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Florian Brühlmann

The Effects of Framing in Gamification

A Study of Failure

Mit einem Geleitwort von Prof. Dr. Klaus Opwis
und Dr. Elisa Mekler

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Foreword

The present masters thesis was written by Florian Brühlmann as part of the research on *Human-Computer Interaction* at the Center for Cognitive Psychology and Methodology at the University of Basel. The research group on *Human-Computer Interaction* consists of a team of researchers and students inspired to explore the interaction between humans and interactive technical systems. This driving research area covers a vast field of topics spanning from the world of digital games to facets of user-friendly websites to questions on the creation and effectiveness of multimedia applications.

Florian Brühlmann's thesis *'The Effects of Framing in Gamification: A Study of Failure'* examines how framing a task as 1) a game, 2) an intelligence test, 3) a meaningful task, or 4) a neutral task potentially moderates how *failure* at completing the task – arguably a quintessential components of most games – affects people's intrinsic motivation and willingness to keep trying.

To reach this goal, two experiments were conducted. In a first study, 148 participants were recruited from a crowdsourcing platform and were asked to play *FloodIt*, an abstract color puzzle, modified by Florian Brühlmann to be very difficult, but not impossible to solve. As previous findings in motivational psychology have found financial incentives (such as the ones provided on crowdsourcing platforms) to affect people's intrinsic motivation, the second study was a replication of the first, but without the provision of financial incentives. Both studies did not showcase any significant differences between the framing conditions in terms of intrinsic motivation and willingness to keep trying. Instead, perceived autonomy and value of the task – two further relevant constructs in motivational psychology, – were positive predictors of whether people would play another round of *FloodIt*.

We sincerely congratulate Florian Brühlmann on his excellent work. This thesis covers theoretically as well as empirically complex topics of applied

cognitive psychology in a highly skillful and competent manner. The underlying argumentation is always clear and engaging and both methodologically and statistically convincing.

Last but not least we would like to thank Springer Verlag for publishing this thesis as part of their initiative Best Masters Psychology to promote young scholars.

Basel, October 2016

PROF. DR. KLAUS OPWIS
& DR. ELISA MEKLER

Abstract

In human-computer interaction research, interest in the unique experiences that digital games offer is increasing. One characteristic of digital games is the failure of players, which is arguably the core of what makes games interesting and fun. Gamification seems to transfer some of the motivational effects of digital games in non-entertainment contexts by reframing an activity. Hence, this thesis sheds light on the psychological effects of failing in different contexts to gain a better understanding of the effects of games and gamified applications. Two mixed-design experiments ($N_1 = 148$, $N_2 = 63$) were conducted. The first examined the effect of failing in a task, game, test, and task with meaning condition. Participants in this experiment were compensated for participation. In the second experiment, the framing conditions task, game, and test were examined, and no compensation was given for participation. Results showed that framing an activity as a game did not reduce the negative effect of failing on intrinsic motivation. However, having additional information about the task seemed to buffer the negative effect of failing on positive affect in the first experiment. Furthermore, perceived value and particularly change in autonomy was found to predict playing of additional rounds after the study.

Contents

1	Introduction	1
2	Theoretical background	5
2.1	The perspective of self-determination theory	5
2.2	The role of context in the perception of feedback	6
2.3	Failing and uncertainty in games	8
3	Experiment 1 (with compensation)	11
3.1	Method	11
3.2	Results Experiment 1	13
3.3	Discussion Experiment 1	30
4	Experiment 2 (without compensation)	35
4.1	Results Experiment 2	35
4.2	Comparison of Experiment 1 and Experiment 2	51
4.3	Discussion Experiment 2	53
5	General Discussion	57
5.1	Implications	60
5.2	Limitations	60
5.3	Future Research	61
5.4	Conclusion	62

List of Figures

3.1	Screenshot of Flood It	12
3.2	Screenshot of feedback	13
3.3	Change in autonomy	17
3.4	Change in competence	18
3.5	Change in intrinsic motivation	19
3.6	Change in positive affect	21
3.7	Change in negative affect	22
3.8	Covariates	23
3.9	Score	24
3.10	Playtime	25
3.11	Number of extra rounds and extra playtime	33
3.12	Scatterplot of competence and intrinsic motivation	34
3.13	Predicted replay probabilities	34
4.1	Change in autonomy	38
4.2	Change in competence	39
4.3	Change in intrinsic motivation	40
4.4	Change in positive affect	41
4.5	Change in negative affect	42
4.6	Covariates	43
4.7	Score and playtime	45
4.8	Scatterplot of competence and intrinsic motivation	46
4.9	Number of extra rounds and extra playtime	55
4.10	Predicted replay probabilities	56

List of Tables

2.1	Research questions	9
3.1	Framing text	14
3.2	Descriptives statistics Experiment 1	16
3.3	Binomial logistic regression statistics	27
3.4	Robust correlations	29
4.1	Descriptive statistics Experiment 2	36
4.2	Binomial logistic regression statistics	49
4.3	Robust correlations	50