„Yes Wii Can!“

-Acceptance of the Nintendo Wii among seniors living in a retirement home-

Bachelor Thesis

Media Psychology

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Abstract

The current study investigated the acceptance of the Nintendo Wii among inhabitants of retirement homes. A modified version of the Theory Acceptance Model (TAM) was used. Besides the impact of perceived usefulness and perceived ease of use, the impact of self-efficacy and personality on the acceptance of the Nintendo Wii were also measured.

Due to unforeseen problems in collecting the required data, it was not possible to operate the study in its original form. So the study focused upon these problems instead. The main findings of analysis of these problems pointed in the direction of how best to administer a questionnaire in a retirement home. A structured interview seemed the best method when handling a questionnaire as a measurement tool. It also turned out to be very difficult for the participants to rate their answers/ statements according to ratings scales. They became confused and most began to answer with just the „yes“ or „no“ extreme.

„Yes Wii Can!“

„Life expectancy in Germany is rising by three months every year.“ (Goethe Institut; 2006) This is just one example of the demographic change that is taking place in many countries around the world. Because of improved health care and technological improvements, people have longer life expectancies and therefore more time after they are retired. In 2010 the age range of 20 - 64 makes up 61% of the total population of Germany (81,5 million.). In 2050 this age range will decrease to 51% of total German population (69,4 million.), but the number within the age range of 65+ will rise from 21 % (2010) to 33 % (2050) (Statistisches Bundesamt; 2010). This is important to bear in mind because this larger percentage of older people in the population will have more influence in the community. This is one of the reasons why it is relevant to focus on this topic. So there will be a time when a lot of retired people will seek leisure pursuits, especially when they are in a nursing home.

This demographic change can also be seen when we turn to the use of computer games and video games. For a long time it was thought that only young people would play computer games. In 2008 however, 65% of American households played computer or video games, of which 26% were over the age of 50. (Entertainment Software Facts; 2008)

One of the recently developed devices for playing video games, which received a lot of attention over the last few years, is the Wii from Nintendo. It was launched in 2006. The Wii is a game console which enables the user to transfer his/her physical actions via the Wii Controller (Wii Mote) into the game. For example, when the user swings his arm back, the movement will be carried out by his avatar (virtual figure) in the game. So a bowling or tennis game might give the impression of actually hitting the ball with the tennis racket or swinging the bowling ball and letting go. (Nintendo; 2010)

This principle of intuitive handling of the Wii Mote was one of reasons for two students from Munich to start their project „Seniors at the Wii“ (Senioren an die Konsole!) in 2008. Mr Deindl, one of the two students, observed while playing Wii at home, that his grandparents were interested in the Wii. He reported that they were normally not interested in video gaming, but the movements and the pleasure of the game were the things which fascinated them. After explaining some basic rules and the handling of the Wii Mote they were able to play Wii Bowling. When Mr Deindl and Mr Kiefer chose a project for their study, they started the Wii Sports Bowling Seniors Championship. They traveled to retirement homes across Germany with a Nintendo Wii and gave presentations on how to use it. They then set up bowling events and finally a competition between

the retirement homes. They were interested in how the participants would react to the challenge and how this competition might positively affect the community within each retirement home. They also wanted to present the elderly with new, intuitive technology. Of course they assumed here that the Wii would be such a technology. They found that the volunteers were very taken by the Nintendo Wii and that it helped develop a stronger bond within their retirement home community, which was expressed by their keen ambition to win the bowling competition, in their favour. (Senioren an die Konsole; 2008)

But it is not only the social aspect of the Wii which makes it so interesting for research. It is also the method of play. By this I mean the physical and mental skills required. In the case of Wii Sports Bowling, the skill lies in the swing of the arm and well timed push and release of the button to complete the throw. In their study of „Health Benefits of Physical Activity“, Darren et al. found that regular physical activity can contribute to the prevention of several chronic diseases and can be associated with reduced risk of premature death. They also found a positive correlation between physical activity and health status. (Darren et al.; 2006)

Zagalo and Prada reported in their study „Cognitive Effects of Videogames on Older People“ that playing video games would lead to improvement of cognitive functioning and is positively related to the maintenance of the self-confidence. (Zagalo & Prada; 2008) Today some people even speak of „Wiihabilitation“, which describes the successful application of the Wii in physiotherapy. (Stern.de; 2008)

Because my research is not specifically related to the use of the Wii as a tool to improve health among the elderly, I will return to the effect that the Wii has on the inhabitants of retirement homes. In 2009 Theng et al. conducted a study in Singapore to „investigate the efficacy of the Nintendo Wii among senior citizens“ and „to find out if social interaction and active old age are encouraged by the use of the Wii“. (Theng et al. 2009) In their study they found that the Wii gained a high level of acceptance among the elderly and could be used as a fun tool which also fostered interaction with each other. A second finding was that playing with the Wii is very life like. That means, that the games and the movements with the Wii Mote imitate real events. The third finding was that the perception of the Wii as useful is not the overriding incentive for people to play with it.

