School leadership: perceptions and actions

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Chapter 6 – Conclusions and discussion

Chapter 6

Conclusions and discussion

In this final chapter we first recall the purpose of the thesis and the methods used to conduct the research (6.1). An overview and discussion of the main results is then presented (6.2) before discussing three major issues that arose in the findings in this thesis: validity matters (6.3.1), behavioral complexity in leadership practice (6.3.2) and exploration of our research model (6.3.3). The chapter concludes with suggestions for further research (6.4) and implications for the practice of school leaders (6.5).

6.1 The project

The role of school leaders in secondary education in the Netherlands has changed significantly over the past few years, partly as a result of government policies aimed at deregulation and decentralization. The autonomy of schools increased, leading to a multiplication of school leader tasks. In addition, leaders became increasingly accountable for the results of their schools. These changes place a larger and more varied load on the school leader; he/she can no longer depend on one type of behavior or leadership style to cope with all these demands. School leadership requires multiple competences in order to deal adequately with the diverse, sometimes contradictory demands of the environment. Quinn and Rohrbaugh (1983) acknowledging these opposing demands for leaders in general, developed a framework to measure the effectiveness of leaders. This framework is based on their belief that the most effective leaders are able to fulfill several roles at the same time in order to cope with the demands from the environment. Denison, Hooijberg and Quinn (1995) refer to this ability as behavioral complexity.

The increased complexity of the school leaders’ role in the Netherlands, as well as in other countries, prompted a large amount of research in this area. Bossert, Dwyer, Rowan & Lee
(1982) was one of the first studies to show that the effect of school leaders on student results runs through school climate and instructional organization, effectively making the effect of school leaders on outcomes an *indirect* one. Their study employed an integral leadership model to focus on indirect effects and study the characteristics of leaders, as well as the way in which educational leadership is strategically shaped. The context of the school plays an important role in these integral models (Fiedler, 1967; Yukl, 1981; Wiziers, Bosker, & Krüger, 2003; Krüger, Witziers, & Sleegers, 2007; Bossert et al., 1983) because, from a contingency perspective, school leaders are influenced by several antecedent factors, such as the context of the school and the leader’s personal characteristics. These factors shape leaders’ role perceptions and behavior.

The goal of this thesis is to provide further insight into the complex job of school leaders. Clarification is given regarding the impact of the relationship between role perceptions of school leaders and their behavior, and between antecedent factors and role perceptions and school leader behavior. Both role perceptions and the behavior of school leaders were studied by means of the Competing Values Framework (Quinn & Rohrbaugh, 1983), which brings together four major models in organizational theory. It contains two axes that create four quadrants, each quadrant representing one of the models. The horizontal axis ranges from an internal to an external focus and the vertical axis varies from flexibility to control. The quadrants are called ‘rational goal’, ‘internal process’, ‘human relations’ and ‘open system’. Each model holds two roles: the rational goal model contains the producer and director roles, the internal process model matches with the coordinator and the monitor roles, the human relations model with the facilitator role and the mentor role and the open system model holds the broker and innovator roles (figure 2.2). The goal of this thesis was to operationalize the school leader variables ‘role perceptions’ and ‘behavior’ by means of this general management framework and to examine the relationship between antecedent factors and the two school leader variables.
A total of 103 school leaders and 998 teachers at havo-schools in the Netherlands were surveyed by means of questionnaires. The school leader questionnaire was aimed at the role perceptions and the behavior of school leaders and also collected data on relevant personal and school characteristics. The teacher questionnaire provided data on the teachers' perceptions regarding the behavior of their school leader. In order to look at the chain of variables in which role perceptions of school leaders affect their behavior, and in which antecedent factors have an impact on role perceptions and on behavior, we first examined the groups of variables separately. Firstly, the antecedent factors that affect the school leader were addressed, followed by the role perceptions of the school leaders, and the types of behavior leaders' displayed. Finally, the relationship between the groups of variables was examined.

6.2 Main results

The outcomes concerning changes in the context are addressed first, particularly decentralization since the study was conducted in a context of decentralization. In order to understand the job of school leaders, an overview of school leader tasks is also given. Finally, the main findings structured according to the research questions introduced in chapter 3 are presented.

Changes in the context: decentralization and school leader tasks

As mentioned earlier, the complexity of school leadership has increased in the Netherlands, amongst other reasons, as a result of deregulation and decentralization. We investigate this change by means of the ‘perceived shift in policy space’ instrument and by means of the ‘effect of decentralization’ scale (Hooge, 1991). It can be concluded that school leaders experience more freedom in their work as a result of decentralization. Hooge found similar results in 1991 and despite the incomparability of the results (Hooge examined primary education, we studied secondary education), it is interesting that she also found an increased perceived freedom. Especially in organizational and educational matters, school leaders believe they gained more control as a result of decentralization. On
the other hand, in the domain of external policy, more than half of the school leaders indicated no shift in freedom at all. Our study shows that, according to the school leaders, the effect of decentralization is noticeable in several aspects of the school leaders' work. The clearest effect can be found in the amount of innovations; almost every school leader (90.2%) points out that there has been an increase in innovation. An almost equally high percentage of school leaders (87.3%) states that the amount of work has multiplied, while 78% of the school leaders indicate that they delegate more and (75.5%) report a change in the content of their work. The increasing tendency to delegate may be an effect of this reported increase in workload; school leaders are forced to delegate some of their work because the workload is too much for one person. This could explain why the analysis of our task instrument showed that school leaders hardly ever perform their tasks alone.

Based on these results, we conclude that changes in the content of a school leader's job are inevitable in a context of decentralization since decentralization placed more responsibilities and tasks on leaders. Prior to decentralization, school leaders were given a fixed quantity of money for each domain in their school; their responsibility was to invoice the expenditures to the local or national government. Following decentralization, leaders must decide how to divide the lump sum over the separate domains, which demands different skills of the school leader.

In addition, accountability demands have increased. School leaders are no longer solely judged on their process of leadership, but also on the (student) outcomes. Leaders must also account for their decisions and justify their choices, an additional change in the content of the job of school leaders. School leaders do not confirm the expected effect of decentralization on student outcomes. Even though one third of the school leaders confirm that decentralization has led to better student outcomes, the majority of the school leaders report neither improvement nor worsening at the student level.

With the purpose of gaining more insight in the content of the school leader's job, we questioned the school leaders using a task list developed by Krüger (1994). School leaders were asked to
specify for each task on the list whether they were the main responsible person, whether they shared the responsibility with someone else, or whether the task is the main responsibility of someone else. The majority of tasks questioned appear to be carried out by the school leader and another person together. Two tasks were more often the responsibility of another person: student guidance, and administration and control. Most of the other tasks were performed by the school leader working together with somebody else; only three tasks were the sole responsibility of the school leader (organizational development, personnel management and external communication). These results are similar to the results that Krüger found in her study: that organizational development, personnel management and external communication were mostly carried out by the school leaders themselves, and that student guidance, and administration and control were mostly delegated to others.

**Role perceptions of school leaders**

In order to get a better understanding of school leaders, an integral perspective is adopted in this thesis. Our research model, which encompasses several perspectives, including the cognitive perspective, assumes that the behavior of school leaders is influenced by their role perceptions. Leaders' role perceptions are measured by questions on the eight roles discerned in the Competing Values Framework of Quinn and Rohrbaugh (1983), as well as by questions regarding the instrument ‘importance attached to the performance of educational and administrative tasks’ (Krüger, 1994). The results concerning the first research question were investigated in section 5.2.

