# The influence of goal orientation on students' feedback seeking behaviour by using Mini-CEX in clinical clerkships

## Introduction

Feedback can be seen as a valuable tool for students performing at the clinical workplace to achieve their goals and reduce uncertainty. One would think that if feedback possesses that kind of value, every student wants to have a lot of it. Unfortunately, this is not the case. Students show different types of behaviour to get information about their level of performance. Literature shows that the difference between the feedback seeking behaviour (FSB) of those students could partly be explained by students' goal orientation. (11, 21 ,24) VandeWalle (2003) describes two main categories of goal orientation namely; a learning goal orientation and a performance goal orientation. Learning and performance goal orientation are each associated with a different pattern of how students interpret and respond to achievement situations.(24)

The Faculty of Veterinary Medicine, University of Utrecht (FVMU), has implemented ePASS; an electronic portfolio assessment and support system. ePASS provides different instruments for students to collect feedback. One is the Mini-CEX, a mini clinical examination. It is students' own responsibility to find and ask a feedback source to fill out such a Mini-CEX. The exam quality commission of FVMU has screened a number of students' portfolios in ePASS. They found that a significant group of students has not collected the requested number of Mini-CEX. This is a problem, which raises the following question: Is there a relation between students' goal orientation and the number of Mini-CEX they collect in clinical clerkship? It is suggested that the number of Mini Clinical Examinations a student collects during the clinical clerkship is influenced by goal orientation. In order to answer this research questions and subsequent hypotheses I will use a quantitative study design.

Before the design and process of this study is explained I will first give a description regarding the most important definitions used in this research paper.

# Background

**Feedback**

The term feedback can have several definitions in the opinion of many people and subsequently, there is no clear definition for feedback. Therefore, formulating a definition of feedback depends on which angle of incidence it is reviewed. For example, definitions viewed from a systematic angle;

- ”Feedback is information about the gap between the actual level and the reference level of a system parameter which is used to alter the gap in some way”, as stated by Ramaprasad, 1983.

- According to Hattie and Temperly, 2007; “Feedback is a “consequence” of performance. Stated that feedback is conceptualized as information provided by an agent (e.g. teacher, peer, book, parent, self, experience) regarding aspects of one’s performance or understanding.”

Also more context-specific definitions can be found in literature. In medical education two important definitions are;

- ‘‘An informed, no evaluative, and objective appraisal of performance intended to improve clinical skills.’’, as stated by Thomas, 2011. Note, that feedback is a description of what is observed, not a judgment.

- “Specific information about the comparison between a trainees’ observed performance and a standard, given with the intent to improve the trainee’s performance”, as stated by van de Ridder, 2008.

Combining these definitions I formulated a definition of feedback that is useful for this research:

*Feedback is information given by a feedback source to alter the gap between the actual level of performance and the reference level of performance of the student and thus to improve the performance of the student in a clinical setting.*

In a clinical setting the purpose of feedback is to decrease the gap between the current performance or understandings and the desired goal.(13) Therefore, it can be useful for students to be aware of their actions and the consequences of those actions. Students can learn and realize whether their actions meet up to the desired performance, and if not students can adjust their actions, so the desired performance can be achieved. (8, 11, 16)

**Motives for feedback seeking**

Feedback can be seen as a valuable tool, in order to meet up to the desired performance in uncertain situations.(9) To improve their performance feedback, to achieve goals and reduce uncertainty, is what students might need within the clinical clerkships.

Research in the domain of organizational psychology explains three motives for feedback seeking, namely the instrumental, the ego-based and the image based.(1) These motives influence a cost-value analysis.(1,2) Below a more detailed description will be given in the paragraph *cost-value analysis*. The cost-value analysis in turn has an influence on students' feedback seeking behaviour.

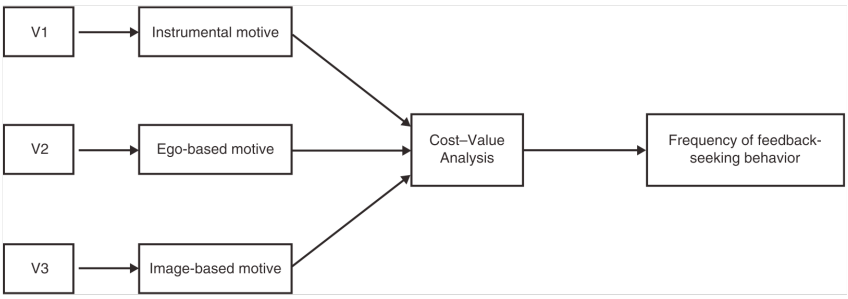


**Figure 1. A simplified model of feedback-seeking behaviour in an organization (1)**

The instrumental based motive is about using feedback as an instrument for goal achievement and uncertainty reduction. Note that the instrumental motive not only influences the frequency of FSB, but also the other patterns of feedback seeking behaviour, namely method, type, source, timing, topic and sign. (24)

An ego-based motive is about using feedback to get information on the students' self. It has disclosed information that is not neutral to the feedback receiver.(1) It can contain unfavourable information about disliked behaviour, unwanted attitudes or unsatisfying performance. Students can expect whether the information has a positive or negative outcome for their ego. In the cost-value analysis students decide if they want to receive the expected feedback.

An image-based motive is about using feedback by students, to protect or enhance the impressions that other hold of them. Most of the students are sensitive to the opinions that other students have of them and they usually want to maintain a favourable image to the 'public'.(1) Students might think, that when receiving feedback takes place in public, it can make them look bad. Students, who fear possible 'face-loss' costs, will avoid seeking image-based feedback in public. So this kind of motive often results in not seeking feedback.

**The cost-value analysis**

The above mentioned motives play an influencing role on the cost-value analysis. The cost-value analysis that students make is decisive for their feedback seeking behaviour. They ask themselves if the value, that is associated with feedback seeking, can outweigh the costs of feedback seeking.(1) For example, feedback seeking delivers uncertainty reduction (value), but can also lead to a negative image (cost).