In this paper I want to focus on the acceptance of the Wii among the elderly. I especially want to investigate why the Wii is so popular in retirement homes. What makes the Wii special and so acceptable for the elderly, whereas other new technologies are not embraced by this age group. The purpose of this study is to find important factors in the acceptance process among old people for new technologies. So it would be possible to use these factors as a guideline, when explaining new

technologies to old people. For my research I used the Theory Acceptance Model (TAM) (Davis, 1989) to explore some factors.

In his study „Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology“ Davis found that perceived usefulness (PU) and perceived ease of use (PEOU) both determine the intention to use any given new information technology. PU is defined as „the prospective user‘s subjective probability that using a specific application system will increase his or her job performance within an organizational context“ (Davis, 1989, p. 320). PEOU is defined as „the degree to which a person believes that using a particular system would be free of effort“ (Davis, 1989, p. 320). The TAM is closely related to the Theory of Reasoned Action (TRA) from Ajzen and Fishbein (Igabaria et al.; 1997), which states that attitude and subjective norm form the behavioral intention of a person. When the behavioral intention is high, then the person is likely to perform the intended behavior. (Ajzen and Fishbein; 1975)

In my research I used a modification of the TAM to measure the acceptance of the Wii among old people living in retirement homes. In their study Igbaria et al. found that perceived ease of use and perceived usefulness are influenced by exogenous variables and that perceived ease of use is the dominant factor of both, but they also found that perceived usefulness has the stronger effect on system usage. (Igbaria et.al; 1997). My modification of the TAM is that, as well as the factors PU and PEOU, I included personality and self-efficacy to predict the acceptance of the Wii.

My hypotheses are:

- What impact does the perceived usefulness have on the intention to keep playing with the Wii?
- What impact does the perceived ease of use have on the intention to keep playing with the Wii?
- What impact does the personality of the player have on his/her intention to keep playing with the Wii?
- What impact does the self-efficacy have on the intention to keep playing with the Wii?

To operationalize PU I conducted a minimalistic pre-test. I asked my parents, who had never played with the Wii before, to play Wii Bowling for a short time. After gaining at least a brief impression of how the game is played and what the Wii is, I asked them to give me their first impression of the game. Then I asked them to imagine they were living in a retirement home and how they would describe the game’s realism and the perceived benefits of the Wii in this context (table 1.). I chose

game realism and perceived benefits as factors, because Theng et al. found a significant effect of game realism and perceived benefits on Perceived Usefulness in their study. (Theng et al.; 2009).

Table 1. Pretest Results: Perceived Usefulness

Perceived Usefulness	
Games Realism	Perceived Benefits
Ego perspective	Social interaction
Realistic transfer of the armmovements	Feeling of success
Speed of the bowling ball	Pysical activity
Almost no difference to bowling reality	Concetration, mental training
	Resumption of sportive activities
	Nostalgic happiness
	Enrichment of the daily routine
	Making the acquiatance of the nowadays technology
	There are no difficult rules of the game to be learned

To operationalize PEOU I used the initial 16 items Davis used in his study (Davis, 1989) and took two items out, because they could not be transferred productively into the context of Wii Bowling (table 2). This left a total of 14 items.

Table 2. Items Perceived Ease of Use

Items
Confusing
Error prone
Frustrating
Mental effort

Items
Error recovery
Controllable
Unexpected
Understandable
Ease of remembering
Provides guidance
Ease of use
Ease of learning
Effort to become skillful
Cumbersome
(Dependence on Manual)
(Rigid & Inflexible)

In order to measure self-efficacy I used the German version of the ten item standardized general self-efficacy scale which was developed by Jerusalem and Schwarzer (Table 3). Self-efficacy measures the optimistic competence-expectation, i.e. the trust in one‘s capabilities to deal with a difficult situation by ascribing the success to one‘s own competences. (Jerusalem, 1990; Schwarzer, 1992, 1994)

Table 3. Items Self-efficacy, R. et al.; 1999)

Items
Wenn sich Widerstände auftun, finde ich Mittel und Wege, mich durchzusetzen
Die Lösung schwieriger Probleme gelingt mir immer, wenn ich mich darum bemühe
Es bereitet mir keine Schwierigkeiten, meine Absichten und Ziele zu verwirklichen
In unerwarteten Situationen weiß ich immer, wie ich mich verhalten soll
Auch bei überraschenden Ereignissen glaube ich, dass ich gut mit ihnen zurechtkommen kann
Schwierigkeiten sehe ich gelassen entgegen, weil ich meinen Fähigkeiten immer vertrauen kann.
Was auch immer passiert, ich werde schon klarkommen.
Für jedes Problem kann ich eine Lösung finden.

