

Factors influencing the use of engagement apps

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ABSTRACT

This report presents the results of a study focused on the different perceptions and use of an engagement app between students and employees. In this report, VIGO is used as engagement app. After 14 interviews with students and employees, the results show that on the one hand, students would be interested in using an engagement app, but do not feel the need to use an engagement app, whereas on the other hand, employees do find an added value in the use of engagement apps, and believe it could have positive contributions to different fields or users, like students.

“When younger workers talk about balance, what they are saying is, ‘I will work hard for you, but I also need a life,’” said Cali Williams Yost, the chief executive and founder of Flex Strategy Group, which helps organizations build flexible work cultures. “Unfortunately, what leaders hear is, ‘I want to work less.’” (Clarie Cain Miller & Sanam Yar, 2019)

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1. INTRODUCTION: THE WELL-BEING OF EMPLOYEES AND STUDENTS

The well-being and balance within work and personal life, is a topic that has gotten more and more attention lately, judging by the amount of research performed and articles written in the past 10 years, compared to the period before. For example, if we look at the search hits of ‘work-life balance’ on Scopus (See appendix 1), we see a total of 5371 articles (as of 29th of June 2020), which is still increasing, of which 806 articles were written in the period before 2010. In the period between 2011 until the present there were 4565 articles published. There has also been an increase in articles written about work-life balance in almost each year, since 2000.

Topics such as reducing stress, finding the optimal work-life-balance, and improving well-being are all subject of investigation. However, how could this apply to students, who instead of work have to study?

This is a subject that has not yet been explored as much as work-life balance and can be called the *study-life balance*. This concept covers the balance students have to find between their study and personal life, which may include activities as (part-time) work, sports, meetings and even parties or social gatherings.

The study-life balance is a topic that has gotten little attention but should get more according to the opinion of students and the public debate. If we look at the results we get when searching for study-life balance, the same way as searching for ‘work-life balance’, on Scopus (See appendix 1), there is a total of 27 articles related to this topic, 0,5% of the number of articles about work-life balance. Next to that, almost none of the scholarly articles is actually about study-life balance, but the search term just had close relations with the article. So, in fact, there are close to none scholarly articles that talk about the concept of study-life balance.

An interesting topic is the possible usage of apps to influence this balance. Using an app can help to be aware of a balance of your life, by giving you a clear overview of your activities and tasks and providing a place to calm down by writing your problems. There are different target groups, with different needs and activities, think of differences between the lives of the working group (employees) and students. Having different needs and activities requires a different balance between these things. This, in turn, requires different help and different influences to download an app, and use it.

The impact of the differences in the (general) usage of apps, which can help assessing the needs of the different target groups in a specific app, is unclear. Finding out what influences the different groups to use apps can help in developing an app that is attractive to all possible target audiences, or create different versions of the same app for different target audiences. This way, an engagement app can help different groups with their work-life or study-life balance, to potentially reduce stress and create a healthy balance. Knowing what is needed for students as well as for employees to use an app that improves their work-life-balance or study-life-balance can thus have a big impact on the general well-being of both groups.

In this paper, I try to discuss the use of apps, and in particular, engagement apps. The definition of employee engagement is described as follows: “A collection of psychological forces that determine the direction of a person’s behavior in an organization and their level of effort and persistence” (Moens, 2019)

For this study, we define an engagement app as a special app that captures personal psychological forces, and analyzes them, in order to offer a personalized overview. From this overview, each user and/or team can find some possible improvements and possibly work on them, connecting the results with the vision of an organization.

The research question is as follows: *What are the perceived differences in the use of engagement apps between students and employees, to improve a students’ study-life balance or an employees’ work-life balance?*

2. USAGE OF APPS AMONG DIFFERENT GROUPS

To our knowledge, there are no research papers available on the topic of engagement apps, which leaves this fully open to find out during this study. Research about the influences on the usage of different types of apps is discussed below. This will give us a basic idea about these influences.

App usage among students

There are multiple factors that can influence the usage of apps, among students, but also numerous factors to keep using an app, after the initial installation.

The most important reasons to choose a certain mobile health/wellness app, are based on the idea of social norms and the costs of the app. (Choi et. al, 2015) The idea of social norms means what other people think of the app, focused on the reviews the app gets in the app store. Costs of the app are related to the potential need of an actual payment to download, or use the app, after which the app can be deleted without consequences related to money. The cost of time input into using the app was not considered in this study. The main reasons to keep using the app are the ease-of-use and the customizability/flexibility of the app. Other influences include the amount of errors (the lower, the better) and the accuracy of the app to target what they were looking for, according to Choi et al (2015).

Some other research about the use of fitness apps among students showed that the reasons to continue using a fitness app can be divided into two categories, social-cognitive and quality-related features. (Park et. Al, 2018). There were many similarities, in comparison to the other research including social influence, aesthetics and functionality, but some new influences were also presented. The most important social-cognitive aspects included self-efficacy, innovative propensity, outcome expectations and a small influence was provided by health concerns, and as already mentioned the social influence had an impact as well. The quality-related features included engagement, information quality and subjective quality, on top of the aesthetics and functionality mentioned before.

App usage among employees

The use of Food Delivery Apps among employees (the working group, 25 to 65 years old) has 8 different factors influencing it. (Ray et al, 2019)

The most important factors are the customer experience and the ease-of-use of the app. The other factors are societal pressure, delivery experience, quality control, convenience, listing and search of restaurants. There were two factors that had a negative influence on the intention to use the app, which were listing and quality control. Listing refers to how the restaurants and their menus are listed within the food delivery apps. All the other influences had a positive correlation with the intention to use the app.