*What are the role perceptions of school leaders in secondary education in the Netherlands?*

With respect to the role perceptions of Quinn and Rohrbaugh, it must be noted that in our analysis only seven role perceptions are distinguished instead of the eight they define. We discern: the director, coordinator, monitor, facilitator, mentor, broker and innovator. No evidence was found for the producer role; therefore, the outcomes only relate to the seven roles existing in our data.
Quinn’s role perceptions

School leaders attach the greatest importance to the role of the innovator. Generally speaking, the director, facilitator, mentor, and broker roles are also considered important by school leaders. The lowest mean scores are for the coordinator and the monitor role, indicating that school leaders attach the least importance to the internal process model. Based on the outcomes of our study, it can be concluded that school leaders consider the roles that are central to school innovation to be of greater importance than the roles that are vital in creating an efficient school organization. It is uncertain how these results are linked to the significant changes in educational policy in recent years or whether school leaders gave socially desirable answers. The school leaders in our sample indicated that there has been more innovation due to decentralization, from which it logically follows that leaders had to utilize their skills as an innovator.

In general, leadership is associated with roles or behaviors that are related to positive affairs, such as developing a vision, or motivating people; it is, therefore, possible that school leaders consider the coordinator and monitor roles, which evoke more negative emotions than the other roles do, as less important and attractive than other roles.

Educational and administrative role perceptions

In previous educational research a distinction has often been made between educational and administrative leadership (Hughes, 1985; Leithwood et al., 1999; Hallinger, 2000; Krüger, 1994). Administrative leadership is aimed at the general processes that keep the school running. Educational leadership can be defined as leadership in which the actions are always aimed at influencing primary processes in the school, effectively influencing the effects at a student level; educational leadership is expected to be more effective for student outcomes than administrative leadership (Krüger, 1994). In this study, educational and administrative leadership were operationalized at the level of role perceptions and the two role perceptions could be distinguished in our data. It was found that
school leaders consider educational tasks more important than administrative tasks. In order to find out if school leaders act upon their belief that educational leadership is more important than administrative leadership, future research should test the variable not only at the level of role perceptions, but also at the level of actual behavior of the school leader (Krüger, 1994).

The results concerning role perceptions show that school leaders have specific ideas about what is best for their school, and about how they want to run their school. Unfortunately, they do not always have time to act upon these ideas since recent changes, such as decentralization and increases in scale, have made the job of school leaders much more complex as the number of tasks increased. As early as 1994, the Commission Evaluation Primary Education (Commissie Evaluatie Basisonderwijs) determined that school leaders did not have enough time to think about the content of education. It was stressed that principals need to spend more time as educational leaders, including investing more time in the curriculum. It seems that school leaders still lack time to do all the things they consider important.

We also examined how the role perceptions of Quinn and Rohrbaugh and the administrative and educational leadership role perceptions are related to one another. It appears that the administrative leadership role has a significant positive correlation with the coordinator and the monitor roles, two roles within the internal process model; it is negatively correlated with the broker role. Our conclusion is that the administrative leader does not value reputation or emphasize resource acquisition in a similar manner to how the broker does.

Significant correlations were also found between the educational leadership role and the coordinator, the monitor, the facilitator and the mentor roles. The high correlation between both the administrative and the educational leadership role with the coordinator and the monitor roles is a notable result. The educational and the administrative leader both have a strong internal orientation and the coordinator and monitor roles could be seen as the core roles of school leaders. The difference between the educational and
Chapter 6 – Conclusions and discussion

the administrative leader is the broader focus of educational leaders. While administrative leaders only have an orientation within the internal process model, the educational leader also concentrates on the human relations model.

Interestingly, we noticed that neither the educational leadership role nor the administrative leadership role has a significant correlation with the externally-oriented role perceptions of Quinn et al. Essentially, the external component is missing in this typology, which means that the educational and administrative leadership dichotomy only seems to cover part of the roles that leaders have to deal with. This result justifies our choice for a focus on the roles of Quinn et al. (1983). The Competing Values Framework has a wider view on leadership and also takes into consideration external components of leadership. If we would have limited ourselves to the typology of educational and administrative leadership, the internal orientation of school leaders would have been overestimated. Using a richer framework that includes the external dimension, allowed us to see that the internal orientation of school leaders is relatively small.

**School leader behavior**

As for the behavior of school leaders, we questioned teachers and school leaders on the four orientations distinguished by Quinn and Rohrbaugh (1983): rational goal, internal process, human relations and open system. These data provide answers to the second research question (5.3):

*Which behavior is employed by school leaders in secondary education in the Netherlands?*

The outcomes of the school leaders' questionnaires show that their behavior mainly fits within the rational goal system. School leaders spend a majority of their time stimulating the effectiveness and productivity of the school; actions directed at increasing teacher participation (human relations) and innovations (open system) are also frequently reported. Actions aimed at the internal process are the least frequent.
Chapter 6 – Conclusions and discussion

Results from the teacher questionnaires show that, in teachers' eyes, school leaders score high on open system behavior while hardly demonstrating actions related to human relations. According to the teachers, school leaders do not show behavior that is oriented towards increasing participation and involvement on the part of the teachers. Teachers report that their school leaders show behavior with an external orientation, which is directed at continuous change.

A comparison between the self perceptions of school leaders own behavior and the perceptions of the teachers on the school leader's behavior, reveals that not all behavior reported by school leaders was perceived to the same extent by the teachers. The teacher scores are significantly lower than the school leader scores on all types of behavior; meaning that school leaders and teachers have different perceptions of what school leaders do when it comes to the degree to which a type of behavior is displayed. In addition to the possibility that school leaders gave socially desirable answers, it is also possible that the behavior questioned is not clearly visible to teachers, but that the school leaders are indeed exhibiting those behaviors. For example, human relations behavior was reported to a large extent by school leaders and hardly ever by teachers. There is a chance that school leaders are convinced that they relatively often carry out this kind of behavior; however, the teachers do not notice this behavior. In addition, not all school leaders' behavior has a direct influence on the teaching practices of teachers, a result of which could be that teachers consider this kind of behavior less important, therefore noticing it less. Innovative behavior is likely to have an impact on teachers since with most innovation, teachers are asked to change their classroom practices. Open system behavior is thus relevant to teachers, and, indeed, teachers report this type of behavior more often than other behavior.

The relationship between antecedent factors and role perceptions of the school leader

Based on our literature study, we proposed the usage of an integral model consisting of a chain of variables. According to our
research model, and following the cognitive and contingency perspectives, the behavior of school leaders is influenced by their role perceptions and by antecedent factors. Our third research question examined the first part of the chain:

*What is the relationship between antecedent factors and role perceptions?*

We discerned three groups of antecedent factors: personal characteristics of the school leader, school characteristics, and school context characteristics. The outcomes for the relationship between the antecedent factors and the seven remaining role perceptions of Quinn and Rohrbaugh (1983) illustrate that only one role perception is predicted by antecedent factors. The innovator role is predicted by a low percentage of low SES students (school characteristic). In other words, school leaders at schools with a low percentage of low SES students are more innovative. This finding makes sense, because school leaders at those schools are most likely to already have good student results, which gives them time to work on innovations. Generally, school leaders at schools with a high percentage of low SES students have to work harder to obtain the same student results, which takes so much time and effort, that innovations are not their first priority.