- Perceived cost

  The general perceived costs by students are about self-presentation costs. Students risk the embarrassment of revealing their insecurity or uncertainty and could draw attention to their performance deficiencies, by asking feedback.(24) Two forms of perceived cost can be identified. At first, there are ego costs about hearing negative information about the self, and secondly, there are effort costs, that reflect the amount of effort one has to deliver to obtain feedback.(4, 24)

- Perceived value

  The general perceived value by students is about the usefulness of feedback. By requesting feedback individuals can obtain information about their performance and their behaviour and therefore reduce their uncertainty on those aspects. (9) In that way students get insight into their learning progress and with that information they can improve their performance and learn the behaviours needed to succeed in the work environment.(24) For that reason feedback possesses great value. (24)

Feedback can also been seen as a impression management tool.(24) Seeking feedback on the image of the student can be perceived as costs or as a value. The feedback seeker may create and enhance a favourable image with a given target, by asking feedback on a successful performance.(24) On the other hand, students might think that seeking feedback will make them look bad. To avoid 'face-loss' cost, students will refrain from seeking feedback in public. (1)

**Goal orientation of the students**

Different dimensions and motives of feedback seeking behaviour now have been discussed. Depending on the goal orientation and motives of the student as well as the perceptions of the cost and value of feedback seeking, a student can choose a certain way in seeking feedback. One can make a difference in students' goal orientation. VandeWalle (2003) describes two main categories of goal orientation namely; a learning goal orientation and a performance goal orientation. Learning and performance goal orientation are each associated with a different pattern of how students interpret and respond to achievement situations.(24) These patterns possess 4 aspects, which will be discussed for learning- as well as for performance goal orientation. Note that students not necessarily belong to one goal orientation; they can find themselves in between.

| *Learning goal orientation* | *Performance goal orientation* |
|---|---|
| *The essence of learning goal orientation is described as, acquiring new skills and mastering new situations to develop competence.(24)*<br>1. *Implicit theories*<br>*The learning goal orientation is associated with an incremental theory. Incremental means, required information from one layer will be adjusted so new facts can be appropriately combined in the next layer. The ability of learning goal orientation is viewed as a malleable attribute, which can be developed with effort and persistence.*<br>2. *Effort expenditures*<br>*For learning goal orientation is thought; effort shall lead to success. Effort is described as activating the students' ability, combined with a strategy to get control of additional capabilities, which are needed for future tasks.*<br>3. *Purpose of feedback*<br>*A learning goal orientated student has the tendency to think* | *The essence of performance goal orientation is described as, seeking favourable judgements and avoiding negative judgements about one's competence, demonstrates and validates the adequacy of one's competence.(24)*<br>1. *Implicit theories*<br>*A performance goal orientation is associated with an entity theory. Entity suggests; substantially being. The ability of performance goal orientation is viewed as a fixed, inherent attribute that is difficult to develop.*<br>2. *Effort expenditures*<br>*With a performance goal orientation, ability is regarded as a fixed attribute. Therefore effort is not viewed as a productive means for developing ability and has a less positive connotation.*<br>3. *Purpose of feedback*<br>*A student with a performance goal orientation tends to think of feedback as an evaluation and a judgment on the student* |

| | |
|---|---|
| *of feedback as instrument, which can help to correct errors and to improve their performance on the recommended tasks.*<br>*4. Response patterns*<br>*Students with a learning goal orientation show an adaptive response pattern in where they persist, escalate effort, engage in solution-oriented self-instruction, and report enjoying the challenge. Because effort on challenging tasks is viewed as instrumental to achieve a desired goal, this response pattern suits a learning goal orientation.* | *self. It can be seen as revealing the students' competency level. When one holds a strong performance goal orientation, negative feedback can be devastating. For a student, such an unfavourable judgment conflicts with the goal of appearing competent.*<br>***4.*** *Response patterns*<br>*Individuals with a performance goal orientation show a maladaptive response pattern. They make negative ability attributions, withdraw from the task and report decreased interest in the task. This response pattern is also predictable because The perceived relationship of effort with task mastery for students with a performance goal orientation is low. There is also a concern that continued effort when failing could draw attention to one's incompetence. So this response pattern suits a performance gaol orientation.* |

## Approach and avoidance

The two different goal orientations, learning goal orientation and performance goal orientation, can each contain two valences (i.e. dimensions), namely the approach valence and the avoidance valence.(12) With that subdivision of valence taken into account, Elliot and McGregor, 2001 introduced a so-called 2 x 2 framework is formed. See figure 2.

With the approach valence, behaviour is driven or directed by a positive or desirable event or possibility.(7)With the avoidance valence on the other hand, behaviour is driven or directed by a negative or undesirable event or possibility.(7) As with the two goal orientations, students do not necessarily belong to one version, but tend to belong more to one then the other.

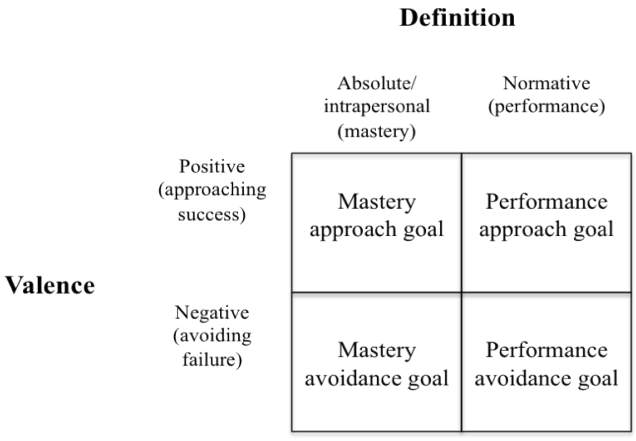


**Figure 2. The 2 x 2 goal framework (7) Note that Andrew uses the term Mastery instead of Learning.**

With the 2 x 2 framework taken into account we can distinguish the following goal orientations: (7)

- The learning-approach goal orientation, where students with this kind of orientation are assumed to focus on the development of competence through task mastery and gaining new skills.
- The learning-avoidance goal orientation, where students strive to avoid deterioration, losing their skills or leaving the task incomplete or un-mastered.
- Then the performance-approach goal orientation where a student can be motivated to demonstrate superior competence relative to others and obtain favourable judgements about their achievements.
- And finally the performance-avoidance goal orientation where students will avoid demonstrating inferior competence relative to others and receiving negative judgements about their achievements.

**Mini-Clinical Examination**

At the FVMU an online portfolio system has been implemented. This electronic portfolio assessment and support system (ePASS) offers the students an online portfolio, containing observation forms and reflection tools.

The portfolio has been established in such a way, that it supports students in gathering feedback and specific information regarding their performance and development during the clerkship.(20) Students can gather qualitative and quantitative feedback from; educators, peers, staff, owners of the patients and themselves. They can use the following instruments, provided by ePASS, to collect the feedback;

- Mini-CEX: Mini Clinical Examination
- MSF: Multi Source Feedback
- EBCR: Evidence Bases Case Report
- PDP: Personal Development Plan

In this study I will focus on the Mini-CEX. As the name suggests it is a short examination on the clinical performance of a student. A Mini-CEX provides feedback on an executed task done by a student. It provides a student insight into what went well and what has to be improved. Teachers, peers, staff, and patient owners can assess the mini exam. After one year

of clerkship the student has to have a minimum of 6, but it may be more, complete Mini-CEX.(24) It is the responsibility of the student to collect those 6 complete Mini-CEX.

# Purpose of this research project

### Research question

The main research question in this report is;

- *Is there a relation between students' goal orientation and the number of Mini-CEX they collect in clinical clerkship?*

To be able to give answer to that question, there are some hypotheses proposed in the figure below.