Similarities and differences

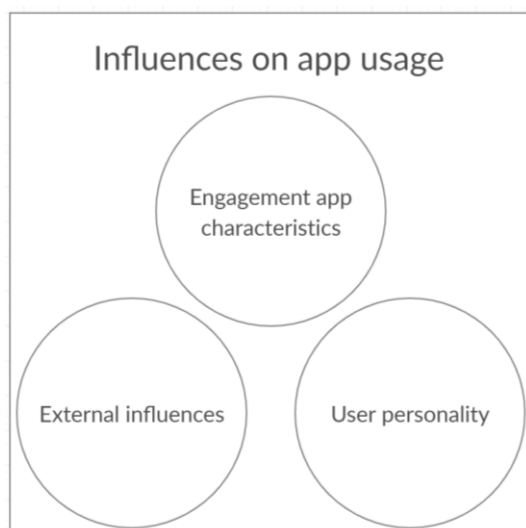
As said earlier, all research findings conclude that social norms in some form have an impact on the usage of apps by students. We can see that employees are affected by this too, implying that societal pressure is an important factor for both groups affecting the use of apps.

Other important factors mentioned in the different research papers were the ease-of-use or functionality of an app. Both groups were positively influenced by this, meaning that a better functionality, or easier-to-use app would score higher and have a higher chance to not be deleted by the user.

During the research, other similarities and differences have been found. This has to do with the nature of people, as every person is different, but also with the age, and the situation, which is studying for students, and working for employees. The needs change over time and in different situation, and therefore differences will be created.

However, every interviewee is still a person, and there will likely be a general line in the desires of a person. Therefore, there will also be similarities between the two different interviewed groups.

The anticipated conceptual framework



The influences on the usage of apps can be divided into three major categories, covering all the possible influences found in the theory. These categories are shown in the figure above. By creating a framework with only three major categories of influences, there will be more possible influences that fit within each group, and therefore we can better assess the different factors that could influence the usage of engagement apps for students and employees.

The engagement app characteristics is a group that covers every aspect a user could look for in an app. This could range from expectations of results after using the app, to small details the app

must contain in order to function properly. Extra details, which are not necessary, but do increase the pleasure of usage also fall into this category.

External influences are the influences a person cannot directly do anything about. This could be a situation involving others, where you have no control over what they are doing, such as social pressure. Other examples are an exam period for students or a deadline for a presentation on the current status of the work, for employees.

The user personality depends on the user itself. Every person is different, and has a different personality, which means that this will also have an influence on the potential usage of engagement apps.

It is still possible that there are other factors, or groups of factors influencing people in their usage of apps, which are not yet found, or described in the theory. Therefore, these are not accounted for in the model, but still possible to exist.

3. METHODOLOGY

The main goal of this research is to find the different, possible influences on the usage of apps, and make app-developing companies aware of these influences. This could improve their ability to create an app, or adapt their current app, which is widely used, to improve the study-life balance of students. This will have great implications on general health of students and the ability to proceed after feeling stressed out.

VIGO

The tool that was used as the empirical basis for this study, is VIGO. VIGO is an app that helps an employee to discover his or her energy levels throughout the day, and the causes of its variation. It looks for situations in which your energy leaks, and for energy boosters. At the end of each month, a personal dashboard is generated online, and an e-mail is sent to you to access it. The dashboard shows the influencing factors for your personal level of energy throughout the month. It also gives some tips and attention points, from which you can start looking for possible solutions and ways to improve your energy level, sustain your energy boosters and try to stop the energy leaks. Improving your energy level generated at work, will also improve your energy level for all other things, which is beneficial for you as a person as well.

The idea of VIGO is to turn around the tests about work-life balance. (VIGO, 2020) This means, that the work-life balance starts by the user, who has to come to the management about potential complaints. Using VIGO is a way that can be used instead of using a yearly or monthly evaluation interview. This way, an employee can come to the management with their problems during the entire year, and not just at the moment of the evaluation.

By using VIGO, the employees get an overview each month, and they will have a much clearer view of what they need, in order to possibly improve their work. In comparison with the situation where the management has to send out a survey, analyze the results, after which the thinking of solutions can start, it will now be much faster. Employees will know what they need, so you, as a manager, can help employees much more specifically to target

their problems, working more efficiently and effectively, which is beneficial for all parties.

The way in which VIGO assesses a user

VIGO makes use of 6 main drivers, which are the most important aspects of your energy level. These drivers are growth, results, energy, space, challenge, and support. Each driver consists of 6 sub-drivers, fitting their category. In the figure on the right, all the drivers and their sub-drivers are shown. In order to obtain the best possible results, all these drivers must be scored each day, which is done via the sub-drivers. So, every day, all the sub-drivers are



scored positive, negative, or neutral, totaling 36 points to score. Next to that, an overall grade is given to the day, and at the end a small, personal note about the day can be made. You can always look back at the note, to see what made a bad day bad, or a good day good. These will also appear in the monthly dashboard. Filling all this in, only takes a few minutes each day, but is essential if you want to obtain the best possible results.

Interviews

In order to gather information about the influences on the usage of engagement apps, sixteen interviews were conducted, divided over two groups. The first group consisted of 10 students, who are currently studying at the University of Twente. They came from different study programs and were interviewed about their study-life balance and their view on using an app for their study life balance. The other group interviewed was the group of employees. The interviewees from this group were current and former users of VIGO that are also employees and were asked about their perceptions about the usage of apps that target work-life balance. They were also asked about their ideas of adapting an app that could target study-life balance, to improve the situation of students.

By conducting these interviews, the goal was to gain extra knowledge and insights about engagement apps, the implications of an engagement app and the ideas different groups have about

these types of apps. The two groups interviewed represent the two groups of interest from the research question, which are the group of students and the group of employees.

The interviews with students were divided in 3 parts. The first part is about their general perception of their study-life balance, how they handle their balance and if they believe an app could contribute to this. The second part is about the general ideas of people and their app usage. The third part was after showing them VIGO, when they were asked what impression the first glance of the app and the dashboard had given them.