The innovator role is also predicted by a larger perceived policy space as a result of decentralization (context characteristic). School leaders who experience more freedom in policy space are more innovative. They experience more freedom and therefore have the flexibility to become more innovative.

Based on the literature we expected more effects of the antecedent factors. We did find an effect of decentralization on the content of the school leaders’ job; apparently the broad context in which our study was conducted matters. However, we did not find many effects of context factors on the school leader variables in our model. It is possible that the school context of *havo*-schools in the Netherlands is generally the same, which means that the school context does not discriminate. In section 6.3.3 we will discuss the little support we found for a relationship between antecedent factors and the school leader variables in our model.
Chapter 6 – Conclusions and discussion

Results concerning the relationship between antecedent factors, role perceptions and school leader behavior

Our fourth research question studied the relationship between all variables in our research model:

What is the relationship between antecedent factors, role perceptions, and behavior?

Based on the Competing Values Framework, we have distinguished four types of behavior: rational goal behavior, internal process behavior, human relations behavior and open system behavior, each focusing on a different aspect of the organization. On the level of role perceptions, we discriminate 7 role perceptions, instead of the eight distinguished by Quinn and Rohrbaugh (1983): director, coordinator, monitor, facilitator, mentor, broker and innovator. Analyzing the relationship between antecedent factors, role perceptions and school leader behavior, we differentiate two levels: teachers and school leaders. The role perceptions were measured on the level of school leaders (as self reported by the school leaders) and the behavior of school leaders was measured on the teacher level (school leader behavior as perceived by teachers).

The results showed that rational goal behavior of school leaders (as perceived by teachers) is predicted by one antecedent factor and one role perception. School leaders who have no responsibility for administration and control, and who consider themselves as mentors, show more rational goal behavior according to the teachers. Teachers report behavior that is directed towards productivity and the realization of goals.

Almost a third of the school-level variation can be explained by the internal process behavior of school leaders. Teachers report internal process behavior when school leaders have more responsibility for student guidance, and less responsibility for administration and control. This means that school leaders who focus on student guidance and regularly delegate administrative tasks, show behavior that is aimed at stability and control according to the teachers.

The third type of behavior, human relations behavior, is significantly predicted in situations where school leaders have more re-
Chapter 6 – Conclusions and discussion

responsibility for student guidance, and less responsibility for administration and control in combination with the mentor role. Human relations behavior stresses participation and cohesion. The only difference with the internal process model, is the effect of the mentor role.

Finally, two personal characteristics predict open system behavior. Less responsibility for educational affairs and more responsibility for contact with external parties predict open system behavior of school leaders (as perceived by teachers). Teachers report behavior with an external orientation aimed at innovation when their school leaders focus less on the primary process and more on communication with stakeholders outside the school.

In conclusion, school leader behavior is mostly predicted by personal characteristics of the school leader, or, more specifically, by one element of personal characteristics: school leader tasks. In some cases, school leader behavior is predicted by role perceptions; it is never predicted by school or by school context characteristics. This could be due to the fact that the havo-schools in the Netherlands do not differ much from one another and their context does not discriminate very well. In section 6.3, these findings will be discussed a little bit more in-depth.

Results concerning the relationship between role perception and school leader behavior

What is the relationship between the role perception of a school leader and his/her behavior?

The results concerning our previous research question showed that, when examining the relationship between antecedent variables, role perceptions and behavior (= our research model), role perceptions hardly ever influence the behavior of school leaders. Besides examining the relationship between all three groups of variables in our research model, we are also interested in the specific relationship between the two variables we operationalized by means of the Competing Values Framework: role perceptions and school leader behavior. For this final research question, we carry specific assumptions concerning the relationship between role per-
ceptions and school leader behavior. It thus deviates from the previous research questions (the relationship between antecedent factors and role perceptions, and the relationship between antecedent factors, role perceptions and behavior), where we had no such assumptions. In line with the Competing Values Framework, we expect the director role perception to predict rational goal behavior, the monitor and coordinator role perceptions to predict internal process behavior, the facilitator and the mentor role perceptions to predict human relations behavior, and the innovator and broker role perceptions to predict open system behavior. In light of these assumptions, a different analysis procedure was used in the final research question than was used in the previous research questions. This time we tested our expectations, which was conducted by means of multi-level analysis as well. It appears that most types of behavior were predicted, except for one: rational goal behavior was not predicted by the role perceptions that was supposed to predict it. In contrast, human relations behavior is significantly predicted by the facilitator and the mentor role perceptions, and open system behavior is significantly predicted by the innovator and the broker role perceptions. Internal process behavior is predicted by the monitor role perceptions, and not by the coordinator role perceptions. In figure 6.1, an overview of these outcomes is presented.
Our assumptions concerning the relationship between the role perceptions and the four types of behavior in the Competing Values Framework are to a large extent supported by our findings. The roles belonging to a certain quadrant or model predict the behavior in that quadrant, with the exception of rational goal behavior. This is interesting, since role perceptions hardly have an effect on school leader behavior when examined in combination with antecedent factors. Perhaps this can be explained by the fact that in this study, antecedent variables were included, while in the Competing Values Framework they were not. We will discuss this matter more in detail in section 6.3.3.

6.3 Discussion

From a broader perspective overlooking our results, three major issues can be discerned: validity matters concerning the Competing Values Framework and questionnaire research, behavioral complexity in leadership practice, and the exploration of our
Chapter 6 – Conclusions and discussion

research model. These themes will be addressed in the following sections.

6.3.1 Validity matters

The first major issue that needs to be discussed, is the issue of validity. The first aspect is the validity of the Competing Values Framework, particularly its validity in the educational setting. Do we find support for the factors that are distinguished? The second aspect is the validity of measuring school leader behavior by perceptions. This aspect deals with the common (or school-level) variance in our teacher questionnaires. Both issues will be discussed in this section, starting with the validity of the framework.

Validity of the Competing Values Framework

As mentioned in chapter 2, the Competing Values Framework was not originally developed for educational research, but rather to develop a certain level of structure in criteria for organizational effectiveness. In chapter 1, it was stressed that educational leadership is a concept in and of itself because school leaders differ from other leaders in several aspects (section 1.2.1). However, we also reasoned that educational leadership theories cannot be completely separated from general leadership theories; the former have always been affected by the latter, and a lot of research in that area has been useful in educational studies as well. To a smaller degree, the reverse is also true. Nevertheless, it is not without caution that one should use general leadership theories, and the models that derive from the theories, in the educational setting. When using a general leadership model, it is necessary to test it first in order to find out if it applies to school leadership as well.

Quinn and Rohrbaugh (1983) developed the Competing Values Framework as a way to understand the behavioral complexity of leaders. The framework contains, on the organizational level, two axes (internal-external and flexibility-control) that create four quadrants, which hold four major models of organizational theory. The quadrants are labeled ‘rational goal’, ‘internal process’, ‘human relations’, and ‘open system’. On the managerial level, Quinn and
Rohrbaugh distinguish, as has been said, eight roles that describe characteristics of the leader. The roles can be inserted into the four organizational models, each model containing two roles. The producer and the director roles are part of the rational goal model, the monitor and the coordinator roles belong to the internal process model, the facilitator and the mentor roles belong to the human relations model, and the broker and the innovator roles can be placed in the open system model.

