The Negative Effects of Praise and Flattery

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ABSTRACT
An experiment examines the claims that players are (1) susceptible to flattery and praise from a video game, (2) that the effects are similar to flattery and praise from humans and (3) that flattery and praise can impair a player's performance. In two play-sessions participants *(N* = 42*)* were asked to play a casual video game. Half of the participants were only exposed to the original game sounds and the other half were exposed to additional praise and flattery from a computer voice (juiciness). The additional audio was designed to blend in with the game sounds. Participants in the control condition scored significantly higher than participants who received additional praise and flattery, but they did not evaluate the game differently. These findings suggest that flattery and praise from a video game produce the same general effects as flattery and praise from a human, and that too much juiciness can actual impair game play.

Keywords
Casual games; player feedback; juiciness; praise; flattery; game user research

1. INTRODUCTION
We examined the effects of praise and flattery in a time-management video game, with emphasis on the psychological effects of those kinds positive reinforces. Time management or click management games are a popular genre of casual games [21]. In casual games, there are lenient punishments for failing, and players rarely fail due to a single mistake, but rather to an accumulation of mistakes [9]. Also featured in most casual games is the excessive positive feedback for player interactions known as juiciness [24]. Juiciness is a trendy buzzword that cropped up in the casual game boom of early 2000, and although overly catchy, the term is useful in game design discussions [25]. We researched whether juiciness, designed to keep the players entertained, can have negative side effects.

2. JUICINESS
Juiciness is a casual game design element in the form of audio-visual feedback after player actions [20], included to enhance the feeling of cleverness and competence when playing a game [9]. The second purpose of juiciness is to evoke a positive emotional response, immediately after successful player actions [1, 24]. Additionally, juiciness encompasses micro-experiences [1] as a reward system that is ephemeral [24], and their value exists in the praise they evoke [24]. Juiciness includes praise (strongly positive feedback on player actions) and flattery (strongly positive feedback that is not connected to player actions). The distinction between these two is not always clear cut, as it depends on the intentions of the player, which can be hard to determine objectively.

The number of casual game players has dramatically increased since early 2000 [21] and the design of casual games has changed as well [9]. Next to new mechanisms and styles, casual game designers started to add more and more juiciness in their games. So more and more players have been exposed to increasingly juicy games that provide more and more praise and flattery.

3. THE EFFECTS OF PRAISE AND FLATTERY IN HUMAN-HUMAN INTERACTION
Praise refers to "positive evaluations made by a person of another's performances or attributes, where the evaluator presumes the validity of the standards on which the evaluation is based" [7]. Flattery can be defined as insincere praise [23]. This is in line with our definition above, which emphasized that flattery is a positive evaluation of things that "just happen" in the game: Praising given for actions that happened outside of the player's control is not genuine. The precise distinction may not be that important, as humans often react to flattery in the same manner as praise [4, 23]. It is argued that because most people have a positive self-view, they are willing to readily accept positive statements about them, without giving much thought to the motivations of the person praising or flattering them [23].

People who are flattered compare the flattering statements to their own self-evaluation and temporarily adjust the self-evaluation in a positive direction. This induces a good mood and it boosts self-esteem [23]. Praise will enhance intrinsic motivation when it is perceived as sincere, when it provides information about task-specific standards of excellence, or when it conveys reasonable expectations of the evaluator. Additionally, praise can increase perseverance and encourage adaptive performance attributions. When done well, praise provides positive information about competence without overly relying on social comparisons [7].

In the study of personality, it has been found that some types of praise can be detrimental to performance: Praising someone for their intelligence after an easy challenge can have negative effects on subsequent actions [13], which include:

1. Choosing easier challenges to maintain good performance.
2. Being less interested in learning new ways to improve performance.
3. When failures happen later on, sharp decrements in intrinsic motivation and performance are often observed.

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We argue that flattery has similar effects on the player, as it is hard for them to distinguish between pure flattery (positive feedback for non-accomplishments) and praise (positive feedback for accomplishments).