The interviews with employees were also divided in 3 parts. The interviews started off with some questions about the current status of use and the role in which VIGO was used. After that, the questions continued about VIGO itself, the positive and negative sides and what could be improved in the use of VIGO. The interviews ended with some questions about the perceptions of the interviewees with regard to potential help to other groups, such as students.

The interviews with the students were held between the 3rd of June and the 12th of June, 2020. The interviews were arranged and scheduled via a personal text and held via either Zoom, an online videoconferencing platform, (7 students) or a phone call (3 students). The ten students that were interviewed, are currently studying at the University of Twente, and came from the programs of: International Business Administration (bachelor), Spatial Engineering (master), Industrial Engineering & Management (bachelor), Mechanical Engineering (bachelor) and Management, Society & Technology (bachelor). They were of an age between 19 and 25, with an average of 20.9 years old. The interviews took about 15 minutes per person, with some interviews taking more time (just under 20 minutes) or less time (just above 10 minutes). The possible effect of study program on the outcome of the interviews was not examined.

The questions that were asked during the interviews with the students were divided in the 3 topics shown in the table. The topics were not always asked in the same order.

Interview topics students
1. Perception of their own study-life balance and how to handle potential imbalances
2. General ideas of students about app usage
3. Thoughts about VIGO at first glance

The interviews with the employees were held between the 10th and 18th of June, 2020. All interviews were scheduled via mail and held via a phone call. Six employees were interviewed, all of which are using, or have used VIGO for personal use. One of the interviewees used VIGO as a coaching tool, as well. The interviews took around 25 minutes each. Each employee had experience with VIGO for a long time, meaning that they knew enough about the use of VIGO and its potential use and contribution for different groups to discuss.

The questions that were asked in the interviews with the employees that have used VIGO, were rather diverse and categorized into three different topics of interest. They are shown in the table below:

Interview topics employees
1. Current status and use of the app, and in which role?
2. How user-friendly is the app? Difficulties and conveniences + possible improvements.
3. Perception of possible help to other groups, and possibly for students.

For a full list of questions asked during the interviews, I refer to the appendix. The questions posted there were the guidelines, with additional questions for examples or clarifications on the subjects. All interviews were held in Dutch.

As none of the interviews took place face-to-face, there was a need to be aware of the possible implications on the results of the interviews. The reason why face-to-face interviews, other than online, were not possible, is the situation with COVID-19, where there was no way of guaranteeing the safety for all parties, besides the used possibilities.

The interviews via phone call were different, because there was no visual contact. Body language and facial expressions were not able to be perceived by the researcher, and all answers were based on what the person said, the words and the tone. This was not a big problem, as all interviewees were happy to help and gave open and elaborated answers.

There has been some research about the benefits and drawbacks of online interviews, via skype, a different online meeting platform to zoom, but with the same idea. Carter (2008) suggested that the main limitation to online videoconferencing, over face-to-face interviews, was the fact that body language cannot be interpreted well. Another limitation is the fact that they would need a computer with, often, the software needed for the interview, installed. Not every person has this, which makes the interviews more difficult. This is a problem from 12 years ago, but it is still possible to be relevant in the present day. A benefit of online meetings is that you can easily have meetings with people from different areas, cities, or even countries, increasing your pool of possible interviewees. (Carter, 2008).

Some benefits of online interviews over face-to-face interviews are reduced expenses, reduced time spent (for example by traveling) and other logistical considerations. (Deakin & Wakefield, 2014)

During my online video-interviews, I experienced these limitations as well. At some moments, it was hard to read what a person was actually saying, by just hearing the words. This was harder through the phone than through the zoom meetings, but it would have been preferred to have face-to-face interviews. I also noticed the benefits, as I was able to plan all interviews when best

suited, had no travel time or expenses and had therefore some benefit to the online interviews, over face-to-face interviews.

After interviews were held, the interviews were transcribed verbatim to create a better overview of the interview. With the approval of each interviewee to record the interview, each interview was replayed, and the questions and answers were noted in a word-document, without the irrelevant parts such as personal things, or some chat in-between.

After each interview was transcribed, the analysis started with a notation of the topics and questions of interest, after which the answers of interviewees of that group were summarized into a coherent story. This was done manually, reading through all the interview transcripts. The quotes were taken from the interviews themselves, listening back to the interviews and translating the quote of interest.

4. FINDINGS

This section elaborates on the findings from the interviews with students and employees. Each group is focused on the three different influences mentioned in the anticipated conceptual framework, after which findings during the interviews are presented that are related to that specific influence.

4.1 Student perceptions about study-life balance using an app to help with this balance.

App characteristics

When the dashboard and app was shown, and the usage was explained, the respondents gave their opinion about their first impression of the dashboard and the app, which overall was a positive impression. There were some aspects that immediately caught their eyes, but also some points which they believed could potentially be improved. None of the respondents had ever used this app, or a similar app that focused on a balance in life, before, so showing them the dashboard and the app was completely new to them.

“It looks clear, I like the graphs, the clear numbers and the colours”
Student interviewee 7

Clarity of the dashboard and the app

Almost every student was positive about how clear everything looked. Most students did not need a lot of explanation with the dashboard, as it spoke for itself, and the app had no difficulties either. The starting page did not look difficult to understand, and neither did the way to answer the questions.

Visualization with colors and graphs

The graphs that are used in the dashboard, but also in the app, were appealing to most of the students. They liked the overview it gives and how easy it is to read the information in the dashboard. The colors clarified a lot as well, as it is an easy indicator to find out where your problems and strengths are, and thus where there are possibilities to improve.

Easiness of the app and dashboard

Many students enjoyed the fact that it looked so easy to use the app, but also to interpret the dashboard and all the possible results you could get for the amount of work you would have to put in. They noticed that taking only a few minutes of your day to fill out the questions, resulting in the extensive dashboard, seemed like a small and easy task for how much you potentially get in return.