The Competing Values Framework has been applied in a broad range of organizational research, for example in the investigation of leadership styles, organizational culture and organizational development (DiPadova & Faerman, 1993; Cameron & Freeman, 1991; Kalliath, Bluedorn, & Gillespie, 1999; Quinn & Kimberly, 1984). The framework was apparently very attractive to many researchers; however, not many researchers tested the framework empirically. The few researchers that did test the validity of the framework in general organizational settings confirmed its value (Kalliath et al., 1999; Quinn & Spreitzer, 1991). Kalliath et al. (1999) concluded that their data present general support for the Competing Values Framework as a valid theoretical framework for describing leadership behavior. Likewise, the results of Quinn and Spreitzer (1991) also provide empirical support for the Competing Values Framework. Despite these findings in general settings, the framework had never been tested in an educational setting. Still, the fact that previous research produced promising results in other settings, led us to use the framework to measure two important variables in our research model: school leader behavior, and role perceptions of school leaders.

In order to establish whether the framework could be useful in measuring school leader behavior, a choice was made to consider the framework as a four-factor model, as found in Kalliath et al. (1999). In this view, the framework consists of four latent constructs (rational goal behavior, internal process behavior, human relations behavior and open system behavior) that, to a certain extent, each contain one of the two underlying dimensions (internal/external and flexibility/control). For example, the rational goal model holds
an external component and is aimed at flexibility, and we wanted to
test the divergent validity. Testing the model from this view entails
checking to what extent the items represent the four latent vari-
ables. Each item in the teacher and school leader questionnaires is
expected to load on one of these four factors. It was found that all
items have significant factor loadings on the factor they are sup-
posed to measure. In addition, it was also found that the relation-
ships between the items and the latent factors, as well as the rela-
tionship between the factors themselves, are equal for both the
teachers and the school leaders. The same structure of data was
found in the two questionnaires. Apparently, the questionnaires
measure the same construct in both the school leader and the
teacher groups. Based on these outcomes, we conclude that the
Competing Values Framework is suitable to measure the behavior
of school leaders. The question then becomes: are questionnaires a
valid method for measuring the behavior of school leaders? This
matter will be discussed in the next section.

With regard to the role perceptions of school leaders, we ex-
amined how adequate a fit could be found for each of the eight dif-
ferent role perceptions distinguished by Quinn and Rohrbaugh
(1983): facilitator, mentor, broker, innovator, monitor, coordinator,
producer, director (see figure 2.2 and table 2.1). This question con-
cerns the divergent validity of the distinctions made in the ques-
tionnaire; in other words, it is an investigation to find empirical
evidence for the different constructs we intend to measure. Analy-
ses showed that only seven of the eight different roles of Quinn and
Rohrbaugh can be reliably separated. No evidence was found for
the producer role perception; however the producer role perception
had a very high correlation with the monitor and facilitator role role
perceptions. Upon closer examination of the items in the producer
role perception, it was found that these items, most likely, do not
measure the producer role perception, but rather the monitor and
the facilitator role perceptions. We therefore divided the producer
items over the monitor and the facilitator role perceptions and left
out the producer role perception.
Chapter 6 – Conclusions and discussion

An interesting question is that concerning why our items did not measure the producer role perception in our data. According to Quinn (1988), producers emphasize focus and accomplishment, value motivation and productivity, and strive to achieve organizational goals through stimulating workers to accomplish directives. Producers are adept at responsibility and completing assignments; these are descriptions that seem to fit school leaders; therefore, it could be the case that the problem is not in the role, but in our operationalization of it. After reconsidering the items used for the producer role perception in the questionnaire, one might recognize the possibility that the right items were not used. The producer role is classically defined as someone who achieves school goals by assuring that teachers achieve these goals, while our items focus more on stimulating and motivating teachers in general, and on checking whether the teachers do what is asked. This could be one explanation for why our producer items more closely fit the facilitator and the monitor role perceptions than the producer role perception.

Measuring school leader behavior

After having established the validity of the Competing Values Framework in the educational setting, a second matter of validity should be addressed: the validity of measuring school leader behavior by perceptions. The behavior of school leaders is an important variable in our research model; therefore, it is crucial that we operationalize it in a proper way. A precondition for examining the job of school leaders is the availability of valid instruments with which to measure the relevant aspects of school leader behavior. A lot of research on school leadership, including this study, is conducted through questionnaires. School leaders judge their own behavior in these questionnaires or teachers report their perception of the behavior of their school leader. Are both instruments valid measures of school leader behavior?

The school leader questionnaire generates one score for each question and thus always measures the perception of the school leader of his/her own behavior. The teacher questionnaires are filled in by various persons, thus generating various scores. They
measure the perceptions of teachers, but we can only interpret the outcomes if we take into account the school-level variance. This makes the use of teacher questionnaires more problematic in measuring school leader behavior. To answer our question regarding the validity of questionnaires, and thus of perceptions, to measure school leader behavior, we focus on the teacher questionnaires and the implications of school-level variance.

In this thesis, both the school leaders and the teachers working on their school were questioned about the school leader’s behavior, using the Competing Values Framework of Quinn and Rohrbaugh (1983). In an ideal situation, if the questionnaires were a perfectly valid measure of school leader behavior, one would notice two things:

1. The teachers in one school should all have exactly the same perception of the behavior of their school leader
2. The aspects of behavior measured by teachers’ perceptions should correspond exactly to the same aspect of school leader behavior measured by the perceptions of the school leaders.

School-level variance

The first issue concerns the amount of school-level variance. Hallinger and Heck (1998) point out that the amount of school-level variance in the data must always be checked before interpreting the teacher data. A small school-level variance has implications for further interpretations. This paragraph discusses the first issue: the amount of school-level variance with regard to the validity of the questionnaires.

In order to evaluate the validity of our questionnaire, the amount of school-level variance in the variables based on the teacher questionnaire was first verified (chapter 4). It is logical that, if these variables are valid measures of school leader behavior, the answers of teachers coming from the same school (therefore sharing the same school leader), should correlate. This implies that the amount of school-level variance in the teacher questionnaire variables can be seen as a maximum amount of valid variance. If teach-
ers at the same school disagree about the characteristics of their school leader, teacher-level variance will be found. Essentially, if the teachers do not agree on the behavior of their school leader, we are not measuring school leader behavior, but rather the personal opinions/perceptions of individual teachers on the behavior of their school leader. In this view, teacher-level variance can be considered as ‘error variance’. Our study aims to determine school leader behavior; therefore, we are only interested in findings on the school level. By means of multilevel analysis, it was verified whether one should distinguish a school level in addition to a teacher level. It was found that there is a small, but significant, proportion of school-level variance (10-20%). These results are in line with those of other studies; for example, Heck and Marcoulides (1996) report finding only 20 to 30% school-level variance in scores coming from teacher questionnaires measuring school leader behavior. Apparently in educational leadership studies using teacher questionnaires, the school level variance is not large.