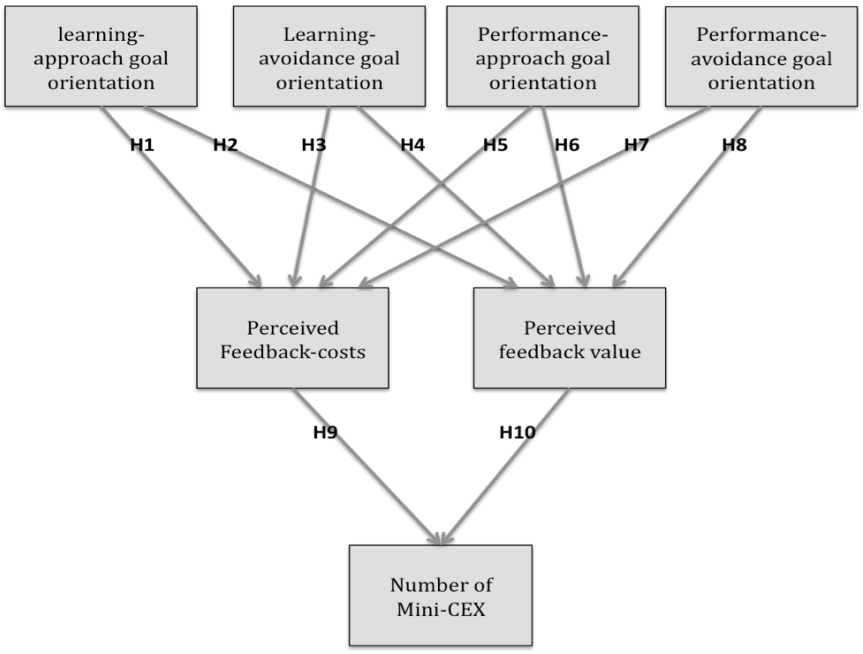


**Figure 3. Hypotheses schedule**

### Hypotheses

As discussed earlier in this study, students can have a learning goal orientation, a performance goal orientation or they can find themselves in between. Learning and performance goal orientation are each associated with a different pattern of how students interpret and respond to achievement situations.

A learning goal orientated student has the tendency to think of feedback as an instrument, which can help to correct errors and to improve their performance on the recommended tasks.

And because feedback can help to acquire new skills and master new situations to develop competence, those students perceive a great value on feedback seeking, instead of costs. The difference in valence of the learning goal orientation, approach and avoidance, doesn't make a great difference for the perceived feedback value or costs. Both of the valences in a learning goal orientation focus on the development of competencies. So the resulting hypotheses are;

- *Hypothesis 1; there is a negative relationship between learning-approach goal orientation and the perceived cost of feedback.*
- *Hypothesis 2; there is a positive relationship between learning- approach goal orientation and the perceived value of feedback*
- *Hypothesis 3; there is a negative relationship between learning-avoidance goal orientation and the perceived cost of feedback*
- *Hypothesis 4; there is a positive relationship between learning-avoidance goal orientation and the perceived value of feedback*

A student with a performance goal orientation tends to think of feedback as an evaluation and a judgment on the student self.(24) It can be seen as revealing the students' competency level. When one holds a strong performance goal orientation, negative feedback can be devastating.(24) For a student, such an unfavourable judgment conflicts with the goal of appearing competent. Therefore, a student with a performance goal orientation perceives great costs, instead of values, by seeking feedback.

The essence of a performance goal orientation is about seeking favourable judgements and avoiding negative judgements about one's competence. The difference in valence of the performance goal orientation, approach and avoidance, makes a difference for the perceived feedback value or costs by the student. With the approach valence, behaviour is driven or directed by a positive or desirable event or possibility.(7) With a performance-approach goal orientation a student can be motivated to demonstrate superior competence relative to others and obtain favourable judgements about their achievements.(12)

As a result that they can value the favourable feedback they receive, but also perceive the costs from feedback seeking. Based on this research findings the following is hypothesized:

- *Hypothesis 5; there is a positive relationship between performance-approach goal orientation and the perceived cost of feedback*
- *Hypothesis 6; there is a positive relationship between performance-approach goal orientation and the perceived value of feedback*

The difference in valence of the performance goal orientation, approach and avoidance, makes a difference for the perceived feedback value or costs. With the avoidance valence, behaviour is driven or directed by a negative or undesirable event or possibility.(7) Performance-avoidance goal orientation students will avoid demonstrating inferior competence relative to others and avoid receiving negative judgements about their achievements. So this leads to a valence in performance goal orientation where students don't want to receive unfavourable feedback and that way perceive the costs of feedback. Resulting in the following hypotheses:

- *Hypothesis 7; there is a positive relationship between performance-avoidance goal orientation and the perceived cost of feedback*
- *Hypothesis 8; there is a negative relationship between performance-avoidance goal orientation and the perceived value of feedback*

The cost-value analysis that students can make is decisive for feedback seeking behaviour. They ask themselves if the value, that is associated with feedback seeking, can outweigh the costs of feedback seeking.(1) Students who perceive more costs than values with feedback seeking, are expected to have a low number of Mini-CEX instead of a high number. In line with this reasoning the following hypothesis is proposed:

- *Hypothesis 9; there is a negative relationship between the perceived feedback costs and the number of Mini-CEX*

By requesting feedback individuals can obtain information about their performance and their behaviour and therefore reduce their uncertainty on those aspects. In that way students can progress in learning, and for that reason feedback possesses great value. Students, who perceive more values than costs with feedback seeking, are expected to have a high number of Mini-CEX instead of a low number. This leads to the following hypothesis:

- *Hypothesis 10; there is a positive relationship between the perceived feedback value and the number of Mini-CEX*

# Method

**Design of the questionnaire**

The questionnaire (see appendix 1) consists of several questions to make clear:

- The informed consent
- The personalia of the student
- The goal orientation of the students; Learning goal orientation or performance goal orientation, based on a questionnaire of Janssen 2007.
- The valence of the goal orientation; approach or avoidance, based on a questionnaire of Janssen 2007.
- The perceived feedback costs and values of the student, based on a questionnaire of Teunissen 2009.
- Number of filled out Mini-CEX forms

**Procedure**

The questionnaire was created by using Survey Monkey, a trusted online questionnaire host. This makes it possible to send the questionnaire by email to the selected group of students. The group of selected students had two weeks time to fill out the online questionnaire. After those two weeks the number of collect Mini-CEX by the respondents was looked up in ePass,. This had to be done to make sure that the number for each student is right. And because I am not authorized to look in ePass, my supervisor had to verify the number of Mini-CEX for each respondent.

**Participants**

The students that have been selected consist of three groups;

- Group one; 50 students who have completed level 1 of their differentiated companion animal clerkship
- Group two; 32 students who have completed level 1 of their differentiated farm animal clerkship
- Group three; 12 students who have completed level 1 of their differentiated equine clerkship.