Personalized help

A possible improvement that was mentioned, was a possibility where VIGO would give personalized help and ideas to go forwards and improve yourself. Currently, VIGO only gives general feedback, based on results in the dashboard. What could really help, is a dashboard that would not only show what goes wrong with your energy levels, where your drainers are and where your energy boosters are, but also shows how to improve it. One student believed that there would be users, including himself, that would not know what to do with the information given, which could deny the potential positive impact of VIGO. This probably also depends on the user, as different users might prefer a different approach to the situation.

“It shows the problems, but it does not tell you what to do with it. I would not know what to do with the information.”

Student interviewee 1

Students also mentioned the positive aspect this has, namely that it will increase the motivation of the user, once a solution is found. This is due to the fact that the user will feel like he or she is in control of the possible improvements, and it will not feel as if somebody else is pulling your strings, which increases the intrinsic motivation.

User personality

The personality of the user can be a deciding factor towards one's study-life balance. Some students are pro-active, and want to complete everything as soon as possible, whereas others try to pass with the least possible effort. The ability to plan and control also influences the results, as a bad planning often results in an increased study load towards the end of a period, and a good planning can take away a lot of stress during busy periods, due to the decreased amount of work that has to be done.

The connection between app characteristics and the user personality is that characteristics can be perceived differently per person, depending on the personality of that user.

Attitude towards studying

A very important factor is the attitude of a student towards studying. Some students find it important, and thus create a planning to be able to have all the work done before their respective deadlines. Other students often tend to let most of the work undone, until the deadlines approach and there is no alternative than to work on it. This often results in busy weeks, and sometimes a student has to cancel other plans. A student said

that this creates a lot of stress, which is often negative for the study-life balance.

“I usually spend around 15 hours per week on school, including classes. During exam periods, I spend around 5 hours per day on studying alone.”

Student interviewee 1

Ability to plan

The interviewed students did not find any problems with their own abilities to plan ahead, however they did recognize a certain need VIGO could be able to fulfill. The students believed that people who are not good at planning, and controlling themselves about that planning, could benefit a lot from using VIGO. Having a daily reminder to think about your day, about what you have performed compared to what you wanted to perform, can make students more aware about the quality of what they did, during the day. Looking back can motivate you to do better the next day and finding a trend can help you towards improving necessary drivers. This can lead towards more accurate planning, and a higher motivation level in the near future.

“I think an app could work really well, especially in busier periods, and for people who are worse in planning.”

Student interviewee 3

External environment

Busy study times

The most common study periods where students get busier, and need more time to focus on their study, are the exam periods. During this time, the students often have multiple exams in a short span of time. If their planning is not adequate, this can cause a lot of trouble, and potentially lead to cancellations on different activities, outside of studying. During these periods, some students said that they would plan less work, cancel practices, or not go to all the parties they had planned.

During these periods, keeping a healthy balance is very important, and therefore, some students suggested that the use of an engagement app, like VIGO, can be very helpful during this time. Having a way to monitor your energy levels, and make sure that you are still doing enough activities outside of studying, can help towards creating a good balance.

Extra activities

A student almost never focuses on solely studying. Usually they play a sport, have social meetings such as parties, have a few hours of work each week or need some time every day to relax. Having many activities, other than studying, can dramatically influence your performance and study-life balance. The study-life balance suggests that there should be a balance between

studying, and other things in life, such as parties, work, sports, and relaxing.

Students find it important to still be able to do activities outside studying, as they believe being a student is not only the time you put in for your study, but also the activities you do next to studying.

“If, for me, it would be the case that my study becomes so much that I cannot do other things anymore, I would stop with that study.”

Student interviewee 8

4.2 Employee perceptions about the usage and potential contribution of apps that target work-life balance.

The employees were asked about the positive and negative aspects of VIGO, possible improvements for VIGO, but also difficulties in the usage or interpretation of the app or dashboard. Next to that, the needed personality aspects were discussed, which are needed to positively use VIGO and obtain the maximum results possible. Potential situations and usefulness of VIGO in those situations were discussed last, leading to recommendations of whether or not to use VIGO within different sectors.

App characteristics

Easy to use

The usage of VIGO was, according to the employees, very easy. It only takes a few minutes of your day, and it gives you a good value for your efforts in return.

Ability to give (new) insights

Most interviewees stated that they already had, before using VIGO, an idea of what influences their energy levels at work. However, many employees were still interested in what VIGO could contribute to them, and after using VIGO for a few months, they came to the conclusion that they had many new insights, which they did not expect. This was an aspect that was perceived positively.

“I had an idea of what it could deliver, but I was not able to decide what exactly would come out, and there were some results which I did not expect.”

Employee interviewee 5

Clarity of the dashboard

Interviewees mentioned the dashboard to be a very positive aspect. It was clear, gave a good overview and they liked the data

it gave and how extensive it was. Another positive aspect was the clear use of colors in the dashboard.

Drivers

The drivers, see methodology section, are an important part of VIGO, as they are developed to target employees correctly. They try to target all relevant areas, and many employees believed that they were really good and had a good focus.

“I really liked the drivers. They were right, and complete. I also liked to be able to set my own reminder.”

Employee interviewee 4

One possible improvement mentioned was that the drivers are only work related. For example, the energy level of a person can be very low, because of a sleepless night due to personal problems. This is not noted in VIGO, as VIGO only relates to work, and thus sees that the energy levels are low. Having multiple possible reasons why a person is having a bad, or good day, can be very interesting, as things outside of work can also give or drain energy related to work. This is an aspect which VIGO could potentially work on and improve or increase, according to the interviewee.

Questions that are answered each day

Some interviewees mentioned that a possible improvement could be related to the questions that are asked when filling out your daily evaluation. Examples given were switching the order, asking different questions related to a specific day or phrase part of the questions differently. This should be done to keep it interesting, as answering the same questions each day can get repetitive and boring.