There are three possible explanations for the small proportion of school-variance found: first, teachers may not have a good view of the job of their school leader because they have no clear idea what their school leader is doing. If this is the case, school leaders are unable to show the same behavior to every person in their organization; in these cases, there is a problem creating a sense of unity, and the school is not experienced as a community. From this view, school leaders need to make their jobs more transparent by developing a mission for the school, setting goals for the organization, and openly acting upon them. This can increase the involvement of the teachers and create a sense of unity.

Secondly, it is possible that our population of teachers is too heterogeneous. If one could know in advance if there exists a sense of unity in a given school or not, this can be taken into consideration, resulting in a higher percentage of school-level variance being observed. Thus it could be fruitful to determine the sense of unity in a school first.

The third explanation for the small school-level variance is that perceptions are psychological. Teachers in a school are never a
group with homogeneous ideas and perceptions; teachers are individuals, with diverging thoughts about their school leader. Teachers' perceptions or ratings of their school leaders not only depend on their actual observations, but also on individual characteristics of the teachers, such as their relationship with the school leader; this relationship influences the teacher's view of the school leader. Teachers who like their school leader will most likely have a different perception of their school leader's behavior than teachers who dislike him/her. For this reason, it is difficult to observe a great amount of school-level variance in school leader research. This does not mean one shouldn't look for higher amounts of school-level variance, but it does indicate that care should be taken in interpreting the results from teacher questionnaires. Since there will always be a certain amount of school-level variance when using teacher questionnaires to measure school leader behavior, it might be useful to use additional methods, a matter that will be discussed later in this section.

Convergent validity

Above we discussed the validity in regard to the school-level variance of the teacher questionnaires. The second validity concern in our study is that of convergent validity. If the school leader and teacher questionnaires actually measure the behavior of school leaders, the outcomes of the two questionnaires should be the same. Convergent validity was investigated by examining the amount of convergence between identical constructs measured on both the school leader and the teacher questionnaires. Multilevel analyses showed a low convergence between the teacher scores and the school leader scores, two ways meant to measure the same construct; therefore, the convergent validity of these two groups of scores is low. This means that the school leaders and the teachers in our study responded differently on questions about the same aspects of school leader behavior. One can conclude that teachers and school leaders have different perceptions of the daily actions of the school leader. The logical conclusion is that our questionnaires have measured how school leaders and teachers perceive school leader
behavior, instead of measuring school leader behavior itself. For this reason, one needs to be careful with the interpretation of the outcomes, when using questionnaires in school leadership research.

These results concerning the validity of questionnaires as a means of measuring school leader behavior are interesting, but not unique. The fact that other authors had previously added critical observations to the use of questionnaires for measuring school leadership behavior was addressed in chapter 1. In the past three decades, several researchers have indicated the dubious validity of teacher questionnaires to measure school leader behavior, a result of which has been frequent pleas to search for more objective and more valid ways of measuring the relevant characteristics of school leader behavior (e.g. Yukl, 1981; McCall & Lombardo, 1978; Heck & Maroulides, 1996; Hallinger & Heck, 1998). It is highly notable that these recommendations have not led to a change in research practice; school leader behavior research still frequently uses teacher questionnaires to assess school leader behavior (Leithwood & Jantzi, 1999; Bogler, 1999; Silins, 1994; Nguni et al., 2005).

If questionnaires are not an appropriate tool with which to measure school leader behavior, the question then becomes: 'how should one measure it otherwise?'. Yukl (1981) proposes longitudinal, more thorough research based on observations instead of questionnaires. Choosing to work with observations would require one to consider what aspects of school leader behavior need to be observed. Is the Competing Values Framework still a valid measure if observations are used instead of questionnaires? Is it possible to translate the items of the questionnaire into observable behavior? Is it sufficient to only observe the actual behavior of the school leader, or do we also need to consider the intentions behind the behavior (Bossert, Dwyer, Rowan, & Lee, 1982)? The cognitive theory assumes that intentions are important.

Before we dismiss questionnaire research altogether for measuring school leader behavior, it is important to look back at the products of this thesis and discover the value therein. One important finding is the discrepancy between the school leader and the teacher scores. In regard of this outcome, it is indicated that one
needs to be careful with the interpretation of the results if teacher questionnaires are used for measuring school leader behavior. However, it is also indicated that the questionnaires are valid measures of the perception of school leader behavior. In other words, how teachers see their school leader depends on the personal characteristics of the teachers, for example whether they (dis)like the school leader, or whether they are satisfied with the school leaders’ influence in the school organization. It is for this reason that even though objective data cannot be said to have been collected from the teachers, the teachers' subjective experiences of the school leader can be examined; this is also valuable information. If a school leader is very effective according to objective measurements, but the teachers do not see this and think very badly of their school leader, the teachers' work will be affected in a negative manner. The reverse is also true. Subjective perceptions are indeed important, which makes teacher questionnaires measuring characteristics of leaders vital tools.

In conclusion, we stress the importance of checking the school-level variance in teacher data when measuring school leader behavior, because it prevents overestimation of the effects. Also, we point out the need to use additional methods besides questionnaires to measure the behavior of school leaders. Questionnaires measure perceptions and despite the value of perceptions, we think it is important to also use more objective measures of school leader behavior. This will be discussed in the next section. Finally, we stress the importance of teacher data when measuring school leader behavior because it reveals the extent to which school leaders are transparent in their behaviors. Even more importantly, teachers' perceptions (partly) determine their attitude towards their school leaders, which in turn affects the way teachers teach and the way leaders lead.

**Multiple methods**

The validity of questionnaires in school leader research having been established, we propose using triangulation in further research. Triangulation encompasses viewing a construct from sev-
eral angels in order to learn more about the validity of the measures used. In the social sciences, the term 'triangulation' was first used as a metaphor to characterize the use of multiple methods to measure a single construct (Garner, 1954). Triangulation in research has been defined as the combination of two or more theories, data sources, methods, or investigators in one study of a single phenomenon (Denzin, 1989). In other words, the scholar collects data from different groups of respondents, and does so by means of different techniques. According to Shih (1998), triangulation serves two goals: completeness and confirmation. The use of different data sources, techniques, and theories can have the power to reveal multiple dimensions of the construct being measured, which leads to completeness. The purpose of confirmation is accomplished relating the different kinds of data so as to counteract the threats to validity identified in each.

For the current work, it means that questionnaires for measuring subjective aspects of school leader behavior can still be used; however, one should also attempt to counteract the deficiencies of subjective data by adding more objective measurements of school leader behavior, such as observations, to the research protocol. A good example of this in practice can be found in research by Bossert et al. (1982). In order to examine instructional leadership, they observed the behavior of school leaders. They shadowed the school leaders during their work and took notes concerning all of the school leaders' behavior. The outcomes were in line with findings from previous research (Mintzberg, 1973), showing that the behavior of school leaders was very scattered. At first sight, there was common thread running through it, which surprised Bossert et al. While they knew that vision was an important determiner of effectiveness in leadership, they could not imagine that school leaders lacked vision, and therefore effectiveness. Yet behavioral research showed no signs of vision in school leaders; for this reason, a different approach was tried. Following the lead of other researchers, they shadowed school leaders and wrote down the behavior they noticed. In addition, they interviewed the school leaders afterwards, confronting the school leaders with their own behavior and
Chapter 6 – Conclusions and discussion

asking leaders why they acted a certain way. It was found that the behavior was not random after all; a red thread ran through their actions; however, it was not visible to others. Observations alone are insufficient for getting a good view of school leader behavior. Interviews are a necessary second component. However, scholars seem to have forgotten the value of combining these two research methods: in the past years, the focus has been only on interviews or questionnaires. Observations seem to have been completely overlooked.