A second source of negative effects of praise is that it can make the player self-conscious, and such self-consciousness can disrupt skilled performance. There are three possible mechanisms for the negative effects of praise on skilled performance [2]:

1. Praise increases the attention to the self which may impair skilled performance.
2. Praise may convey an implicit demand for continued good performance.
3. Praise causes a reduction in **effort** rather than a direct negative effect on skill.

Praise may impair skilled performance that is related or unrelated to the challenge [2].

A third route via which praise may lead to decreased performance can occur when the praise is dispositional, which means that the subject is not praised for their actions but for their underlying character attributes (dispositions). A frequent target disposition is the player's intelligence. However, dispositional praise regarding, for example, intelligence may induce the player to excessively worry about their intelligence in such a way that they will avoid ways to enhance their intelligence in-game [13].

4. THE EFFECTS OF PRAISE AND FLATTERY IN HUMAN-COMPUTER INTERACTION

Do the findings for praise and flattery from human-to-human interaction extend to human-computer interaction? Evidence for this can be found in the Computers Are Social Actors (CASA) paradigm [3, 4, 6, 11, 12, 14, 15, 16].

The CASA paradigm states that people have a tendency to treat computers as humans [4]. Additionally, CASA research has demonstrated that the computer itself (and not the programmer) is treated socially, and that this type of interaction is common and not the result of a cognitive deficiency [3]. It was found that clearly machine-like synthetic speech elicits the same social responses as recorded human speech [11] and that people respond the same to praise and flattery from a computer [4].

The influx of juiciness in casual games is based on the tenet that this praise and flattery (the juiciness) will be positively received by the player, even though they originate from a computer, in line with CASA.

But the negative effects of praise and flattery have also been explored in games like Portal, where Glados (the in-game computer opponent) will often comment on the player's progress. For example, in one of the first chambers, the player received the Portal gun to which Glados quips: “Very good! You are now in possession of the Aperture Science Handheld Portal Device.”[18]. Given that this is Chamber 2 and that the player has not met any adversaries and had to solve relatively simple puzzles, this is an early example of juiciness and specifically flattery.

Glados also critiques the player on their dispositions near the end of the game, in a reversal of dispositional praise: “You're not smart. You're not a scientist. You're not a doctor. You're not even a full-time employee! Where did your life go so wrong?” [5].

So while game developers have effectively expressed faith in the effect of the human-computer praise and flattery to reach the desired effect of increased player motivation and engagement, the drawbacks of these methods have not been explored very well. The current experiment attempts to determine experimentally whether (1) humans are susceptible to verbal praise and flattery from casual video games and (2) whether the effects of verbal praise and flattery in human-computer interaction are the same as those listed above for human-human interactions. We expect to confirm the industry expectations on these questions, but crucially we also determine whether (3) verbal flattery and praise from casual video games can have negative effects on a player's skilled performance.

5. METHOD

Participants A total of 42 undergraduate students and employees of the NHTV University of Applied Sciences participated in this study, 24 female and 18 males between the ages of 17 and 30. Their mean age was 22.81 years and all of them were familiar with computers in general.

Design A commercially released casual game which can be classified as moderately juicy (compared to non-juicy games like 2048; or extremely juicy games like Guitar Here, [9]) was used for the experiment. This game is *Airport Mania 2: Wild Trips,* PC platform, premium edition [19] henceforth Airport Mania 2. This experiment had two conditions: (1) additional juicy (flattery and praise) audio feedback, (2) no additional audio feedback, the game audio contained many feedback sounds, but no speech.

Procedure All participants were greeted and given an introduction to the research study in the same way. They were told that they would participate in a Casual Games Research Project we were conducting and that they would play a game for roughly 25 minutes and then they would fill out a questionnaire after that, that would take only 5 minutes. Before they started to play the game, they were asked to pick a mood from the Pictorial Mood-Reporting Instrument *Pick-A-Mood* (PAM) [22] see online appendix A. The PAM was administered again after they were finished playing the game.

Airport Mania 2 is a time management game where the player assumes the role of an Air Traffic Controller and is responsible for an airport and planes, which need to land, unload passengers, load new passengers and take off. All participants were asked to play the game in two parts: 1) A practice session, where they would learn how to play the game; 2) A test session where they were asked to perform as well as they could. All participants were seated approximately 40 cm away from an 18 inch, 16:9 computer screen showing the game in full-screen mode. Interaction with the game was done via the mouse. A keyboard was present for answering the questionnaires. Participants were wearing headphones.