However, one of the interviewees mentioned the benefit of answering the same questions over and over again, every single day. The interviewee mentioned that the power of VIGO lies in this, as this is what gives you an overview of apparent changes between two, or amongst different months. This is what will help you grow and improve.

“The power of the story lies within the fact that you answer the same questions each day. It can be annoying that it is repetitive, but it is the strength, to see why this month was different than last month.”

Employee interviewee 6

Extensive, personalized feedback system

Although many employees recognized the difficulty of creating a personalized feedback system, they still believed a more

extensive and personalized feedback system would be an improvement. The extended part would be advice that will help you to improve the parts you need to improve, because currently the dashboard only mentions what should be improved, not how.

This point was also mentioned by the students, and after a talk with one of the owners and creators of VIGO, it was mentioned that the idea is to have a monthly talk with a coach instead of a personalized feedback via the app and dashboard. This is done in order to create a combination of a systematic analysis with personal help, to keep the human touch in the usage of VIGO.

Recognition of patterns

Another important benefit VIGO created, was the ability to recognize patterns in your daily life, which really helped to find things that should be changed or should be sustained to keep your energy levels high. VIGO has helped many of the interviewees to find such patterns.

Improved specificity of problems

The value, according to the employees, of using VIGO within a company with managers and employees, is that an employee will have much more specific requests. After using VIGO, the employee will find out better what they really need, and can therefore talk about this more easily. The requests will often be specific to target a problem, and therefore often much more effective. It also increases the ability to start a talk about the working situation, because the data can show many things that can be difficult to put into words. The data can also be used as some proof, during the making of requests.

Ability to fill in free days

A possible improvement point that was mentioned, was the ability to include free days, such as national holidays, in your calendar. During such a free day, you often do not want to be reminded about work, so a notification of VIGO to answer the questions is not something you are looking forward to. Being able to set these days as free could be an option to solve this problem.

Other positive aspects

Other mentioned positive aspects were user friendliness, being able to set your own reminder that tell you to answering the questions, being able to read back to other days' notes and the fact that the app and dashboard explain themselves, which makes it easy to use.

User's personality

Discipline to use an app

As VIGO requires to give a daily reflection, taking the time each day to answer the questions is something a lot of employees had difficulties with, as it takes motivation to do. This motivation often comes from yourself, because you want to improve, and you know what the potential results are. This implies that one's personality is important to the results, as personality influences the discipline to keep answering the questions.

Reliability while answering the questions

Another personality aspect that is important while using VIGO is the reliability of the user while answering the questions.

Answering each question honestly is important to obtain results that can help you forward. By answering questions different than they actually are, you will obtain results that are not real and therefore suggestions for potential improvements that will have no effect, thus VIGO will not work properly.

Willingness to use an app

As a user, you have to be interested to use VIGO. This often goes paired with discipline and honesty, because if you are not willing to use it, the value of your answers could become unreliable, due to a lack of interest, which are fundamental in the usage of VIGO. Therefore, it is important that you want to use VIGO, and want to improve yourself when the results are presented. You have to be open for change and improvement.

Reasons to use an app

The willingness to use can come from different reasons. For example, some employees mentioned that they wanted to get insights in the important aspects in their work. Others mentioned their interest in energy drainers, or energy boosters. The motivation one has to use VIGO, is important for their motivation to answer all the questions reliably, have the discipline to answer all the questions every day and therefore get results which will actually help the user forwards.

“The most important reason for me to start using VIGO, was to get insights into what is important for me in my daily work”
Employee interviewee 1

External environment

Work situation

The employees were very positive about VIGO and stated that they would recommend it to other people that are working as well. Most employees believed that using VIGO would have a benefit for every user, no matter what job you do. This is, because it is about your personal situation, and your energy boosters or drainers, which will always be present, no matter what job you are doing.

Some employees believed that it would not benefit everybody, because VIGO just does not apply to some jobs. Examples given were mailman and bus driver. These jobs often require less abstract thinking, and are more routine based, which makes VIGO lose its value.

Work within a division makes VIGO give more impact, because it will not only help you on a personal level, but also in a team level within your group. This is a situation in which VIGO would be very positive to use.

Personal situation

A mention that was given by employees, was that VIGO was only related to work energy streams, whereas personal energy streams will have a direct impact on a person. If something bad happens outside of work, the energy levels at work will be different and probably more negative. However, you will not be able to see this back in the drivers, as you will only see that you performed poorly that day, without a reason.

The personal situation, outside of work, is therefore very important for a person, as it will influence your work. Thus, it was a recommendation to add to the questions, or drivers, to monitor this as well.

Students as target users of VIGO

The idea of employees to use VIGO for students, was positive. They believed that it could have a good impact, but there would be some changes needed, such as the drivers. Currently, the drivers are focused on employees working in a working environment, whereas students often tend to work alone, which decreases the value of those drivers.

A suggestion given was to use it in a team form, within project groups. This could be helpful, because it looks a bit like working in a division, and in that case, VIGO could add more value to the group.

Another idea given, was to use it within an entire study program, to compare energy with different days of the week, to make a schedule that is more pleasant for students and maximizes their energy level. VIGO could then also be used to compare grades to overall level of energy, to see if there is a connection between those.

Some employees voiced their concerns about the willingness of students to use VIGO, as they are often busy with other things, or not ready to use something like VIGO. They believed students might simply not think about their energy levels, because they are too busy being students, and the healthy balance will come after studying.

“It might be that they’re in a too early stadium, that students are still busy with other things.”
Employee interviewee 2

4.3 Meaning of the results

After having analyzed the findings and found the different factors influencing the usage of engagement apps for students and employees, an analysis of the results was created to find out the differences and similarities between the factors influencing the usage of engagement apps between students and employees (See table below).

The table shows that in all categories, there are similarities, but also differences. The differences often consist of aspects that were simply not mentioned by the other group. This does not mean that it does not influence the other group, but the interviews did not show that those aspects were important to that group.