We recommend a return to multi-method studies for examining the behavior of school leaders. One possibility for using multiple methods based on the Competing Values Framework is by combining observations and interviews. The researcher may use continuous or interval observation, which can be structured or unstructured. Cameras can even be used to ease this process since school leaders are followed or videotaped during his/her work so that every behavior is registered. Afterwards, the school leader can be questioned what his intentions behind each actions were. The researcher can first classify the observed actions according to the four dimensions of the Competing Values Framework, followed by classifying the intentions, also according to the framework. In this manner, one can see if the two classifications show different patterns. The school leader can also be asked to make a log of his/her actions, in which he or she first describes the actual action and then his thoughts behind it. This method is referred to as self-report. However, this is very time consuming for school leaders if left unstructured. One way to structure self-report is by equipping the school leaders with beepers and letting them know at fixed times that they need to make notes at that moment. A nice side effect is that the log method gives school leaders time to reflect on their jobs.

In conclusion, we hope to renew the debate concerning how to measure (the perception of) school leader behavior. We suggest searching for multiple operationalizations in order to be able to analyze to what degree these operationalizations converge. In addition, we think the use of more objective measures of school leader
behavior, such as observations, camera registrations, and logs, could be part of the solution to the validity problem.

6.3.2 Behavioral complexity in leadership practice

The second major issue in this thesis concerns the findings regarding role perceptions and behavior of school leaders. The operationalization of these two variables was based on the Competing Values Framework, in which Quinn and Rohrbaugh (1983) discern two bi-polar dimensions (internal-external, flexibility-control) that create four organizational models that in their turn each hold two roles. The organizational models are: rational goal, internal process, human relations and open system. The eight roles are: producer, director, coordinator, monitor, facilitator, mentor, innovator, and broker. This research uses the four organizational models to measure school leader behavior and the eight roles to measure the role perceptions of the school leader.

According to Quinn and Rohrbaugh (1983), the four dimensions represent the primary value orientations of most organizations, and each model refers to effectiveness indicators. They state that all leaders are confronted with four organizational demands that emerge from the four organizational models: performance, efficiency, commitment, and innovation. Each demand corresponds with a leadership style that contains two characteristics that describe the leader; these characteristics are the eight roles a leader can have in an organization.

Quinn and colleagues studied the existence of the roles and the perceived effectiveness of groups of managers (Quinn, Fearman, & Dixit, 1987; Quinn, Hildebrandt, Rogers, & Thompson, 1991; Hart & Quinn, 1993; Denison, Hooijberg, & Quinn, 1995). It was found that managers carry out a significant variety of roles, and that it is the high-achieving managers who are able to perform the most roles. Apparently, these managers are capable of dealing with the conflicting, or competing, demands of the environment. Hooijberg (1996) validated these results by finding a relationship between perceived effectiveness of managers and the behavioral
range of managers. Denison, Hooijberg and Quinn (1995) refer to this ability to take on different roles as behavioral complexity.

In accordance with the contingency theory, the effectiveness of a certain behavior depends on the match between that behavior and the context in which the behavior is displayed. It was pointed out in section 2.5. that even though Quinn and Rohrbaugh (1983) acknowledge the importance of the context in the effectiveness of the leader, the context is not covered by the Competing Values Framework despite its perceived importance. This shortcoming, as well as the role of the context of the school, is covered in the discussion of our research model in section 6.3.3.

The results in chapter 5 concerning the behavior of school leaders show that school leaders do not demonstrate all four types of behavior equally. It was found that school leaders spend the majority of their time stimulating the effectiveness and productivity of the school (rational goal behavior). In addition, school leaders display behavior aimed at increasing teacher involvement (human relations) and innovation (open system). School leaders least often report internal process behavior; from which we conclude that internal processes and the efficiency of the school are not a priority for school leaders. In considering the overall scores, it can be seen that school leaders score above average on the four roles according to self-reports, which is in contrast to the average scores the same leaders achieve on the four roles according to their teachers. These outcomes allow one to cautiously conclude that the school leaders in our sample show behavioral complexity, a prerequisite for effective leadership according to Quinn and Rohrbaugh (1983). However, the relevance of the discrepancy between school leader self-reports and teacher scores should not be overlooked. Denison, Hooijberg and Quinn (1995) studied the behavioral complexity of utility managers and found that subordinates of effective leaders have different perceptions than subordinates of less effective leaders. Their results show that the managers' behavior, as perceived by subordinates, is much more clearly differentiated for effective managers than for less effective managers. Also, it is perceived to a greater extent. What does this mean in terms of the effectiveness of
school leaders at havo-schools in the Netherlands? We will first approach this question from the perspective of our research model as well as the implications for further research. The consequences of the behavioral complexity for the practice of school leaders will then be considered.

Multiple assessments

School leaders mostly report rational goal behavior, followed by open system, and human relations behavior. Internal process behavior is mentioned least often; not all behavior is reported to the same extent. The study of Denison, Hooijberg and Quinn (1995) produced comparable findings in the behavior and effectiveness of managers; specifically, utility managers with a low effectiveness rating do not consider all behavior to be equally important. While highly effective managers display a broad range of behaviors, less effective managers place a greater emphasis on control, stability and productivity. Instead of displaying all types of behavior separately, these managers show less differentiation and thus less complexity than is desirable. Denison et al. propose that this may be due to the sample, and to the core behavior required in this type of managerial setting. For example, they expected that low-performing entrepreneurs in highly dynamic industries would present innovative behavior as a core value of leadership much the same way as, in the stable industry of utility managers, direction and control are central to leadership. Rational goal behavior and open system behavior could be central to leadership in educational settings. However, a measure of effectiveness was not included in our study; therefore, we do not know whether there are differences between less effective and highly effective school leaders. In future research, it would be a good idea to include a measure of effectiveness regarding the student outcomes (used by the University of Twente in the other part of this research project). Our proposition is to let supervisors (the person who conducts the job evaluation) assess the effectiveness of school leaders, and have the teachers assess school leaders' behavior. Assessment by several parties involved is referred to as 360-degree feedback. According to Denison et al.
Chapter 6 – Conclusions and discussion

(1995) there are several advantages to combining subordinate responses as measures of the leaders’ behavior with supervisory responses to judge the effectiveness of the leader. The first advantage is that combining feedback from multiple sources has the greatest face validity. Subordinates, or teachers in our study, have more frequent contact with the school leader than supervisors; in addition, the content of the behavior as defined by the Competing Values Framework is well suited to the leader-subordinate relationship. In their turn, supervisors are more often responsible for evaluating the leader’s effectiveness in the organization. The second advantage of using two different sources (supervisors and teachers) is that it prevents the bias of having data coming from only one perspective. This is in line with our recommendation in section 6.3.1 to use multiple methods to study the behavior of school leaders. The instrument for measuring effectiveness used by Denison et al. (1995) seems to be a good tool. Their survey questions function as a close proxy to the regular assessment of a leader’s effectiveness by supervisors.