In this study level 1 has a duration of 24 weeks. For the students with differentiated equine clerkship, level 1 has a duration of 32 weeks. A student must have a minimum of 6 complete Mini-CEX in one year, but can have more if they want to.

**Analysis**

To analyse whether the hypotheses can be assumed we use simple linear regression. The aim of linear regression is to describe the relationship between two variables by determining the mathematical equation. (14)

# Results

Out of the 94 students who received the questionnaire, 37 questionnaires were completely filled in which resulted in a response rate of 39%. From the 37 respondents 97% is female. The average age of the respondents was 23.4 years (SD=1.97)

- Group one; Twenty students have filled out the questionnaire correct. So the response rate is 40%.
- Group two; Thirteen students have filled out the questionnaire correct. So the response rate is 41%.
- Group three; Four students have filled out the questionnaire correct. So the response rate is 33%.

In table 1 below, one can see the results for each hypothesis. The data in the table represents several parameters for linear regression. (10) R represents the simple correlation between the variables of the hypothesis. The value of $R^2$ tells us that the independent variable can account for a certain percentage on the variation in the dependent variable. On the table the F-ratio, that is calculated using equation and the associated significance value (Sig.) of that F-ratio. For these data F is significant at $p<0.005$. The equation provides details of the model parameters, the first parameter represents the Y-intercept, the second parameters represents the gradient of the regression line.

| **Model** | **R** | **$R^2$** | **F-** | **Sig.** | **Equation** |
|---|---|---|---|---|---|

| | | | ratio | | |
|---|---|---|---|---|---|
| H1; Learning-approach goal orientation and the perceived cost of feedback | 0.142 | 0.020 | 0.715 | 0.403 | 14.718+0.199i |
| H2; Learning-approach goal orientation and the perceived value of feedback | 0.004 | 0.000 | 0.000 | 0.983 | 26.785+0.004i |
| H3; Learning-avoidance goal orientation and the perceived cost of feedback | 0.539 | 0.291 | 14.336 | 0.001 | 11.771+0.394i |
| H4; Learning-avoidance goal orientation and the perceived value of feedback | 0.086 | 0.007 | 0.264 | 0.611 | 28.147+(-0.054i) |
| H5; Performance-approach goal orientation and the perceived cost of feedback | 0.067 | 0.004 | 0.156 | 0.695 | 21.558+(-0.041i) |
| H6; Performance-approach goal orientation and the perceived value of feedback | 0.169 | 0.028 | 1.025 | 0.318 | 28.584+(-0.088i) |
| H7; Performance-avoidance goal orientation and the perceived cost of feedback | 0.194 | 0.038 | 1.372 | 0.249 | 17.555+0.124i |
| H8; Performance-avoidance goal orientation and the perceived cost of feedback | 0.009 | 0.000 | 0.003 | 0.957 | 27.047+(-0.005i) |
| H9; The perceived feedback cost en the number of Mini-CEX | 0.087 | 0.008 | 0.270 | 0.607 | 5.320+0.051i |
| H10; The perceived feedback value and the number of Mini-CEX | 0.143 | 0.020 | 0.729 | 0.399 | 9.015+(-0.098i) |

**Table 1. Analysis in SPSS--linear regression of the variables (10).**

**For more detailed result of the models see Appendix 2.**

# Discussion

This study questions if there is a relation between students' goal orientation and the number of Mini-CEX they collect in clinical clerkship. In order to answer that question, we have a conducted a quantitative study by using questionnaires which are validated in other research studies. (12, 18) In this section I will discuss the hypotheses, which are visualized in figure 3, in relation to the results.

According to the results of this study Hypotheses 1 and 2 are rejected. For both of the hypotheses the $R^2$ is very small, the F-ratio, sig. and equation tells us that there is not a significant relationship. Although my study result tells that there is not a relationship, there is a lot of scientific evidence that tells exactly the opposite. According to some there exist a 2 x 2 goal framework where one can divide 4 goal orientations, see chapter Approach and avoidance. (7,12) Different goal orientations lead to a different behaviour in feedback seeking. As literatures shows somebody with a learning goal orientation is positively related to the perceived value of feedback seeking and negatively related to the perceived cost of feedback seeking. (3, 5, 18, 21, 24) The question is; why are my result the exact opposite of many other studies. I will try to answer this question later on.

Hypotheses 3 and 4 are also rejected. For hypothesis 4 the $R^2$ is close to zero, the F-ratio, sig and equation tells us that there is not a significant relationship. For hypothesis 3 on the other hand the value of $R^2$ is 0.291 that means that learning-avoidance goal orientation can account for 29,1% on the variation in perceived cost of feedback seeking. The F-ratio of 14.336 with a sig. of 0.001 (which is significant at $p<0.005$) tells us that there is 0.1% chance that an F-ratio this large would happen by chance alone. So there is a relationship between learning-avoidance goal orientation and the perceived costs, but it is a positive relationship, which is contrary to my hypothesis that suggested that there is a negative relationship.

This result on learning goal orientation and the cost/value analysis does not match the results of other studies. (1, 3, 5, 18, 21, 24) The differences between the results will be pointed out later.

Like the previous hypotheses, hypotheses 5,6,7 and 8 are also rejected. They all have a small $R^2$, the F-ratio, sig. and equation of the hypotheses tells us that there are not any relationships between the variables. According to Elliot and Janssen there is a 2 x 2 goal framework where one can divide different goal orientations, for these hypotheses I used performance-approach goal orientation and performance-avoidance goal orientation from the framework. With hypotheses 5 and 6, I suggested that there is a positive relationship between performance-approach goal orientation and the perceived feedback cost as well as the perceived feedback value. With hypotheses 7 and 8, I respectively suggested that there is a positive relationship between performance-avoidance goal orientation and the perceived feedback cost and a negative relationship between performance-avoidance goal orientation and the perceived feedback value. Unfortunately, the result did not show any relationships, which again is

inconsistent with previous studies. It is proven that somebody with a performance goal orientation is positively related to the perceived feedback cost of feedback seeking and negatively related to the perceived value of feedback seeking. (3, 5, 18, 21, 24)
At last, hypotheses 9 and 10 are also rejected. They both have a small $R^2$, the F-ratio, sig. and equation of hypotheses tells us that there are not any relationships between the variables. Various study's showed that one who receives a lot of feedback costs seeks feedback much less than one who receives of lot of feedback value. (1, 3, 5, 18, 21, 24) According to those results I suggested that there is a negative relationship between the perceived feedback costs and the number of Mini-CEX and a positive relationship between the perceived feedback value and the number of Mini-CEX. Unfortunately my results did not show a significant relationship, the expected reason of contrast will be discussed below.