In the practice session the participants were asked to play levels 1-1, 1-2 and 1-3 of the game. The reason for this decision was that almost all of the game's core mechanics can be explained through these levels. Before the participants started playing they were instructed to go over a single page version of the *Quick Start Guide*, available in online appendix B. Additionally, all the levels of Airport Mania 2 are scripted, making it ideal to collect data from the game because the game behaved exactly the same for all participants.

In the first level, the main game play loop is explained: land a plane, unload passengers, then load passengers and have the plane take off again.

Figure 1. The game's shop as it is first introduced. Airport Mania 2 (2011)

After completing level 1-1, the researcher would interrupt the participant to explain additional game mechanics. The game's shop is introduced at the start of the second level, see Figure 1. These purchases are connected to points gained so far and allow the player to score higher in next levels. The researcher would briefly explain the upgrades and all participants were given the same advise, which is to purchase as many upgrades as they can with the exception of the additional runway. The researcher explained to all participants that using one runway for landings and one runway for takeoffs is more than sufficient (see online appendix C).

After completing level 1-2 the researcher would interrupt the participant to ask if (s)he would have any questions about the game-play and if so answer them.

In the test session all participants were instructed to play the game for fifteen minutes, without interruptions. Before the participants would start this session they were instructed to go over a printed version of the *Quick Score Guide,* see online appendix C. This is a single page description on the combo systems of the game, which allows the participants to score higher. Both the *Quick Start Guide and the Quick Score Guide* were created because the in-game tutorial took too long to complete in comparison to reading the our guides and was deliberately ignored due to the slow pace of providing game play information.

Participants were instructed to go back to level 1-1 and redo that level (and all subsequent levels) to a supreme score (three stars, see Figure 2). Participants were instructed that they would have 15 minutes to reach the supreme score on as many levels as they could. They were allowed to finish the level they were playing when the 15 minutes were over.

Figure 2. The supreme score and three star rating in the end-level sequence. Airport Mania 2 (2011)

The participants were divided into two groups and participants were randomly assigned to on of the two groups. A Juicy Group which received additional 'juicy' (“flattery and praise”) audio feedback on top of the game sounds during game play and a Control Group who were only exposed to the original game sounds. The additional audio feedback was triggered by the researcher once every 15 seconds while the participant was playing a level of the game, both in the practice and the 15 minute test session. However, the additional audio feedback was always triggered near a participant's game interaction. For example, after a participant landed a plane, instructed a plane to unload passengers and so on. The participants were not aware that the experimenter was triggering these audio clips.

The additional audio was designed using the Text-to-Speech demo website version from Oddcast [17] and was recorded with Audacity 2.0.6. The voice which was used was Julie (US), the effect was “Speed” and the level was “Fast”. The following clips were recorded: “Amazing!”, “Excellent!”, “Impressive!”, “Marvelous!”, “Spectacular!”, “Super!”, “Very Good!”, “Very Smart!”, “Wonderful!” and “Wow!” Additionally, at the end of each level the following additional audio was triggered: “Wow, you are amazing!” (note that the exclamation marks cause the audio to raise in pitch and loudness near the end of the sentence). The additional audio was played using VLC Player 2.1.5 running in the background on the participant's computer while the game was playing. Using a second computer, the researcher triggered the additional audio using the VLC remote (Lua Web Interface).

After interacting with the game, participants completed a Games Experience Questionnaire (GEQ) [8]. The GEQ presented a series of questions that are divided into question groups. The questionnaire measures six dimensions: competence, flow, tension/annoyance, challenge, negative effect, positive effect. Questions on three additional dimensions were added by us: motivation/perseverance, experience of game sounds and flattery/praise. All questions were answered on a 7-point Likert scale that were anchored by “Strongly Disagree”(1) and “Strongly Agree” (7).

