-efficacy influences confidence and assertiveness, which is important primarily for situations requiring co-ordination in ensuring successful task and strategy execution (i.e. *inventing*). This seems logical, considering that bad team co-ordination in *instance* runs could result in *wipes* for the entire team.

Applying this line of reasoning to the findings on self-efficacy as a whole, one can argue that self-efficacy is important for situations that may be more sensitive to negative group outcomes because leaders not only need to be more confident in emerging victorious in these situations, but also display their confidence in order to rally the morale and confidence of members. Situations that require non-*inventing* behaviour in *WoW* (e.g. helping others to cope with environmental changes (*sensemaking*), sharing ideals (*visioning*), getting to know members better (*relating*) tend to be less sensitive to negative group outcomes. Since they tend to: 1) be more nurturing, and 2) have more delayed and subtle repercussions, there is less need for leaders to be confident and rally members' moral and confidence in these situations– leading to a reduced need for assertiveness. Of course, negative group outcomes in these situations become more sensitive in offline contexts because of increased social repercussions, as shown in the findings, resulting in an increased need for self-efficacy and assertiveness. What this implies for leadership practitioners hoping to develop leadership skills through MMORPGs is that incorporating scenarios that present a fair amount of sensitivity to risk, in the form of instantaneous penalties, helps to develop self-efficacy which is made more salient in such scenarios.

Reeves *et al.*'s (2007) recommendations on the facilitative properties of MMORPG environments on MMORPG leadership development do not take into account the negative effects of these properties. The findings, however, suggest that these properties can have equivocal effects on the development of leadership. It is thus recommended that leadership practitioners first consider the net effect of the advantages and disadvantages of these properties before incorporating them into practical applications.

Limitations & Directions for Future Studies

Three types of limitations have to be discussed. Firstly, in order to avoid unnecessary complexities, this paper focused on three personal factors (i.e. self-efficacy, KSAs, and prior experiences) that were deemed to be the most relevant factors in gaming contexts. As such, we did not examine the role of the other two factors (i.e. task strategy development and relevant goals) (McCormick 2001). Future studies should explore the role of these factors on leadership development in MMORPGs.

Secondly, the study is based on interview data from Singaporean gamers, who may have unique characteristics. However, theoretical frameworks employed in this study have been extensively tested and supported in Asian culture. For instance, Earley's (1994) cross-cultural research on organisational efficacy and productivity in the United States, Hong Kong, and Mainland China attests to cross-cultural generality of the functional value of self-efficacy beliefs. Hence, we assumed that the use of

Singaporean subjects would not impose a significant threat to external validity of the findings.

Thirdly, interview data might have been subjected to problems of accuracy in participants' recall of their experiences, as well as self-reporting of behaviour, which may also be perceptual since actual behaviour cannot be recorded solely from interviews. Participants may have also been inclined to give socially desirable responses. However, these were mitigated in part by the number of participants who shared similar sentiments concerning each theme, supporting each other's opinions.

Nonetheless, we suggest that future studies should further test the validity of these findings using either different research methods or different sets of participants. For instance, observational studies could yield more intricate result concerning the role of gaming environment in observing players' actual interaction in the environment as opposed to self-reported data in interviews (Bernard 2000).

Conclusions

MMORPG leadership development, as with other forms of leadership, is complex. Studies on the topic have attempted to pinpoint what this new form of leadership entails, offering recommendations on how to facilitate its development because of the potential in its application to real-world contexts. However, they either take into account generalised concepts of leadership or have not adequately examined how MMORPG leadership can be developed–therefore resulting in the overenthusiastic portrayal of these recommendations (e.g. the facilitative role of game environment) without considering the flipside of their suggestions. Leadership practitioners who readily take these suggestions *prima facie* can potentially undermine their very efforts in fostering MMORPG leadership.

Using well-established social psychological theories such as Bandura's (1986) SCT, this paper explored factors that influence leadership. The general support of this paper' findings suggest that there are reasons to extend the frameworks derived in these studies to the context of MMORPG leadership. Finally, the approach taken by this paper allowed it to unravel some of the intricacies surrounding the interplay of SCT factors and MMORPG leadership skills development, leading to new recommendations that are more specific to the social psychological aspect of leadership development.

References

Ancona, D. (2005). Leadership in an age of uncertainty. *MIT Leadership Center* [Online]. Available at: http://sloanleadership.mit.edu/pdf/LeadershipinanAgeofUncertainty-researchbrief.pdf [Accessed: 8 June 2010].

Ancona, D., Malone, T. W., Orlikowski, W. J. and Senge, P. M. (2007). In Praise of the Incomplete Leader. *Harvard Business Review*, Vol. 85 (2), pp.92-100.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, New Jersey: Prentice Hall.