**Conclusion**

In the introduction of this study one can read that there is a lot of research known on feedback and students' goal orientations. In earlier study's (1, 18, 21, 24) several relationships between goal orientations and cost-value analysis and goal orientations and the feedback seeking behaviour of students are proven. This study was designed to prove those relationships in veterinary education. Unfortunately, I can conclude that there are not any relationships or not expected relationships between the variables in this study demonstrable and therefore I can not give answer to the main question of this study.
There are several explanations for this conclusion.

- <u>The number of respondents is to low</u>

  Every experiment requires a certain sample size (N). The aim is to have a sample size large enough to have a good chance of detecting any significant results. (14) Several statistical techniques exist for determining the optimal sample size in certain studies.(14) In this study I did not use such a technique to determine the exact number of respondents needed. I just used the sample size that was available and thought it to be sufficient.
- <u>The relationships between a students' goal orientation and the feedback seeking behaviour do not apply on veterinary medicine students.</u>

This suggestion is not likely, but could be possible. All the previous studies used several different people, who are students in human medicine, physicians or people who work in non-clinical organisations, for their experiment. (3, 5, 18, 21, 24) In this study I only used students who study veterinary medicine on the University Utrecht. It is possible that all the proven information on feedback seeking behaviour in the given literature is not applicable on veterinary students.

- The questionnaires were not suitable for veterinary medicine students.

  The questionnaires that I used for my study, have been used before in other studies.(12, 18) In those studies the questionnaires were validated and have proven to work. Although, these questionnaires were again used for people who study human medicine, residents, physicians or people who work in a non-clinical organisation. So it is possible that these questionnaires are not usable on veterinary students.

**Recommendations for a continuing study**

This study is developed and conducted as a pilot study and by executing this pilot, the design has been tested for efficacy. The advantage of a pilot is that the pitfalls of the study are revealed and now is known what needs to be changed or improved for a further study.

- Larger N

  As discussed before, there was no sample size determined in advance. That is something that should be done to ensure a better outcome. I believe that when the number of participants is larger and the response rate increases, one will get significant results

- No differentiation between learning approach and avoidance goal orientation

  According to the responses on the questionnaires I saw none of the students belongs to one particularly goal orientation. Although it is known that students find themselves in between, there are some students who are not. To give a better determination on students to which goal orientation they belong, my advise would be to not use the four goal orientations but stick with deviance of 3, learning goal orientation, performance prove goal orientation and performance avoid goal orientation. Several studies show that this subdivision is usable.

- The model and analysis

The hypothesis model in this pilot will then be changed. Resulting in 5 variables, namely learning goal orientation, performance goal orientation, perceived feedback cost, perceived feedback value and the number of Mini-CEX. For the analysis one can use SEM, structural equation modelling. It is a gathering of statistical techniques used for the systematic analysis of multivariate data to measure underlying hypothetical constructs and their interrelationships. (25) It is suggested that the sample size needs to be more than 25 times the number of parameters with a minimum subject tot parameter ratio of 10:1, but with the proviso that the lower bound of the total sample size should be up 100 to 200. (25)

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# Appendix 1

**Performance-approach goal orientation (Janssen 2007)**

| | In my work it is important for me that | Not at all important | Not important | Slightly important | Somewhat important | Moderate important | Important | Very important |
|---|---|---|---|---|---|---|---|---|
| 1 | I achieve at higher levels than others | | | | | | | |
| 2 | I perform better than others | | | | | | | |
| 3 | I am more competent compared to others | | | | | | | |
| 4 | I receive better performance appraisals than others | | | | | | | |
| 5 | I am the best | | | | | | | |

**Performance-avoidance goal orientation (Janssen 2007)**

| | In my work it is important for me that | Not at all important | Not important | Slightly important | Somewhat important | Moderate important | Important | Very important |
|---|---|---|---|---|---|---|---|---|
| 1 | I make no bad impression on others | | | | | | | |
| 2 | I do not lose my face in front of others | | | | | | | |
| 3 | I do not look incompetent towards others | | | | | | | |
| 4 | Others do not think I am doing badly at work | | | | | | | |
| 5 | Others do not think I achieve at lower levels than they do | | | | | | | |

**Learning-approach goal orientation (Janssen 2007)**

| | In my work it is important for me that | Not at all important | Not important | Slightly important | Somewhat important | Moderate important | Important | Very important |
|---|---|---|---|---|---|---|---|---|
| 1 | I can develop myself | | | | | | | |
| 2 | I perform tasks from which I learn a lot | | | | | | | |
| 3 | I can establish competence | | | | | | | |
| 4 | I feel I am improving | | | | | | | |
| 5 | I can learn as much as possible | | | | | | | |

**Learning-avoidance goal orientation (Janssen 2007)**

| | In my work it is important for me that | Not at all important | Not important | Slightly important | Somewhat important | Moderate important | Important | Very important |
|---|---|---|---|---|---|---|---|---|
| 1 | I perform tasks with little risk of failure | | | | | | | |
| 2 | I perform tasks I entirely control | | | | | | | |
| 3 | I have to do a task I am certainly able to manage | | | | | | | |
| 4 | I have to do tasks that are easy to perform | | | | | | | |
| 5 | I make no mistakes | | | | | | | |

**Perceived costs** (gebaseerd op Teunissen 2009, Ashford, 1986 en VandeWalle & Cummings, 1997)

| | | Zeer mee oneens | Oneens | Grotend eels oneens | Grotend eels eens | Eens | Zeer mee eens |
|---|---|---|---|---|---|---|---|
| 1 | Ik denk dat ik geen goede beurt maak bij mijn docenten/studenten als ik om feedback vraag over mijn functioneren in de kliniek. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2 | Ik heb er geen moeite mee om een docent/student te vragen wat ze vinden van de manier waarop ik functioneer. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3 | Ik vind het geen probleem om een docent/student om feedback te vragen op mijn functioneren in de kliniek. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4 | Het is geen goed idee een docent/student om feedback op je functioneren in de kliniek te vragen; ze zouden daaruit af kunnen leiden dat je niet capabel bent. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5 | Ik voel me er ongemakkelijk bij als ik een docent/student om feedback zou vragen op mijn functioneren in de kliniek. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6 | Ik heb de neiging onzeker te worden van feedback op mijn functioneren die ik van een docent/student krijg. | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | De feedback die ik van een docent/student krijg op mijn functioneren in de kliniek, versterken de twijfels die ik heb over mijn eigen kennen en kunnen. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8 | een docent/student vragen om feedback op je functioneren in de kliniek is een teken van onzekerheid. | 1 | 2 | 3 | 4 | 5 | 6 |