Items
Wenn eine neue Sache auf mich zukommt, weiß ich, wie ich damit umgehen kann.
Wenn ein Problem auf mich zukommt, kann ich es aus eigener Kraft meistern.

To operate the factor personality I used the German version of the ten item personality inventory (TIPI) (Table 4). The TIPI is a very brief instrument to measure the Big-Five personality dimensions. (Gosling et al.; 2003)

Table 4. Ten Item Personality Inventory German (Muck, 2004)

Items
Ich sehe mich selbst als:
Extravertiert, begeistert
Kritisch, streitsüchtig
Zuverlässig, selbstdiszipliert
Ängstlich, leicht aus der Fassung zu bringen
Offen für neue Erfahrungen, vielschichtig
Zurückhaltend, still
Verständnisvoll, warmherzig
Unorganisiert, achtlos
Gelassen, emotional stabil
Konventionell, unkreativ

Methods

Participants

To measure the acceptance of the Nintendo Wii, I needed participants, who are well grounded in playing Wii Bowling. The second condition to be met, was that they are living in a retirement home. To fulfil both requirements I made contact with Mr Kiefer, one of the two founders of „Seniors at the Wii“, and asked him for the addresses of the retirement homes which participated in the „Senior Wii Bowling Championship“.

14 participants took part in my study. They came from the retirement homes Hesse-Diederichsen-Heim and Theodor Fliedner Haus in Hamburg. The volunteers were all over the age of 65 and over 50% of them were older than 85 years (Figure 1). Thirteen women and one man took part in the study. Six of the participants had bowled prior to the introduction of the Wii and eight of them were newcomers to bowling.

In both retirement homes there is a program for the inhabitants to play Wii at least once a week under supervision. In order to obtain more information of the participants' capability to take part in this research, I spoke with the nursing staff and explained the purpose of my study. They were very kind and supportive and helped me to find suitable candidates for this study. Before I asked the participants my questions, I introduced myself and explained the purpose of my study and the nature of the questions. After this I asked if they wanted to participate and guaranteed that the obtained data would be kept anonymous. They all agreed to take part in my study. When I thanked them for their participation, most reported that they really enjoyed the variety and thought that it was very good that young scientists are doing research involving the older growing body of the population.

Design

As mentioned above, I used a modification of the TAM model from Davis. To measure the perceived ease of use I took the 14 items and formulated them into 14 questions. The questions could be answered via a four-level Likert rating scale. The participants had to specify their level of agreement with a given statement. I operationalized the item for the perceived usefulness in the same way. In both cases I used a four-level instead of the more common five-level Likert rating scale, because I was afraid that most of the participants would take neutral - the answer-possibility I left out - as an answer when they did not want to spend time thinking about, or were insecure about the accuracy of their answer, because they experienced difficulties in remembering.

The self-efficacy scale was also operationalized via a four-level Likert rating scale. According to Schumacher (2001) the reliability of the German version of the self-efficacy scale is 0,92 and this scale can be used up to an age of 95 years.

The Ten Item Personality Inventory, was operationalized into a 7 level Likert rating scale. According to Gosling et al. (2003) the test-retest reliability is 0,72 for the TIPI.