There were, however, some important similarities, such as the ease-of-use and the influence a person’s attitude or willingness to use has on the use of an engagement app. Many of these similarities were also consistent with the influences found in the theory.

<i>Differences</i>	<i>Similarities</i>
<p><i>App Characteristics</i></p> <ul style="list-style-type: none"> - Employees found the drivers important, whereas the students did not mention this. - Employees were interested by the questions that were asked, which students did not express an interest for. - The ability of the engagement app to do what they intended to use it for was important by employees, but unmentioned by students. 	<p><i>App characteristics</i></p> <ul style="list-style-type: none"> - Both groups found the clarity of the engagement app important - Students as well as employees gave a high importance to the ease-of-use - Another aspect which was found by both groups was the (more) personalized feedback given by the engagement app.
<p><i>User personality</i></p> <ul style="list-style-type: none"> - Students their ability to plan was important as a reason to use (or not use) an engagement app. - The discipline employees mentioned was not mentioned by students. - Employees mentioned that the reliability while answering questions was important, which was not mentioned by students. Employees mentioned that the reasons to use an engagement app were also very important, which students did not mention. 	<p><i>User personality</i></p> <ul style="list-style-type: none"> - The attitude of students, or willingness from employees are similar influences on the usage of engagement apps
<p><i>External Influences</i></p> <ul style="list-style-type: none"> - Students mentioned external activities, such as sports, which were not mentioned to be an influence by employees. - Employees mentioned their personal situation, which students did not mention. 	<p><i>External Influences</i></p> <ul style="list-style-type: none"> - The busy study periods from students and the work situation from employees are very similar, as study for students is like work for employees.

5. DISCUSSION

Interpretation of student perception about study-life balance using an app to help with this balance and employee perceptions about the usage and potential contribution of apps that target work-life balance.

Looking at the findings regarding the perception of students about using an app to help with their study-life balance, there were some interesting aspects found. There were many factors that came to light about what interested them in an app and attracted them to the app, but also what they would like an app to have, in order to satisfy their needs. There are many relations between these factors, which means that they can often be grouped into less, but more general groups.

If we look back at the theory, we saw that there were three general groups in which the influencing factors on the usage of engagement apps could be categorized, namely the characteristics of an engagement app, the personality of the user and external factors.

Firstly, the characteristics of an engagement app are an influence in the usage of engagement apps. For students, these were the clarity of the app and dashboard, visualization with colors and graphs, easiness of the app and the dashboard and the personalized help. For employees, the influencing factors were easiness of use, ability to give new insights, clarity of the dashboard, drivers, the questions asked each day, personalized feedback, recognition of patterns, an improved specificity of a user's problems, ability to fill in free days and some small aspects that ease the usage of the app.

These aspects can be categorized into five different groups. The design of the app and all parts (such as a dashboard), the ease-of-use, the ability of the app to improve the life balance of the user, the correctness of the measurements and the details, which users do not find important, but are noticed if added.

The second group was the personality of the user. There were only 2 factors playing a role for the students, which were their attitude towards studying, and their ability to plan. The employees had 4 factors, namely their discipline, reliability while answering the questions, willingness to use, and their reasons to use.

These aspects can be grouped into 3 different groups: personal believed gained benefit of using an engagement app, attitude, and personal skills.

Lastly, the external influences that were an influence for students or employees. These were the busy study periods and external activities, such as work, sport, or social, for students. Employees were influenced by their work situation, and their personal situation.

These influences can be categorized as follows: personal environment, work/study situation.

If we now look back at the initial model, we can add these findings to the model to create a new model that covers all these influences on a smaller level. It would look as follows, with the explanation of numbers and letters below:

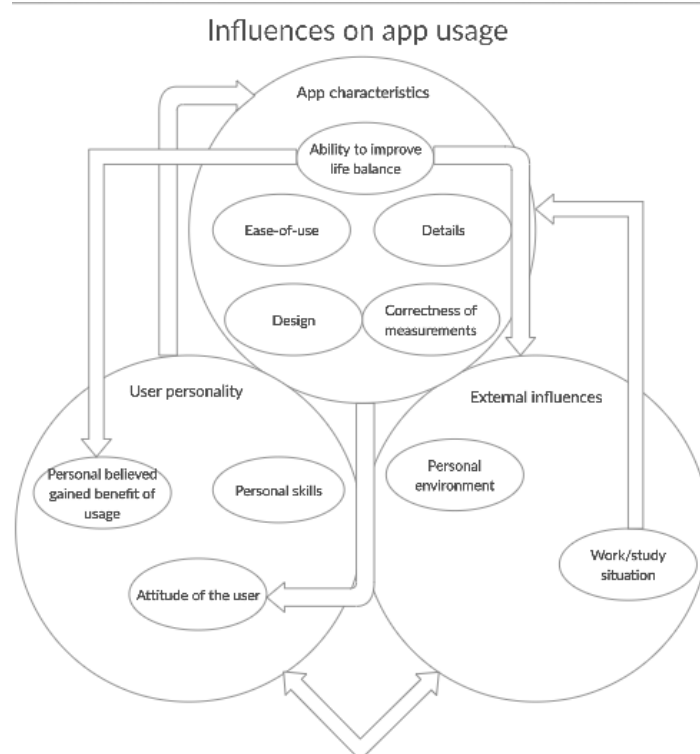
The groups within the major influences consist of different factors. The design contains the design of the app and all parts (such as a dashboard). This group consists of the clarity of the app and dashboard (students), visualization with colors and graphs (students), and the clarity of the dashboard (employees). The ease-of-use consists of the easiness of the app (students) and the easiness of use (employees). The next group is the ability of the app to improve the life balance of the user, consisting of the

personalized help (students), ability to give new insights (employees), personalized feedback (employees), recognition of patterns (employees) and the improved specificity of a user's problems (employees). The correctness of the measurements consists of the drivers (employees) and the questions asked each day (employees). The last group are the details, which users do not find important, but are noticed if they are added. This group consists of the ability to fill in free days (employees), and the small aspects that ease the usage of the app (employees).