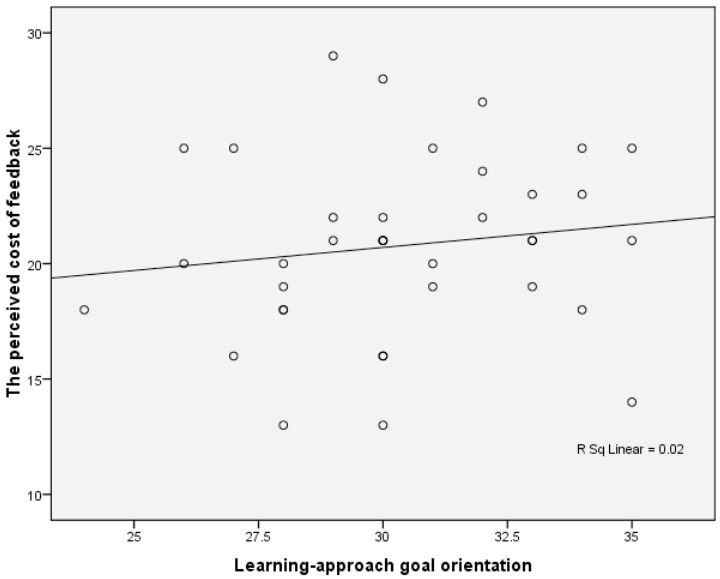
**Perceived value** (gebaseerd op Teunissen 2009, Ashford, 1986 en Fedor et al., 1992 en Morrison & Bies, 1991)

| | | Zeer mee oneens | Oneens | Grotend eels oneens | Grotend eels eens | Eens | Zeer mee eens |
|---|---|---|---|---|---|---|---|
| 1 | Ik vind het belangrijk om feedback te krijgen op de manier waarop ik functioneer in de kliniek. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2 | Ik zou graag meer feedback willen krijgen over dingen die me kunnen helpen om beter te functioneren in de kliniek. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3 | Feedback op mijn functioneren in de kliniek is zinvol. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4 | Een docent/student zijn over het algemeen goed in het geven van zinvolle feedback. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5 | Ik denk dat een docent/student het positief vinden als ik om feedback vraag op mijn functioneren in de kliniek. | 1 | 2 | 3 | 4 | 5 | 6 |
| 6 | Ik denk dat een docent/student het als een teken zien dat je graag wilt leren als je om feedback op je functioneren in de kliniek vraagt. | 1 | 2 | 3 | 4 | 5 | 6 |

# Appendix 2

**The linear regression for all the variables**

- Learning-approach goal orientation and the perceived cost of feedback




**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .142[a] | .020 | -.008 | 3.925 |

a. Predictors: (Constant), Lap

b. Dependent Variable: Cost

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 11.021 | 1 | 11.021 | .715 | .403[a] |
| | Residual | 539.250 | 35 | 15.407 | | |
| | Total | 550.270 | 36 | | | |

a. Predictors: (Constant), Lap

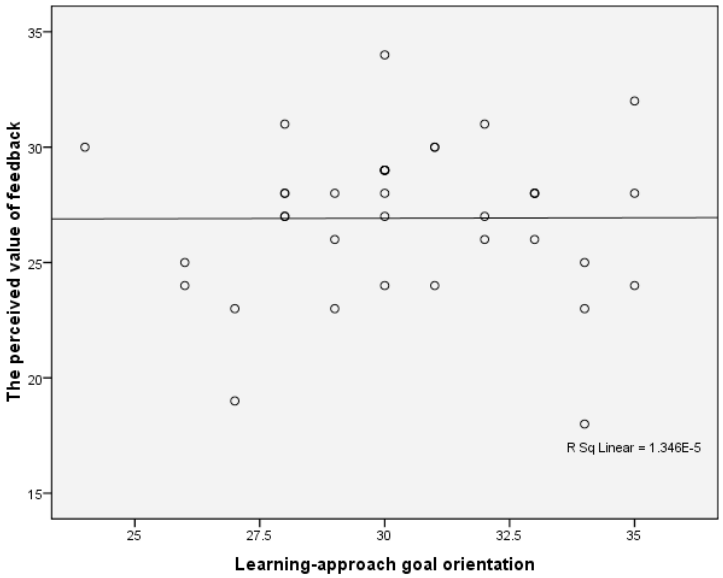
b. Dependent Variable: Cost

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 14.718 | 7.201 | | 2.044 | .049 |
| | Lap | .199 | .236 | .142 | .846 | .403 |

a. Dependent Variable: Cost

- Learning-approach goal orientation and the perceived value of feedback




**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .004[a] | .000 | -.029 | 3.367 |

a. Predictors: (Constant), Lap

b. Dependent Variable: Value

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .005 | 1 | .005 | .000 | .983[a] |
| | Residual | 396.751 | 35 | 11.336 | | |
| | Total | 396.757 | 36 | | | |

a. Predictors: (Constant), Lap

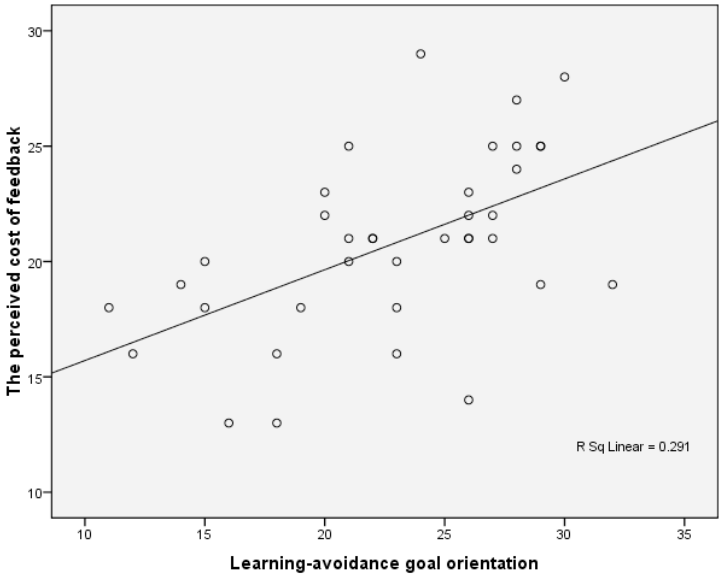
b. Dependent Variable: Value

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 26.785 | 6.177 | | 4.337 | .000 |
| | Lap | .004 | .202 | .004 | .022 | .983 |

a. Dependent Variable: Value

- Learning- avoidance goal orientation and the perceived cost of feedback




**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .539[a] | .291 | .270 | 3.340 |

a. Predictors: (Constant), Lav

b. Dependent Variable: Cost

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 159.898 | 1 | 159.898 | 14.336 | .001[a] |
| | Residual | 390.372 | 35 | 11.153 | | |
| | Total | 550.270 | 36 | | | |