Research Model

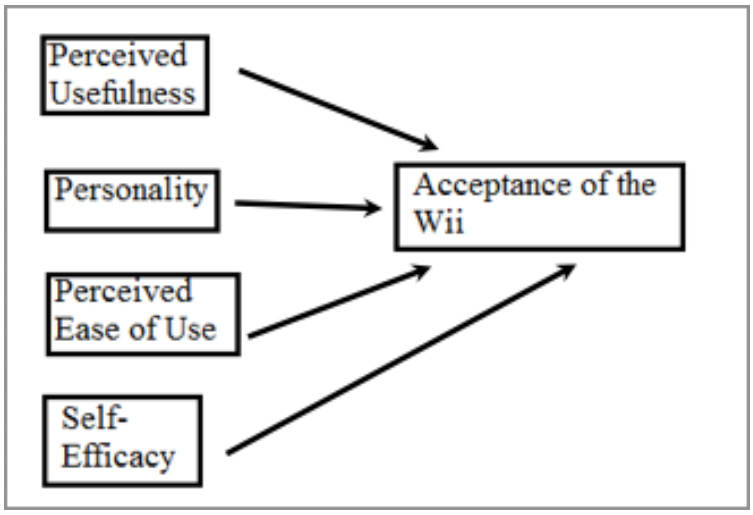

Figure 1. Research Model

Observations and Problems

When I went to Hamburg to visit the retirement homes, I did not know what to expect. I prepared a little speech to introduce myself and my study. Based on the articles I have read about the elderly playing with the Wii, I assumed that there would be few problems when asking questions about playing with the Wii. However as it turned out I was wrong.

The most fundamental problem was, that most of the participants where not able to fill in the questionnaire by themselves.

I talked to every participant alone, because I wanted to make sure, that there was no distraction and that they were not influenced in answering the questions. I told them at the beginning of the meeting that there are no good or bad answers and that I am interested in their own opinion. And that in case they did not understand the question they could always ask me for help. Since I tried to make the questions concerning the „perceived usefulness“ and the „perceived ease of use“ as simple and clear as possible, I was surprised, that I had to explain so many of them to the participants. One explanation here could be that the questions were not as simple and clear as I thought they were, or another possibility could be the age of the participants. As mentioned earlier, over 50% of the participants were above the age of 85. However, I tried to give a very neutral illustration of the

question and I gave examples or explanations where needed. In the majority of cases, especially for those beneath 75 years of age, this was sufficient to answer the question. But in the other cases it was not. A lot of the volunteers over the age of 75 had problems with rating their answers and difficulties to stay focused. One of the main problems was that they mixed up their answers, frequently marking them against the wrong question on the rating level. Another problem which came up was that some questions were skipped and not answered. These reasons and some others lead me to read out the questions aloud and asked for verbal ratings.

Another difficulty was that they asked me to rate their answer or answered questions just with the „yes“ or „no“ extreme instead of „rather yes“ or „rather no“, letting me decide what the appropriate rating was. When they were not sure about an answer they explained their view to me and that the ratings did not capture their opinion. So they asked me to do the rating based on their statement and narration. The issue of the „yes“ or „no“ answers was particularly prevalent in the questions concerning self-efficacy and the personality the subject. After trying to rate their answers accordingly to the given Likert scale, they complained about the complexity factor and began to answer the questions with „yes“ or „no“. I tried by asking the same question again to extract a more exact rating, but it did not work. So it was again up to me to rate the „yes“ or „no“ accordingly.

When I arrived at the retirement home I was told that many participants were suffering from dementia and depression and I had to be very patient with them. This was an additional unexpected obstacle in addition to the age of the participants in answering some questions. I tried to resolve this by taking a Wii Mote with me as an aid of memory and thought of ways to cheer the participants up.

In two cases it was not possible to speak with the volunteers in private, because their family had come for a visit. I actually did not want to interrupt them, but I was already announced by staff and they had agreed to take part in my study. On the one hand it was great to have someone there who knew the participant well enough to answer difficult questions and to correct answers, when the participant was not focused. On the other hand, the opinion of the participant may have been diluted, which made it difficult to use the results for the outcome of the study.

One of the positive observations was, that almost every participant smiled at me and gave me a warm welcome. And when I mentioned the Wii, they all showed some sign of happiness and began to talk freely about their experiences, showed me their trophies and told me how well they had done in comparison to others. They also told me that they are very pleased that young scientists are doing research concerning the elderly to try to make things better for them.

Some of the participants also told me that they are playing Wii Bowling, because there are not many alternative pastimes.

Discussion

What was this study about? This study was actually meant to measure the relation between the perceived usefulness, perceived ease of use, self efficacy and personality concerning the acceptance of the Nintendo Wii among the inhabitants of a retirement home. But as it turned out it is more than just box ticking, when you work with old people. It is more than just collecting data. I spoke to the staff of the retirement homes and they told me, that there has been a change over time in the type of resident living in a retirement home. Actually the word „retirement home“ is perhaps misleading, because the old people who live there depend on the care of the staff. I would use the word „nursing home“ to describe the institutions I have visited. Most of the old people who are living in these institutions reside there because they do not have a family who could take care of them. When the question about jointly playing Wii Bowling with the family came up, some of the subjects stated that they do not have a family to play with. Another reason is that the family can not take care of them because they do not have sufficient time. Especially in cases where the parents are of old age and showing signs of dementia or suffering from depression or other mental disorders. This brings me back to the issue of the type of person living in a retirement/nursing home: mostly people who can not live on their own anymore, who are suffering of mental disorders, who are in need of medical and physical care and who are of old age (stern.de; 2010) etc. These are just a few reasons which staff and some participants divulged to me.