6. RESULTS

6.1 Behavioral data

We predicted that the Control Group (2) with no additional juicy audio would perform better than the Juicy Group (1) with added juicy audio. We first analyzed all the scores per group and per level, then the scores for the test session only (leaving out the practice). Recall that participants may have taken multiple tries to complete a level to a supreme score: All such tries are included in the analyzes. Participants played up to five levels in the test session, but increasingly fewer participants were measured per level.

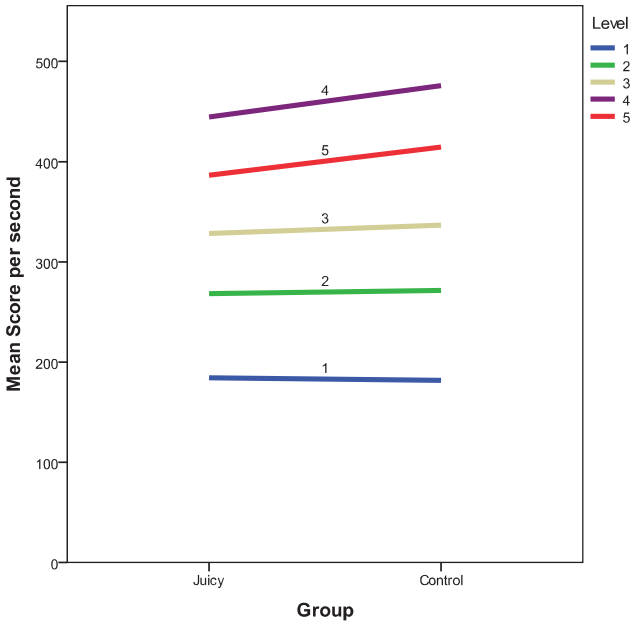

Figure 3. Mean score per Group for each level.

A significant difference was found between the scores from the two groups, see Figure 3. The Control Group scored higher on each level with an overall mean score of 40756 and the Juicy Group scored an overall mean score of 39704. The effect of Group (Juicy vs Control) was significant ($F(1, 364)=9.6$, $p=.002$), as was the effect of Level ($F(4, 364)=551.7$, $p=.000$). The interaction between Group and Level was also significant ($F(4, 364)=2.5$, $p=.045$).

We then looked at the results of the test session only, excluding the practice scores, and found similar results: significant difference between the scores from the two different groups. The Control Group scored higher on each level with an overall mean score of 45883 and the Juicy Group scored an overall mean score of 44365. The effect of Group (Juicy vs Control) was significant ($F(1, 239)=14.9$, $p=.000$), as was the effect of Level ($F(4, 239)=563.5$, $p=.000$). The interaction Group and Level was now more significant ($F(4, 239)=3.4$, $p=.010$).

We additionally looked at the practice session, and found different results: No significant difference between the scores from the two different groups. The Control Group scored higher on the first 2 levels but lower on Level 3. An overall mean score of 30821 for the Control Group was not different from the Juicy Group, which scored an overall mean score of 30154. The effect of Group (Juicy vs Control) was not significant ($F(1, 119)=0.6$, $p=.423$), and the effect of Level was significant ($F(4, 119)=419.8$, $p=.000$). The interaction of Group and Level (Juicy vs Control) was not significant ($F(4, 119)=0.4$, $p=.691$).

We moved on to a different dependent variable: the amount of time participants took for each play in the actual play test, excluding the practice. We found no difference between the groups, which we attribute to the fact that some participants maximized their score by playing the game deliberately slower so they can score higher for combinations (the penalty for letting planes wait is lower than the higher combo bonuses, but this is deliberately not made clear in our instructions or the game).

We therefore analyzed the pace of scoring throughout the game by computing points scored per second. For the Juicy Group ($M=342$, $SD=5.96$) this was lower than for the Control Group ($M=358$, $SD=5.37$). These mean differences are informative, but the time taken varies strongly by level see Figure 4. For all levels but Level 2, the Control Group scores more points per time unit than the Juicy Group; for level 2 points per time is basically identical for the two groups. This difference was significant in an Anova with factors Group ($F(1, 239)=4.29$, $p=.039$) and Level ($F(4, 239)=155.98$, $p=.000$), but showed a non-significant interaction ($F(4, 239)=1.00$, $p=.406$).