a. Predictors: (Constant), Lav

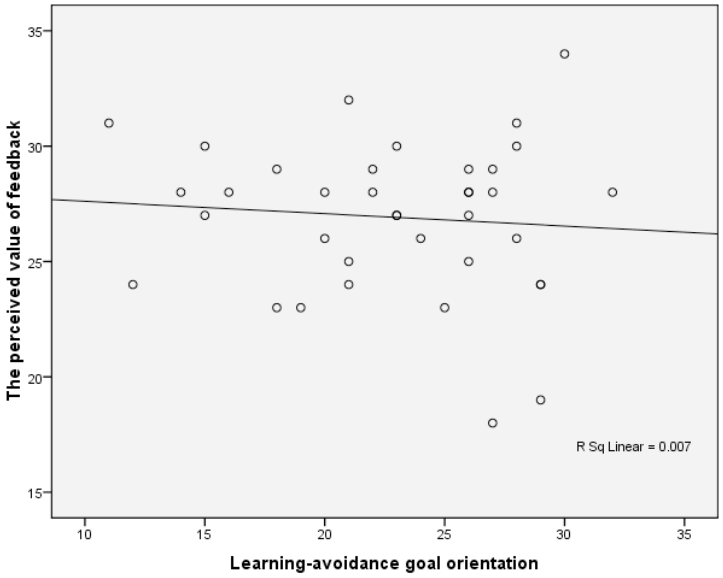
b. Dependent Variable: Cost

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 11.771 | 2.443 | | 4.819 | .000 |
| | Lav | .394 | .104 | .539 | 3.786 | .001 |

a. Dependent Variable: Cost

- Learning-avoidance goal orientation and the perceived value of feedback




**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .086[a] | .007 | -.021 | 3.354 |

a. Predictors: (Constant), Lav

b. Dependent Variable: Value

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 2.967 | 1 | 2.967 | .264 | .611[a] |
| | Residual | 393.790 | 35 | 11.251 | | |
| | Total | 396.757 | 36 | | | |

a. Predictors: (Constant), Lav

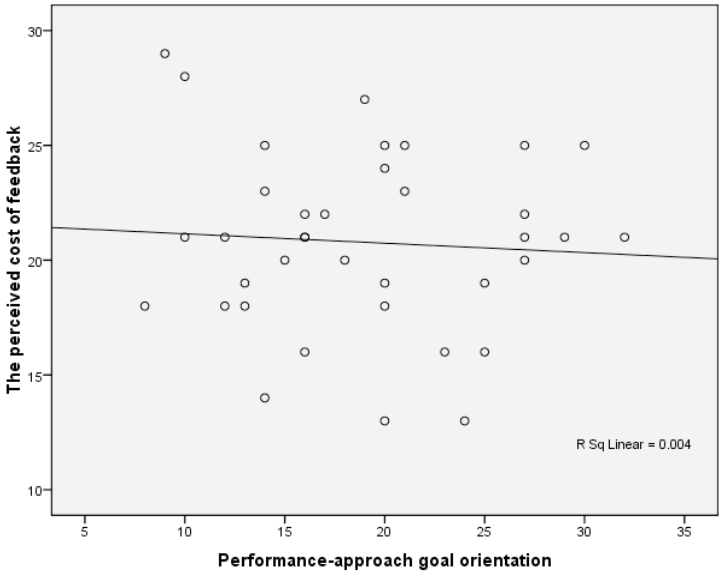
b. Dependent Variable: Value

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 28.147 | 2.454 | | 11.472 | .000 |
| | Lav | -.054 | .104 | -.086 | -.514 | .611 |

a. Dependent Variable: Value

- Performance-approach goal orientation and the perceived cost of feedback




**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .067[a] | .004 | -.024 | 3.956 |

a. Predictors: (Constant), Pap

b. Dependent Variable: Cost

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 2.442 | 1 | 2.442 | .156 | .695[a] |
| | Residual | 547.828 | 35 | 15.652 | | |
| | Total | 550.270 | 36 | | | |

a. Predictors: (Constant), Pap

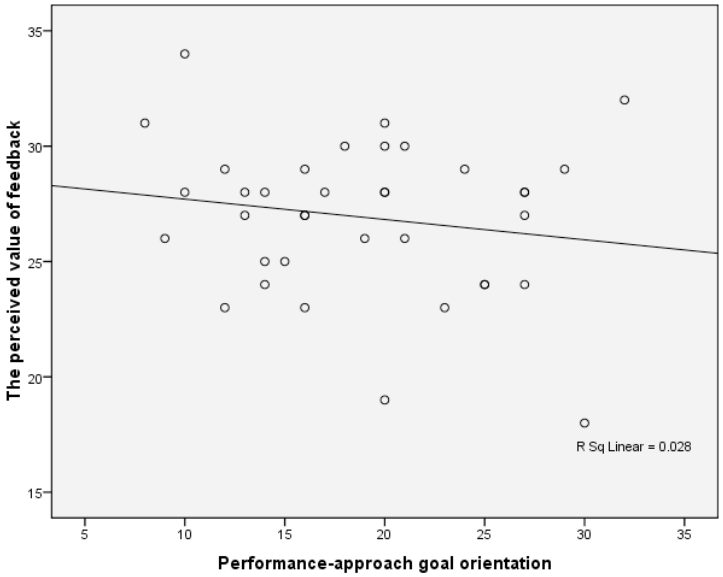
b. Dependent Variable: Cost

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 21.558 | 2.066 | | 10.434 | .000 |
| | Pap | -.041 | .104 | -.067 | -.395 | .695 |

a. Dependent Variable: Cost

- Performance-approach goal orientation and the perceived value of feedback




**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .169[a] | .028 | .001 | 3.319 |

a. Predictors: (Constant), Pap

b. Dependent Variable: Value

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 11.290 | 1 | 11.290 | 1.025 | .318[a] |
| | Residual | 385.467 | 35 | 11.013 | | |
| | Total | 396.757 | 36 | | | |

a. Predictors: (Constant), Pap

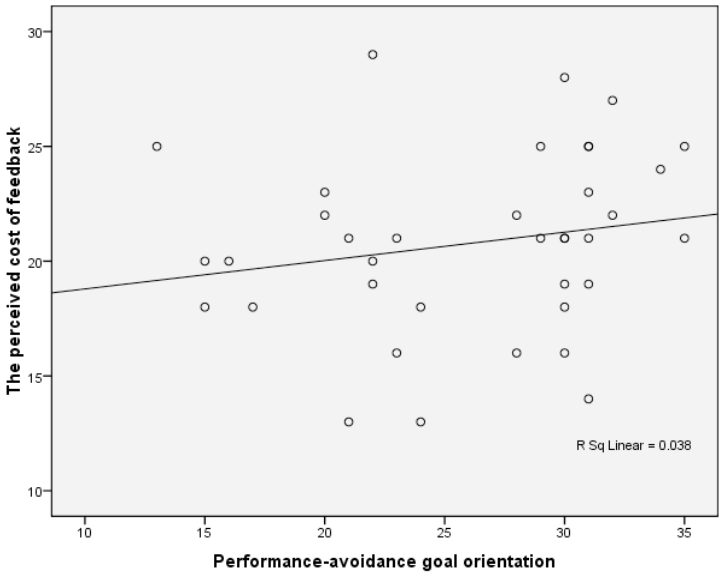
b. Dependent Variable: Value

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 28.584 | 1.733 | | 16.493 | .000 |
| | Pap | -.088 | .087 | -.169 | -1.012 | .318 |