Bernard, H. R. (2000). *Social Research Methods: Qualitative and Quantitative Approaches*. Thousand Oaks, California: Sage Publications.

Chen, V. H. H., Duh, H. B. L. and Hong, R. (2008). The Changing Dynamic of Social Interaction in World of Warcraft: The Impacts of Game Feature Change. In *Proceedings of the 2008 International Conference on Advances in Computer Entertainment Technology - ACE 2008* (pp.356-359). New York: ACM.

Dannecker, A., Richter, S., Lechner, U., Dressner, N., Fabisch, S. and Ilsemann, A. (2008). Towards World of Warcraft as an Experiment Platform for Teams. In *Proceedings of the Fourteenth Americas Conference on Information Systems* (pp.1-15). Atlanta, Georgia: Association for Information Systems.

DeMarco, M., Lesser, E. and O'Driscoll, T. (2007). *Leadership in a Distributed World: Lessons from Online Gaming*. New York: IBM, pp.1-16.

Earley, P. C. (1994). Self or group? Cultural effects of training on self-efficacy and performance. *Administrative Science Quarterly*, Vol. 51, pp.89-117.

Edery, D. and Mollick, E. (2009). *Changing the Game: How Video Games Are Transforming the Future of Business*. New Jersey: FT Press.

IBM. (2007). *Virtual Worlds, Real Leaders: Online Games Put the Future of Business Leadership on Display*. New York: Author.

Jang, Y. and Ryu, S. (2010). Exploring game experiences and game leadership in massively multiplayer online role-playing games. *British Journal of Educational Technology*, pp.1-8. doi: 10.1111/j.1467-8535.2010.01064.x

Lim, S. S. and Nekmat, E. (2009). Media Education in Singapore – New Media, New Literacies?. In Cheung, C. K. (ed.) *Media Education in Asia*. London: Springer, pp.185-197.

Lindell, M. and Rosenqvist, G. (1992). Management behavior dimensions and development orientation. *Leadership Quarterly*, Vol. 3 (4), pp.355-377.

McCormick, M. J. (2001). Self-Efficacy and Leadership Effectiveness: Applying Social Cognitive Theory to Leadership. *Journal of Leadership & Organizational Studies*, Vol. 8 (1), pp.22-33.

McCormick, M. J. and Martinko, M. J. (2004). Identifying Leader Social Cognitions: Integrating the Causal Reasoning Perspective into Social Cognitive Theory. *Journal of Leadership & Organizational Studies*, Vol. 10 (4), pp.2-11.

Miles, M. B. and Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, California: Sage Publications.

Reeves, B., Malone, T. W. and O'Driscoll, T. (2008). Leadership's Online Labs. *Harvard Business Review*, Vol. 86 (5), pp.58-66.

Reeves, B., Malone, T. W., Yee, N., Cheng, H., Abecassis, D., Cadwell, T., Abbey, M., Scarborough, J., Read, L. and Roy, S. (2007). *Leadership in Games and at Work: Implications for the Enterprise of Massively Multiplayer Online Role-Playing Games*. New York: IBM.

Shaw, P., LaRose, R. and Wirth, C. (2007). Reaching a New Level and Other Pleasures of Massive Multiplayer Online Games: A Social Cognitive Theory of MMO Usage. *Paper presented at the 56th Annual Conference of the International Communication Association, Dresden, Germany*.

Yoo, Y. and Alavi, M. (2004). Emergent Leadership in Virtual Teams: What do Emergent Leaders do?. *Information and Organization*, Vol. 14 (1), pp.27-58.

Zaccaro, S. J., Foti, R. J. and Kenny, D. A. (1991). Self-monitoring and trait-based variance in leadership: An investigation of leader flexibility across multiple group situations. *Journal of Applied Psychology*, Vol. 76, pp.308-315.

Notes

[1] Participants' details are ordered as follows: Gender, Age, Highest Level Attained (level), Guild Position

[2] Participant 2: F, 23, level 80, Guild Officer

[3] Participant 7: M, 21, level 80, Guild Officer

[4] Participant 20: M, 24, level 70, Guild Member

[5] Participant 3: M, 23, level 80, Guild Leader

[6] Participant 19: M, 22, level 80, Guild Leader

[7] Participant 6: F, 21, level 80, Guild Officer

[8] Participant 9: M, 25, level 80, Guild Officer

[9] Participant 11: M, 25, level 40, Guild Member

[10] Participant 4: M, 23, level 80, Guild Leader

[11] Participant 8: F, 21, level 80, Guild Leader

[12] Participant 13: M, 28, level 80, Guild Leader

[13] Participant 17: M, 27, level 80, Guild Member

[14] Participant 10: M, 22, level 80, Guild Officer