The second major influence is the user personality. This category had 3 groups, divided with the following aspects derived from the findings: Personal believed gained benefit of using an engagement app, which consists of the willingness to use (employees) and their reasons to use (employees). The next group is the attitude, which consists of the attitude towards studying (students), discipline (employees) and reliability while answering the questions (employees). The last group is the personal skills, which consist of the ability to plan (students).

The last influence is the external influences. It contains the personal environment, consisting of external activities (students) and personal situation (employees). It also contains the work/study situation, consisting of busy study periods (students) and work situation (employees).

Taken all these influences, groups and aspects into account, the following model is created:



Within the model, there are some connections between different groups or influences. These connections are indicated by the arrows. The reason for these connections, is that aspects of different groups can influence each other.

One of the most noticeable influences is the influences a user personality has on the app characteristics that are important. Every person is different, which means that each individual finds different aspects important. This can result in different groups, if there were different people interviewed.

Another important influence is the influence of the user personality, and the groups within the user personality, on the external influences. Personal skills can influence the work/study situation, as a more compatible skill set can reduce the amount of time needed to perform a certain task. This connection also works the other way around, as personal environment can influence user personality, by having a positive or negative environment.

The work/study situation, also has an influence on perceived important app characteristics. Different studies, or different jobs, might require a different need within an app, increasing or decreasing the attractiveness of different apps.

The other way around, the ability of an app to improve the life balance of the user, influences the external situation, by creating a more pleasant environment, or reducing perceived work or study stress.

The ability of an app to improve the life balance of the user is also an influence on the personal believed gained benefit of usage, as results of usage will increase or decrease the believed gained benefit.

Often the app characteristics will also influence the attitude of the user, as an app that is easier to use, or gains more benefits, will have a positive influence on the attitude of the user.

Theoretical implications

Originally, there was no theory that focused on the influences in the use of engagement apps, neither for students nor employees. This implies that the results from this research will create a view that has not been seen before, on a topic that has not been discussed before. The study showed that there are multiple factors influencing the usage of engagement apps, and that there are also some important differences between the influences for students, and the influences for employees. However, there are also a lot of similarities between the influences for both groups, such as ease-of-use of the app and the external environment, such as work-situation and study situation (how busy a person is).

There were some unexpected findings, in comparison with the theory. The most unexpected finding was attitude, which is not mentioned in other researches. A plausible explanation for the absence of attitude, is the fact that other researches did not require something mandatory to use, or maximize the use of the app. The other researches were focusing on apps that are used on a free basis, and thus the attitude has no influence.

Some expected findings were the influence of ease-of-use, design, and details. These factors are often important, no matter what type of app is used, and were therefore expected influences.

The original model that was created on the basis of the found theory, is still usable, although would need some extending. This has already been done in the previous section, which shows an extended model on the basis of the original model. Other conceptual categories could be added when researching different types of apps, because other factors would be influencing the usage of those apps.

Limitations

Within this research, there are some potential limitations. First of all, the students were chosen at random, not paying attention to the study program they follow. The study program could have big implication towards a person's study-life balance and thus their app usage.

Another limitation was that the interviewed students were not familiar with VIGO. They saw the app and the dashboard for the

first time during the interview, which only creates an idea, without experience to base those ideas on. If students used the app, they would know what value VIGO could bring to them in their life, which could be influential on their perception about VIGO.

Furthermore, the employees interviewed were all users that use VIGO for themselves, as personal use. Only two used it in a coaching way, but this was also on a personal coaching level. VIGO is also used in companies, or divisions of companies, where VIGO is acquired by the management, to be used by all employees. These employees using VIGO might have a different opinion than the users that were interviewed. Therefore, work-situation and thus the reason to use VIGO, might be a factor in an employees' perception of VIGO.

Another possible limitation laid in the fact that all interviewees that are currently, or once were users, have personal attachments to the developers of VIGO. This could imply that they have a different view on VIGO, or perhaps look at it in a different way than a completely independent user. They were also mostly active in the same field of work, reducing and perhaps limiting the variety between interviewees and potential responses or views on VIGO.

Future research

Knowing that there is a chance that there are less factors influencing the potential use of engagement apps, implies that some research on this topic could be done.

A potential future research could be conducted about the impact of study on a students' study-life balance. During this research, study area was not taken into consideration, whereas in practice this has big implications. Some studies have a higher study load than others. This is an area where research could be done, in order to find out if perhaps the use of an engagement app would be more effective in different studies, and if the need for an engagement app is perceived different among studies. This could also be done with employees, in different working areas or different levels of work, for personal use, or use within an entire division. The effectiveness could be researched, and perhaps a new version of the app could help targeting different working groups.

The potential impact such an app has on the daily life of different groups is also something that could be researched, as this is regarded an important subject. This could be divided into different groups, also researching the potential impact study program has on a student's study-life balance. Potentially from this research about the implications, companies can create an app that targets the specific needs of different groups, improving the work-life balance or study-life balance of the target group.

Another research for VIGO could be the development of personalized feedback, as was suggested by some interviewees. Besides having a system where a coach or mentor looks with a user to the personal dashboard, a system within the app or dashboard with improved, personalized feedback could be helpful, when for example a user is not able to contact a coach or mentor to help with the problems. The feedback is currently very generic, and after a while, this feedback will be known by heart. This would require a lot from the company but might just be worth the effort.

Practical recommendations

The most important recommendation is also stated in the possible future research, namely the development of a more personalized feedback system, helping each individual to improve on his or

her own terms, leaving the option for an external coach or mentor open for the user.

Another recommendation would be to have an extensive and more diverse population of questions. This could be in the form of a database of questions, of which 6 will be asked to measure, or perhaps by having an option, as user, to choose which questions or drivers were applicable personally, for that day. This way, filling in the daily reflection might become less of a chore, and more interesting.