When I talked to them I was surprised how many of the participants, despite their old age, had a clear view of what was going on in the world outside the nursing home. They even wanted to argue with me over politics and the economy. On the other hand there were a lot participants who told me the same story more than twice and had difficulties in staying focused and remembering things. Unfortunately this was true of the majority of the subjects. In these cases showing them and letting them hold the Wii Mote seemd to jog their memories.

I think one of the important points of this study is how to approach old people in an appropriate way using well phrased questions, an adequate rating scale and a well laid out questionnaire.

In the case of the rating scale, there were problems with rating the answer. A lot of the participants understood what was meant by the questions or statements they had to rate, but could not decide how they should answer them. So instead of making a choice, they verbalized their problem and told me their experiences. Then they asked me to rate their answer accordingly. As mentioned above in the problem observation section.

This behaviour was not always the case. Some questions were rated immediately. These tended to be the questions which were clear and distinct. Once they had formed a positive impression of the Wii they were likely to stick to this impression and answer the questions in favour of or against the Wii by taking extremes in the rating. This lead to an acceleration in the answering speed.

In the case of the question concerning playing Wii with the family („Ich würde gerne mit meiner Familie Wii Kegeln/Bowling spielen“), the very mention of the family rekindled a lot of feelings and memories in the participants. Most of the volunteers stopped for a while after they had read or heard this question/statement. Some of them were not able to speak and looked away for a moment. Others began to tell me about their family and why it would not be a good idea or could not be possible to play Nintendo Wii Bowling with them. In almost all cases this question changed the situation and took it to a more personal level. I tried to explain to them that this question was meant hypothetically and it was not my intention to bring up a topic so personally relevant to them. But once they were thinking of their family, my attempt to change the subject and bring it back to the present was unsuccessful. The only thing I could do to make them feel comfortable was listen.

Although the TIPI and self-efficacy should be suited for people above 90 years, there were problems with the rating and with understanding of the statements. One interesting aspect concerning the rating of statements measuring self-efficacy was, that there seem to be both participants who are very convinced of themselves and their capabilities, and other participants, who seem to be more moderate and critical in their rating. Unfortunately the way the results were obtained, the data does not permit a statistical analysis, otherwise it might be interesting to look at the impact of self-efficacy on acceptance of the Nintendo Wii. There might be people, who are afraid in the beginning but adjust very quickly to new technology which boosts their self-efficacy. On the other hand there might be people who are not especially afraid of new technology, because they have enough self-efficacy available, and for them it would be more like a self confirmation.

The TIPI was difficult for the participants to accomplish, because they had trouble rating themselves. Very often they were searching their memories for a situation where friends or family told them their level of skill, and used this as an answer. The problem with this technique was that some of the participants had a lot of different appraisals in their memories and struggled to determine a final answer or even resorted to asking my opinion.

My impression was that the layout of the questionnaire was not the best choice for conducting a survey among old people. The rating scale and the table, where one question follows the next without anything clearly separating them from each other, made it needlessly hard for the elderly. When I started to read the questions to the participants very clearly and loudly, it seemed easier for

them to understand the statements and to stay focused. I have yet to mention is the volunteers' vocalization of their thoughts. With each participant I spent more than one hour, some even longer, although filling in the questionnaire took only 10 to 15 minutes. There was such a high need among most of the participants to talk to somebody that it seemed wrong for me to just ask them to fill in the questionnaire and leave. Instead I listened to their stories and it changed my view of old people. I have now gained a deep insight of the reality of being a resident in a nursing home. What I want to say with this is, that it is important to show respect to old people when conducting a survey. They are more than just subjects. For them it is an event to take part in a study, because they see a purpose and it gives them the feeling of being needed. This is why it is important to listen to their stories.

Limitations

The first limitation of this study is that it was conducted in only two retirement homes in Hamburg, which had agreed to take part, making it a small pool of suited participants for the research. There are just a few retirement homes in Germany who own a Wii and have seniors who have experiences with Wii Bowling.

The second limitation is the way the data was obtained. A lot participants had trouble rating the statements and verbalised their answers. Instead, I had to rate their answers, which was a very difficult undertaking.