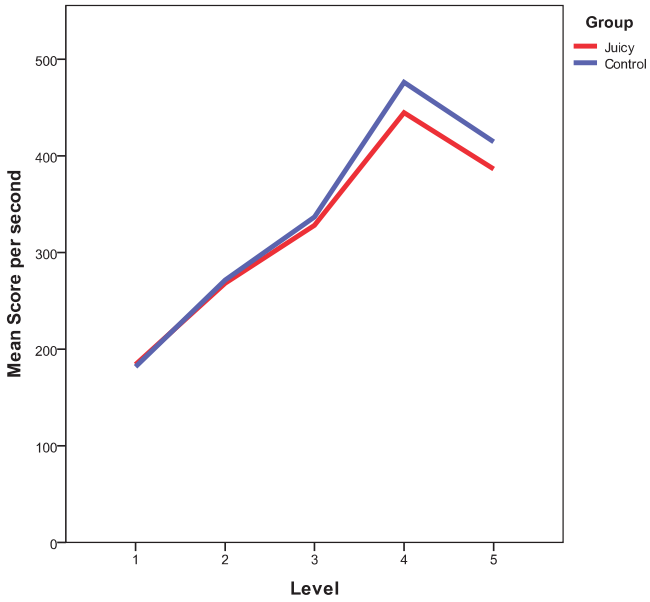

Figure 4. The score per second for each level.

6.2 Questionnaire data

We analyzed the results of the pick-a-mood test by entering the two-dimensional coordinate (arousal, pleasant) of each response into our statistics program. The pick-a-mood test distinguishes 5 levels of both dimensions (for example, for a neutral mood, pleasant = 3; for tense, pleasant = 2; and for cheerful, pleasant = 5; see also our online appendix A). Although there were consistent differences in the pleasant dimension between the two groups, these failed to reach significance. We first computed the difference between the before and after pick-a-mood questionnaires (Juicy Group $M=-0.48$, $SD=1.47$; group 2 $M=-0.19$, $SD=1.60$, $t(40)=-0.60$, $p=0.55$) then looked at the pick-a-mood after the game (group 1 $M=3.76$, $SD=1.58$; Control Group $M=4.14$, $SD=1.15$; $t(40)=-0.89$, $p=0.38$). We also recoded pleasantness into a three point scale (with neutral=0; all 4 emotions on the right hand side of the pick-a-mood coded as 1; and 4 unpleasant emotions coded as -1), but the results were

numerically the same (Control Group finds the game more pleasant) and statistically similar (no significant difference between the groups).

Analyzes of the arousal dimension did not show any significant differences.

The results of the GEQ can be discussed in a few words: none of 6 dimensions of the GEQ showed a significant difference between the two groups. We added 3 new dimensions (Motivation, Game Sounds, and Flattery & Praise), but these also did not show any differences between the groups. We explored the 40 individual questions and found a significant difference for one question ("I wanted to play again", Juicy Group M=5.05, Control Group M=6.05, $t(40)=2.35$, $p=.024$) but this should be considered a Type II error as it does not hold after correction for multiple comparisons. Lastly, none of the participants reported that they noticed that additional juicy audio was added to the game; they thought it was part of the original game audio when they were asked by the researcher during the debrief.

7. CONCLUSION

The most important finding in this study is that juiciness (praise and flattery) from a computerized voice reduces the average score of participants, but does not influence the subjective evaluation of the game by the player. In an earlier study [2], humans were praised by other humans and this impaired their skilled performance on a computer game. We found similar effects for praise and flattery from an artificial voice embedded in the game audio. Our Juicy Group was exposed to about 4 additional utterances per minute, and the Control Group was given no additional utterances. We found a significant difference in skilled performance: the Juicy Group's mean score was significantly lower than the Control Group's. Unsurprisingly, the factor Level caused different average scores (higher levels allow participants to score higher), but crucially the factor Group interacted significantly with the factor Level, with higher levels leading to larger effects of Group. The key difference between [2] and this study is that in the previous study the researchers praised the participants directly, whereas praise and flattery were voiced by the game audio in our experiment. Unbeknown to the subject, an experimenter was triggering the utterances at appropriate places in the game so frequency and placement was tightly controlled. Because the results of this study are similar to the results in other flattery and praise studies among humans, this experiment provides additional support for the Computers Are Social Actors paradigm. Finally, our results show that the current trend of very juicy games, which provide an overload of positive user feedback, might actually deter players from performing as well as they could.