The last recommendation concerns the contribution to the study-life balance of students. If research shows that an app like VIGO can contribute positively to the study-life balance, my recommendation would be to pursue this and create a similar function to the already existing version of VIGO, focused on students. So, adapted drivers, adapted times when one can fill the evaluation out, and perhaps even the possibility to enter the study load per student, as this influences the outcomes as well. This will, however, only be possible if there is a possibility in the market, where there is demand for such an app, but also proof from research that an app does, in fact, contribute to the student's study-life balance.

6. CONCLUSION

There are three general different influences on the usage of engagement apps, which can all be divided in subcategories. Students and employees have a lot of similar factors that influence their perception about the usage of engagement apps, but there are also some differences.

Similarities are related to the value students and employees attach to the design of the app, including colors, graphs, and clear figures, but also to the potential contribution it brings. Students believe an app could be very useful for a lot of students who have difficulties finding a balance, whereas employees also believe that the app can add value to every person, whether they are employee or students, in finding a balance.

A difference between students' and employees' perception about using engagement apps is the willingness to use and whether or not they believe it is necessary. Although students mentioned that VIGO can potentially add a lot of value to a student's life balance, the interviewed students did not think it was necessary for them personally and they did not believe it would add value to their personal situation. The interviewed employees, however, believed an engagement app can add value to every person, no matter what situation you are in. They were also positive about the potential usage of students, albeit with some changes to acknowledge the different situation between students and employees.

These differences can also come from a gap in knowledge, where the employees are already experienced with VIGO and the potential value, whereas students do not know the value yet, and might therefore not be as interested as employees.

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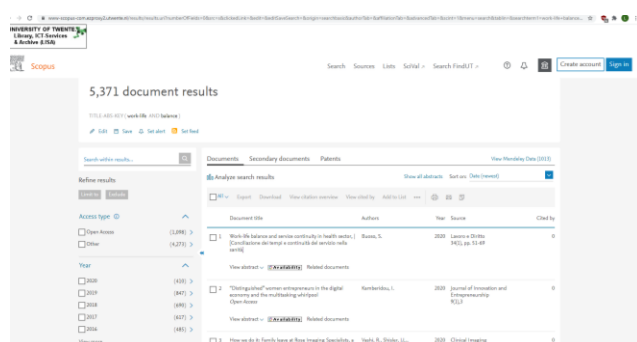
Used websites, no specific article:

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- <https://vigo.works/nl/>

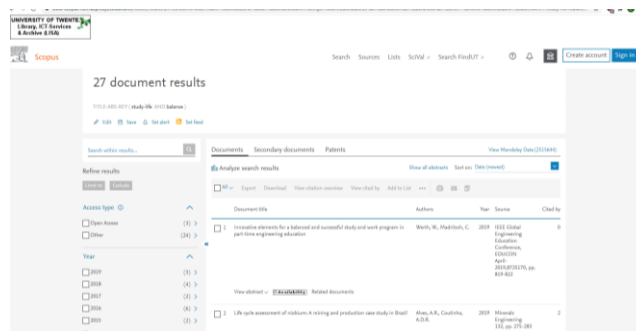
9. APPENDIX

Scopus search results, for the introduction. (numbers)

“Work-life balance”



“Study-life balance”



Interview questions:

Het interview (studenten)

- Ben je bekend met work-life balance, en het daaruit afgeleide studie-life balance?
- Ben je je wel eens bewust van die balans, of imbalans?
 - o Zo ja, probeer je er wel eens wat mee te doen, en wat?
 - o Zo nee, heb je dan het gevoel dat je ‘in balans’ bent?
- Heb je het idee dat een engagement app kan helpen om die balans te vinden?
 - o Zou je zo een app downloaden, als die gratis was
 - En als die geld kost?
- Laat de VIGO app dashboard zien en welke factoren volgens VIGO een rol spelen
- Als je dit ziet, wat is je eerste indruk van de app?
 - o Heb je bepaalde pluspunten of minpunten die je ziet?
- Heb je wel eens een vergelijkbare app gebruikt?
 - o Wat is je indruk van de apps qua welke beter/slechter is of lijkt en waarom?

Het interview (gebruikers)

- Gebruikt u VIGO nog steeds?
 - o Zo ja, waarom wel
 - o Zo nee, waarom niet?
- Zou U VIGO in de toekomst verder, opnieuw gebruiken?
- Wat was voor u de reden om VIGO te gaan gebruiken, en wat waren de eerste verwachtingen of doelen van VIGO?
 - o In hoeverre zijn deze verwachtingen of doelen volbracht?
- Wat vond u in het gebruik van de VIGO app moeilijk? En wat vond u makkelijk, of fijn?
 - o En waarom? Voorbeelden?
- Wat is, naar uw mening, de belangrijkste hulp die VIGO u brengt?
 - o En waarom? Heeft u misschien een voorbeeld?
- Heeft u aspecten van VIGO die u zou verbeteren?
- Heeft u wel eens iets vergelijkbaars aan VIGO gebruikt?

- (2daysmood) – (Company mood) – (Culture AMP) – (Effectory) – (Officevibe) – (Peakon)
 - Wat zou u de meeste opmerkelijke verschillen noemen, en waren die positief of negatief voor VIGO?
- Wat is, volgens u, de waarde van VIGO for managers en medewerkers?
 - Waarom? Heeft u nog voorbeelden?
- U heeft natuurlijk een tijdje VIGO gebruikt, zou u de app aanraden aan anderen?
 - Waarom wel, of niet?
- Misschien heeft u een algemeen idee over wanneer de app behulpzaam is, en wanneer niet?
- Ik doe het onderzoek ook om te kijken of VIGO voor studenten wat op kan leveren, wat vindt u daarvan?
 - Wat zou er misschien aangepast moeten worden?