Influences of contexts

It was established in preceding sections that a possible explanation for the differences in the behavior of school leaders in the Netherlands could be found in the sample and in the variation in the effectiveness of the school leaders. Another explanation lies in the contingency theory, wherein the appropriateness of a certain behavior depends on the context because different contexts require different leadership behavior (Fiedler, 1967). Our data, collected in 2004 and 2005, are from a time period in which Dutch schools had just gone through significant changes. First, a series of major government-imposed school reforms came into the picture, followed by a period of increased autonomy as a result of decentralization. The Parliamentary Commission for Investigation in Educational Reform (Commissie Parlementair Onderzoek Onderwijsvernieuwingen, 2008) established that secondary schools were to be held responsible for solving key social problems, including equal opportunities for all students, and high drop-out rates. Schools had to come
up with ideas to deal with these problems and develop new programs; schools suddenly had to become innovative. As a result of decentralization, school leaders experienced a large degree of autonomy. Schools had more freedom in educational and financial matters, meaning an increased amount of choice in how to run their schools. Within this context of increased autonomy, schools needed to focus more on the world around them, and emphasize their school's own distinctive features, which encouraged a certain degree of competition between schools. Decentralization not only increased the independence of schools, it also led to a higher accountability. School leaders could make their own choices as long as they were able to account for the results of their students. The effectiveness of their schools was one of their prime concerns.

The results of our study should be viewed within this context of educational change in the Netherlands. The increased accountability as a result of decentralization demanded a focus on effectiveness, with school leaders having to ‘prove’ that the money was well spent and that their students obtained good results. Rational goal behavior is needed to deal with this requirement. The large amount of innovation required of schools, in addition to the high expectations of society with respect to school leaders' problem solving capacity, demands innovative, open system behavior from school leaders. This explanation supports the contingency theory. It is possible that the behavior of school leaders is unequally distributed over the four types of behavior because the context of the school required only a few types of behavior. It is highly probable that a different context would have led to an emphasis on other types of behavior.

We would, therefore, recommend emphasizing the role of the context of the school in further school leader research. For example, school context can be manipulated and taken into account as a sorting variable; after distinguishing several different school contexts, one can examine the extent to which school leaders display different behaviors in each of these different school contexts. Based on the fact that we addressed all havo-schools in the Netherlands, we expected a larger variety of contexts in our sample. However,
the contexts appear to be more similar than we thought. Including other school types could lead to a broader range of contexts and solve this problem. At the beginning of this study, however, we decided to select havo-departments only, because we thought greater diversity among teachers would make it more difficult to make general remarks. Based on the findings of this study, we think it will, for that very reason, enrich future research.

Denison, Hooijberg and Quinn (1995) propose defining paradoxical conditions in the organizational environment and then studying the behavioral complexity these conditions engender among effective leaders. In the school setting one might, for example, compare the behavioral complexity of school leaders in schools with a homogeneous population of students with school leaders in schools with a mixed population. School leaders who can only work in schools with a homogeneous population are at a disadvantage compared to those leaders with the requisite cognitive and behavioral skills to also work with heterogeneous groups. Another interesting context to examine could be small schools in a competitive environment, for example in large cities. In big cities students and their parents can choose from a large number of schools, which, in the Netherlands, automatically results in more competition between the schools. Large schools have more possibilities than small schools to seduce students to attend their schools. How do school leaders in small schools compete with a great number of other, and probably larger, schools? Finding places to examine these paradoxical conditions in school settings and studying the behavioral complexity, the role perceptions, and the behavior of school leaders in these settings could produce empirically interesting results. Furthermore, interviews with school leaders can be used to determine the contradictory situations in the context of the school.

A third explanation of the fact that school leaders display some types of behavior more than other types of behavior can be found in the inaugural lecture of Noordegraaf (2008), where some practical implications for school leaders in the Netherlands are discussed. In this lecture, Noordegraaf addresses public management (including school management), covering the same issues brought
up in this thesis: the role of context, and the one-sided behavior of school leaders. He too established the disproportionally high concentration on outcomes and marketing, and the lack of attention for internal process behavior. In his lecture, Noordegraaf states that educational managers are often considered the 'bad guys' and the teachers are their victims. According to him, it is not the manager that is at the root of problems in schools, but the changing society. It is the context in which school leaders operate that forces school leaders to display one-sided behavior. Noordegraaf pleads for more respect for the educational manager, but remarks that managers must do their part in this as well. Noordegraaf rejects the current predomination of efficiency and market-based thinking in the behavior of educational managers; school leaders should, instead, display a broader behavioral repertoire. He points out that school leaders need to focus more on the internal organization and strive for more insight into the daily processes happening inside the classrooms. It is important that school leaders tune in to the work of professionals and focus more on the quality of education because it is the primary processes that should count in a school. His recommendations become even more important when we connect them to the findings in this thesis: we found that school leaders do not display much behavior that is aimed at the internal processes of the school. Also, we found that teachers report the absence of human relations behavior in their school leaders' behavior. If school leaders include internal process and human relations behaviors in their repertoire, they will become more effective school leaders.

6.3.3 The exploration of our research model

With our research model we intended to measure the relationship between three groups of variables: antecedent variables, role perceptions of school leaders and school leader behavior. Within the group of antecedent variables, we distinguished personal characteristics of the school leader, school characteristics, and school context characteristics. Upon examining the relationship between all three groups of variables by means of a regression analysis, it was found that of the three groups of antecedents, only the
personal characteristics of the school leader predict school leader behavior as perceived by teachers. There was no effect for school or for school context characteristics. Within the group of personal characteristics, the only variable that appeared to play a role was school leader tasks. With the exception of the mentor role, no effects were found for role perceptions. Apparently, in our data, role perceptions and antecedent factors hardly play a role in the behavior of school leaders, which means that the outcomes do not support our research model. Does this mean we have to reject our research model? Are the contingency theory and the cognitive theory useless in school leadership research?

We respond to these questions with a resounding 'no'. We are convinced that school leadership needs to be examined by means of integral models, in which not only the behavior of school leaders is examined, but also his or her cognitions and the context in which he or she operates. Instead of rejecting the model, we need to look at its origin and operationalization in order to best understand our findings.

**Integral models**

In chapter one the importance of integral models in leadership research was established. Integral models are characterized by the synthesis of a chain of variables; from previous research, several authors have stressed that integral models are necessary to examine the concept of leadership (Yukl, 1981; Hallinger & Heck, 1998; Leithwood, Begley, & Cousins, 1990; Witziers et al., 2003; Krüger et al., 2007; Spillane, Halverson, & Diamond, 2004). Spillane et al. (2004) argue that ‘in order to understand leadership practice, leaders’ thinking and behavior and their situation need to be considered together, in an integrated framework’. According to Osborn (2002), leadership theory is part of a larger chain of theoretical perspectives. In our research model, we combined the behavioral, contingency and cognitive perspectives. We examined the influence of antecedent factors (contingency perspective) on role perceptions (cognitive approach) and behavior (behavioral perspective) of school leaders. Within the group of antecedents, we distinguished three
Chapter 6 – Conclusions and discussion

types of antecedents: personal characteristics of the school leader, characteristics of the school, and characteristics of the school context.