It is good to note here that we instructed our players to score high. In a casual game, high scores are not always the ultimate goal, but there is no reason to believe that excessive juiciness would only interfere with a high score goal.

All participants from the Juicy Group admitted that they did not notice the added juicy audio as not part of the original game-sounds during the debrief. We also did not find a difference between the Control and Juicy Group in the questionnaire section on Game Sounds. The participants in the Juicy Group were affected by the additional praising and flattering audio similarly to the results of [2] and we suggest that those participants were subconsciously affected by the audio. In line with the literature on personality, this type of juiciness can induce a certain mindset that disrupts subsequent skilled performance. We think that because the participants in the Juicy Group were praised and flattered, they may actually believed that they were performing exceptionally well within the game. They were told so by the game, from their point of view and when subsequent levels were still hard, their motivation decreased and their performance suffered, as predicted by [13]. An alternative explanation is that they became more self-conscious from the praise [2] and this lead to worsened subsequent performance, but our experiment cannot distinguish between these two explanations.

We found that participants in the Control Group scored more points per time unit, which is in line with the motivation explanation. Additionally, more people in this group found the "waiting" strategy (deliberately letting planes wait longer and to score higher combo bonuses), which is in-line with predictions about motivations to find new strategies and the reduction in this motivation in the face of praise and flattery.

8. LIMITATIONS

As with all studies several limitations are inherent to our research. First and foremost, we limited ourselves to testing audio only and we did not address the effects of juiciness in the form of visual effects and text. There is no a priori reason to assume that our results do not hold for visual juiciness, but it is an unresolved question for now.

Second, our manipulation was to insert overly positive messages at seemingly random times. Depending on the timing, this could either be perceived as praise or flattery (although the low difficulty level of the game favors flattery). A yet more controlled setup could speak to this distinction.[1]

Third, we cannot speak to the mechanism that causes the reduction in score for the Juicy Group. The questionnaire results show that the game and the player's enjoyment was the same with or without added juiciness. This excludes factors that are open to conscious exploration, such as liking the game, but still allows for a range of possible explanations. Our experimental methodology strongly suggests that the added juiciness *caused* the reduction in scores, as the game was otherwise unaltered and the groups were comparable, but additional studies would be welcome.

9. FUTURE RESEARCH

In further studies we would like to test the effects of juiciness on perseverance and motivation. Additionally, we plan to test the effects of even more juiciness. Can participants be dissuaded to continue playing if they are subjected to even more juiciness in speech or text form? This can be achieved by slightly altering the method used in this study. Additionally, a more sensitive questionnaire and/or qualitative methods can be used to find the underlying cause of the decreased scores when additional juiciness is present, in the face of identical game evaluation. Furthermore, we would like to test whether the auditory verbal feedback has similar effects on players in a completely different type of casual game by using a slightly altered method than the one used in this study. Finally, we would like to investigate whether male, female or neutral auditory verbal feedback has different effects on male and female players.

10. RECOMMENDATIONS

Although this is only one study, the results are quite clear and lead us to recommend 1) that games reduce the number of verbal juicy utterances to increase player enjoyment; 2) to time verbal juicy utterances carefully so they are perceived as praise and not flattery.

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1 We thank an anonymous reviewer for this suggestion.

When using verbal juicy utterances, we should carefully balance the potential positive effects of verbal juicy utterances on player retention in the game learning phase versus the negative effects we have observed in later game play. Although we did not research this, from the literature reviewed here one would expect that utterances that are not evaluating the player directly ("this is fun"; "we are having a good day") might avoid the problems signaled here.

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Related materials for this experiment can be found at: http://ade2.nhtv.nl/~dpj/fdg2015/

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