The third limitation is the way the pre-test for obtaining the items used in operating the factors „perceived usefulness" and „perceived ease of use" was conducted. The pre-test should include more than two participants, who are unknown/unrelated to the researcher.

Future Research

For future research there would be the need of bigger pool of participants. This would make it possible to select suitable subjects for the research, which in turn could make the filling-in of a questionnaire (or other measurement tool) easier to administer in a reliable way.

Concerning administration of a measurement tool, special attention should be paid to its layout, with different phrasings for various age ranges. When working with people over the age of 80 it might be wise for example to use a structured interview instead of a mere questionnaire. Possible

limitations, like dementia or depression, should be considered when selecting an appropriate measurement tool for old people.
In future studies covering this area, it might be interesting to compare participants who are familiar with playing the Wii, participants who stopped playing with the Wii, participants who came to the Wii later in life and participants who do not play the Wii. The comparison could be made respectively to the TAM model with some modification, which could provide additional information, such as personality traits of the participants etc. The results could be used to obtain a better perspective of why some old people show a higher acceptance of the Wii and others do not.

Conclusion

In contrast to other studies, it was shown that asking old people to fill in questionnaires concerning the use of Wii Bowling is not so easy. If you do not have a large pool of participants available who are able to fill in a questionnaire, it could be difficult doing research in a retirement home. There might be a difference of age, mental capabilities etc. I conclude that studies like Theng‘s et al., conducting research into acceptance of the Wii among inhabitants of a retirement home, made a selection among the prospective volunteers in a carefully chosen institution over a longer period of time. In this way it was possible to obtain reliable results without having the problems I experienced.
It is important to realise that working with people over the age of 75 is a lot different to having students fill in a questionnaire. You can hand students the questionnaire, tell them what they need to know and they will fill it in without many difficulties. In contrast to that, when working with old people, you need to be patient and personable. You can not just hand them the questionnaire, you have to be there when they fill it in. They probably need your assistance and they need to allow their feelings or thoughts to emerge while giving the answers to the questions/statements. The best way would be to conduct a structured interview. In this way, the participants are able to concentrate for longer and would not become confused so quickly. Also they do not have to stare at the paper, but can make eye contact.
Composition of the questions should be done in a way to allow the participants not have to rate their answer according to a scale. Most of the participants in my study liked to just say „yes“, when they agreed, or „no“ when they disagreed with a statement. It could be wise to record a structured interview in future, so it is possible to interpret the intensity or speed of the „yes“ or „no“ and compile these results in a rating scale later.

One conclusion which can also be drawn is that all participants enjoyed the experience of playing Wii Bowling. They said that this shared activity is a great benefit to communal life in the retirement/nursing home. Almost all of them are looking forward to the next competitions.

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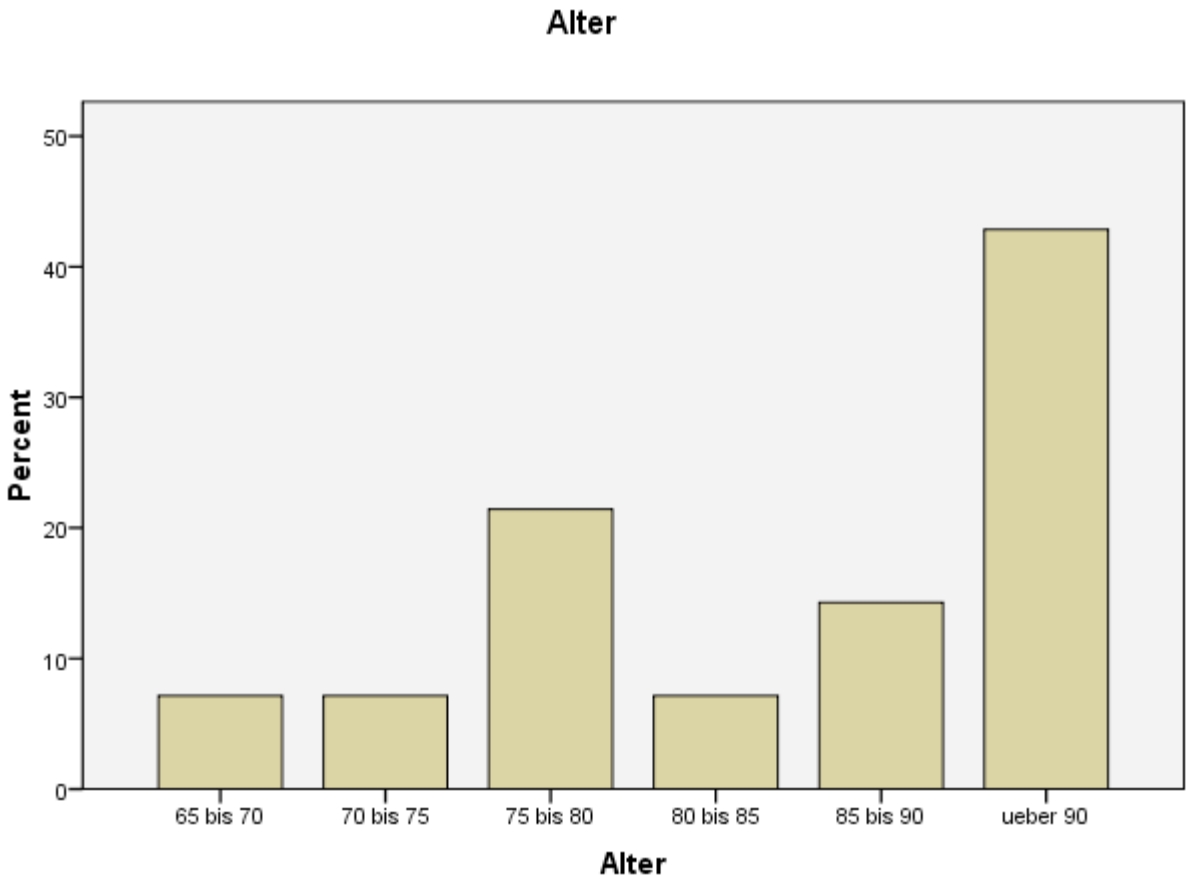
Appendix