a. Dependent Variable: Value

- Performance-avoidance goal orientation and the perceived cost of feedback




**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .194[a] | .038 | .010 | 3.890 |

a. Predictors: (Constant), Pav

b. Dependent Variable: Cost

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 20.757 | 1 | 20.757 | 1.372 | .249[a] |
| | Residual | 529.514 | 35 | 15.129 | | |
| | Total | 550.270 | 36 | | | |

a. Predictors: (Constant), Pav

b. Dependent Variable: Cost

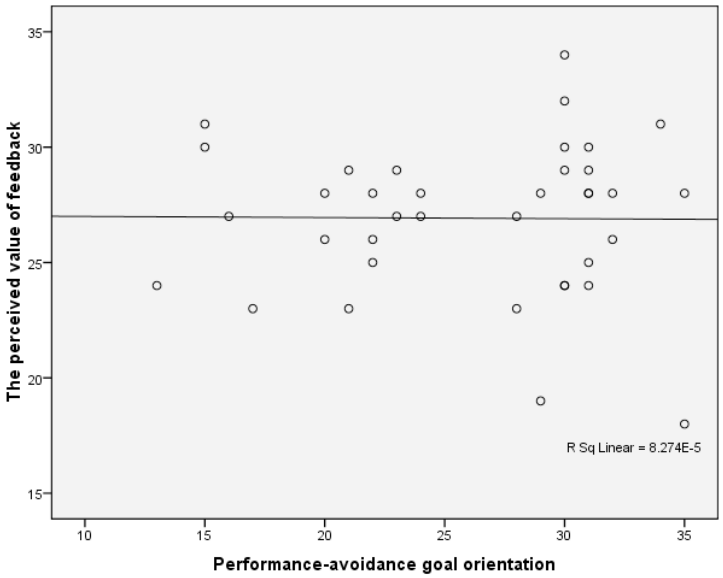
**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 17.555 | 2.829 | | 6.205 | .000 |
| | Pav | .124 | .106 | .194 | 1.171 | .249 |

a. Dependent Variable: Cost

- Performance-avoidance goal orientation and the perceived value of feedback

**Model Summary[b]**




| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .009[a] | .000 | -.028 | 3.367 |

a. Predictors: (Constant), Pav

b. Dependent Variable: Value

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .033 | 1 | .033 | .003 | .957[a] |
| | Residual | 396.724 | 35 | 11.335 | | |
| | Total | 396.757 | 36 | | | |

a. Predictors: (Constant), Pav

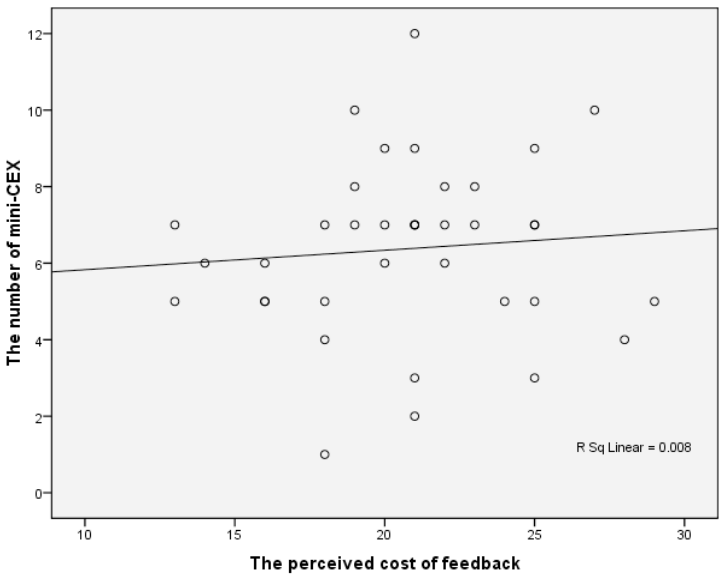
b. Dependent Variable: Value

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 27.047 | 2.449 | | 11.044 | .000 |
| | Pav | -.005 | .091 | -.009 | -.054 | .957 |

a. Dependent Variable: Value

- Perceived Cost of feedback and the number of Mini-CEX




| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .087[a] | .008 | -.021 | 2.301 |

a. Predictors: (Constant), Cost

b. Dependent Variable: KPB

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 1.428 | 1 | 1.428 | .270 | .607[a] |
| | Residual | 185.275 | 35 | 5.294 | | |
| | Total | 186.703 | 36 | | | |

a. Predictors: (Constant), Cost

b. Dependent Variable: KPB

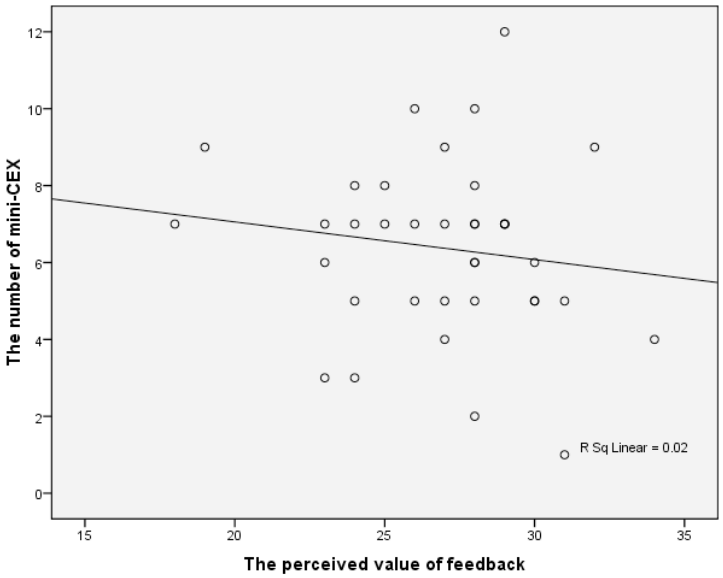
**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 5.320 | 2.073 | | 2.566 | .015 |
| | Cost | .051 | .098 | .087 | .519 | .607 |

a. Dependent Variable: KPB

- Perceived Value of feedback and the number of Mini-CEX

**Model Summary[b]**




| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .143[a] | .020 | -.008 | 2.286 |

a. Predictors: (Constant), Value

b. Dependent Variable: KPB

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 3.807 | 1 | 3.807 | .729 | .399[a] |
| | Residual | 182.896 | 35 | 5.226 | | |
| | Total | 186.703 | 36 | | | |

a. Predictors: (Constant), Value

b. Dependent Variable: KPB

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 9.015 | 3.112 | | 2.897 | .006 |
| | Value | -.098 | .115 | -.143 | -.854 | .399 |

a. Dependent Variable: KPB