Figure 1



Questionnaire:

1.) Bitte kreuzen Sie Ihre Alter an:

60-65 Jahre ___ 65-70 Jahre ___ 70-75 Jahre ___ 75-80 Jahre ___ 80-85 Jahre ___ 85-90 Jahre ___

über 90 Jahre ___

2.) Ich bin eine Frau ___ oder ein Mann ___

3.) Ich habe schon Erfahrung mit Kegeln/Bowling: JA ___ NEIN ___

4.) Bitte beantworten Sie die folgenden Fragen, indem Sie ankreuzen, inwieweit Sie mit der Aussage übereinstimmen. Es gibt keine gute oder schlechte Antwort. Es geht um Ihre eigene Meinung. Sie können keine Fehler machen.

Frage	Trifft nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft zu
Das Spiel schloss gut an die Realität an				
Das Spiel hat mir einen realitätsnahen Eindruck vom Kegeln/Bowling vermittelt				
Ich habe mich wie beim Kegeln/Bowling gefühlt				
Es bestand kein Unterschied zwischen Spiel und dem Kegeln/ Bowling in der Wirklichkeit				

Frage	Trifft nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft zu
Meine Spielfigur hat meine Bewegungen quasi eins zu eins umgesetzt				
Das Kegeln/Bowlen an der Wii war für mich ein Erfolgserlebnis				
Das gemeinsame Spielen an der Wii ist eine Bereicherung meines Tagesablaufes				
Durch das Spielen an der Wii fühle ich mich sportlicher				
Das Kegeln/Bowlen fördert meine Konzentration				
Ich habe früher schon gekegelt/gebowlt und habe nun endlich die Möglichkeit es wieder zu tun				
Ich fühle mich vertraut mit der Wii				

Frage	Trifft nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft zu
Das gemeinsame Spielen an der Wii tut mir gut				
Ich freue mich auf die nächsten Wettkämpfe				
Ich würde gerne mit meiner Familie Wii Kegeln/Bowling spielen				
Ich fühle mich wohl, wo ich jetzt wohne				
Mir war beim Wii Kegeln/ Bowlen nicht immer deutlich, was ich zu tun habe				
Beim Kegel/Bowlen an der Wii sind Probleme oder Fehler aufgetreten				
Ich fand das Kegeln/ Bowlen an der Wii frustrierend				
Von dem Spielen an der Wii habe ich Kopfschmerzen bekommen, weil ich mich sehr lange konzentrieren musste				

Frage	Trifft nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft zu
Mögliche Probleme während des Spielens ließen sich leicht beheben				
Ich hatte das Spiel im Griff				
Während des Spiels sind unerwartete Dinge geschehen				
Das Kegeln/Bowlen an der Wii fand ich mühsam				
Ich konnte mich gut an das Spielen an der Wii erinnern				
Das Spiel gibt klare Anweisungen				
Ich finde die Wii bedienungsfreundlich				
Das Kegeln/Bowlen an der Wii war für mich schwierig zu lernen				
Man braucht viel Übung ,um gut auf der Wii zu kegeln/bowlen				

Frage	Trifft nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft zu
Wenn sich Widerstände auftun, finde ich Mittel und Wege, mich durchzusetzen				
Die Lösung schwieriger Probleme gelingt mir immer, wenn ich mich darum bemühe				
Es bereitet mir keine Schwierigkeiten, meine Absichten und Ziele zu verwirklichen				
In unerwarteten Situationen weiß ich immer, wie ich mich verhalten soll				
Auch bei überraschenden Ereignissen glaube ich, dass ich gut mit ihnen zurechtkommen kann				
Schwierigkeiten sehe ich gelassen entgegen, weil ich meinen Fähigkeiten immer vertrauen kann				

Frage	Trifft nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft zu
Was auch immer passiert, ich werde schon klarkommen				
Für jedes Problem kann ich eine Lösung finden				
Wenn eine neue Sache auf mich zukommt, weiß ich, wie ich damit umgehen kann				
Wenn ein Problem auftaucht, kann ich es aus eigener Kraft meistern				
Ich finde es schön, mit meinen Mitbewohnern Wii zu spielen				
Ich finde es schön, mit den Pflegern Wii zu spielen				

5.) Im Folgenden finden Sie eine Reihe von Persönlichkeitseigenschaften, die mehr oder weniger stark auf Sie zutreffen. Bitte markieren Sie für jede Aussage, inwieweit sie auf Sie zutrifft oder nicht. Sie sollen diese Einstufung jeweils für Paare von Eigenschaften vornehmen, auch wenn möglicherweise die eine Eigenschaft stärker zutrifft als die andere.

Ich sehe mich selbst als :	**Trifft überhaupt nicht zu**	**Trifft größtenteils nicht zu**	**Trifft eher nicht zu**	**Weder zutreffend noch unzutreffend**	**Trifft eher zu**	**Trifft größtenteils zu**	**Trifft voll und ganz zu**
Extrovertiert, begeistert							
Kritisch, streitsüchtig							
Zuverlässig, selbst-diszipliniert							
Ängstlich, leicht aus der Fassung zu bringen							
Offen für neue Erfahrungen, vielschichtig							
Zurückhaltend, still							

Ich sehe mich selbst als :	**Trifft überhaupt nicht zu**	**Trifft größtenteils nicht zu**	**Trifft eher nicht zu**	**Weder zutreffend noch unzutreffend**	**Trifft eher zu**	**Trifft größtenteils zu**	**Trifft voll und ganz zu**
Verständnis-voll, warmherzig							
Unorganisiert, achtlos							
Gelassen, emotional stabil							
Konventionell, unkreativ							

Ich bedanke mich sehr herzlich bei Ihnen für das Einfüllen des Fragebogens!!

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Sehr geehrte Damen und Herren,

Im Rahmen meiner Bachelorthesis mit Schwerpunkt Medienpsychologie erforsche ich die Akzeptanz der Nintendo Wii bei älteren Menschen. Diese Untersuchung richtet sich auf das Erforschen der Akzeptanz für die Wii bei älteren Menschen, die im Zuge der Initiative von „Senioren an die Konsole" an einer der „Wii Sports Bowling Seniorenmeisterschaften" teilgenommen haben. Bei dieser Untersuchung werden anhand eines Fragebogens bestimmte Kommunikationsmaße gemessen, die nach dem Technologieakzeptanzmodell von Davis und Bagozzi, ausschlaggebend sind für die Intention, weiterhin mit der Wii zu spielen.
Mit meiner Untersuchung möchte ich probieren einen besseren Blick auf die Faktoren zu bekommen, die einen positiven Einfluss haben auf die Akzeptanz der Wii, um zu schauen, ob sie auch bei anderen Technologien einen Einfluss haben.
Summa summarum möchte ich probieren die Akzeptanz von neuen Technologien bei älteren Menschen zu erforschen um Ihnen dadurch die Möglichkeit zu geben die Vorteile aus diesen Technologien zu nutzen.

Mit freundlichen Grüßen.

Attila Worlitzsch

Sehr geehrte Damen und Herren,

Ich bestätige, dass der Student Attila Worlitzsch im Rahmen seiner Bachelorthesis diese Untersuchung durchführt und bedanke mich für Ihre Mithilfe.

Dr. A. Heuvelman
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