Our model therefore consists of a chain of variables as proposed by Yukl (1981), as well as being composed of several different theories (Osborn, 2002). In our model, we present the relevant variables in a clear structure; however, there is no explanation yet. One must bear in mind that a model, and not a theory, was used. While a theory can lead to understanding how certain variables influence other variables, a model generally helps to arrange the variables. Furthermore, it must be kept in mind that, for practical reasons, we measured all the variables in our model at the same time. In an ideal world, some time should elapse between data collections in order to see if one variable has actually influenced the other.

In early school leader research, the direct effect of school leaders on student outcomes was the focus of many studies; however, despite the frequency of the investigations, effects were very rarely found (Hallinger & Heck, 1998). In spite of this lack of effects, researchers were convinced that school leadership was important; the question was 'how?'. Bossert et al. (1982) was the first study to assume that the relationship between school leaders and student results is an indirect relationship. In their 1982 model, the effect of school leaders runs, as mentioned before, through school climate and instructional organization. The school leaders in their turn are influenced by personal characteristics, district characteristics, and external characteristics. Their study became leading research in the area of school leadership. Still today, scholars base their own work on elaborating on the study of Bossert et al.

One example is Hallinger, Bickman and Davis (1990), which tested the 1982 model and found validity for the connection between context characteristics and school leader behavior. Also in the 90's, Leithwood, Begley, and Cousins (1990) and Leithwood (1995) used the model of Bossert et al., adding the mental processes of school leaders as a factor that affects the behavior of school leaders. In this line, recent work by Krüger, Witziers, and Sleegers (2007) found that the vision of the school leader has a substantial impact on
his/her behavior. Krüger et al.'s findings imply that cognitive processes are important for understanding the complex chain of variables through which school leaders affect school effectiveness. As in Hallinger et al. (1990), Krüger et al. stress the importance of the contingency perspective. In all of these studies, the integral models based on the behavioral, the cognitive, and the contingency theories proved to be valuable; we are convinced that in our study it should be no different. The question then is: 'why did we not find support for a relationship between antecedent variables and role perceptions and behaviors of school leaders in the model?' To answer this question, one must look at the (operationalization of the) variables, as well as the position of these variables in our model.

Regarding the operationalization of the school leader variables in our model, a choice was made to use the Competing Values Framework. In chapter three, it was argued that the framework is a valid instrument to measure the two variables 'role perceptions' and 'behavior of school leaders' separately. Quinn (1988) does not mention a relationship between role perceptions and behavior; however, based on the fact that each leadership style or behavior can be described by two roles (section 2.4), we assume that a relationship between role perceptions and behavior exists. We therefore interpret the framework as follows: a certain role perception will lead to a certain type of behavior. Quinn does not mention this assumption, nor does he bring up anything about the direction of the relationship. Our interpretation is based on the original model of Bossert et al. (1982) that was organized with antecedent factors, such as school leaders' visions, influencing the behavior of school leaders, which in turn influences the climate and organization, which in turn influence the student outcomes. In assuming (this work) that a person's beliefs, strategies, and behaviors are in harmony (cognitive dissonance theory), it is possible that the school leader first displays a certain behavior and then adapts his/her role perceptions. This would change the order of variables in our model: antecedents would affect school leader behavior, which in turn would affect role perceptions: a causal relationship. We will discuss this option when discussing the operationalization of the variables in our model.
Chapter 6 – Conclusions and discussion

The relation between the variables in the research model

As mentioned before, hardly any effects were found for role perceptions. And yet, other researchers did find effects of cognitive processes of school leaders (Leithwood et al., 1990; Leithwood, 1995; Krüger et al., 2007). With respect to the findings concerning the influence of antecedent factors, we found only a slight effect of antecedent factors on role perceptions or school leader behavior. This too evokes numerous questions since many researchers point out that antecedent factors are important in school leadership (Neu- mann & Bensimon, 1990; Heck, 1993; Leithwood et al., 1990; Hallinger, 2003). In what way does our study differ from other studies?

It is not the case that our lack of significant findings on antecedent variables in this domain is unique; Krüger et al. (2007) found that antecedent factors play a role in the chain of variables, but they found no direct effect of antecedent factors on school leadership. In addition, they found that the effects of the school leader on school organization, school climate, or student results disappeared when antecedent factors are taken into account. It is probable that antecedents do not have an effect on school leaders, but that they DO play a role in explaining the whole chain of variables: antecedent factors affect the school leader, who affects the climate and the organization of the school, which affect the student outcomes. Taking a closer look at the literature on the effect of antecedent factors supports this assumption.

The first noticeable characteristic is that not much research has been done examining the influence of antecedent factors on school leader variables. In chapter one, we noted the remarkable absence of information concerning the effects of context variables on the mental processes of the school leader, or on his/her behavior. We noted that most research focuses on the influence of context variables on the effectiveness of schools; in this thesis however, we examined the influence of antecedents on school leadership instead of the influence of antecedents on student outcomes. We see this as a crucially different starting point. In the full project conducted by the University of Amsterdam and the University of Twente, of which this thesis is a part, the effect on student outcomes is included.
Chapter 6 – Conclusions and discussion

Secondly, many studies that examine the effect of antecedent factors on student outcomes confirm its significance. For example, school effectiveness studies indicate that SES is one of the most powerful predictors of educational attainment (Eccles et al., 1993; Haller & Portes 1973; Spenner & Featherman, 1978). Opdenakker and Van Damme (2006) likewise found that school composition and denominination have an effect on student achievement in mathematics. Lindsay (1982) and Fowler (1992) verified the effect of school size on student outcomes; Lindsay reported higher attendance rates for high school students in smaller schools, and Fowler found that better student outcomes in the elementary grades seemed to be achieved in smaller schools.

It is clear that we cannot examine the effect of school leaders on student outcomes without taking into consideration the context. Previous literature shows the important role of antecedent factors in school effectiveness, and despite the indirect nature of this effect, the role of antecedent factors is crucial in the chain of variables studying the effect of school leadership in the context of school effectiveness. The operationalization of the variables can be explanatory in the results of our study. We will discuss the operationalization of the variable ‘role perceptions’, because in our research this variable did not seem to play a role in the relationship between antecedent factors, role perceptions and school leader behavior. We will also discuss the antecedent variable ‘task selection’; this was the only variable that had an effect, but its effect was on behavior and not on role perceptions as predicted in our model. Finally, the role of the school context will be examined more into detail.

Role perceptions and vision

One of the elements in the Bossert model (1982), namely school leaders' beliefs and experiences, refers to the importance of the school leader's vision (Krüger, Witziers, & Sleegers, 2007). Several researchers emphasize the importance of school leaders' visions in school effectiveness (Bush & Glover, 2003; Witziers et al., 2003; Leithwood & Riehl, 2003). Krüger et al. (2007), for instance, developed a model in which the strategies of school leaders are influ-
Chapter 6 – Conclusions and discussion

enced by antecedent factors, including the vision of school leaders. Comparable to the model of Bossert et al. (1982), the strategies used by school leaders affect the organization, and the climate of the school, which affect the student outcomes. The conclusion was that vision plays an important role in this model. Based on the outcome of Krüger et al., we removed the vision of the school leader out of the group of antecedent factors, placing it between the antecedents and the behavior of school leaders instead. Our model assumes that antecedent factors influence the beliefs (or role perceptions) of the school leader, which in turn influence the behavior of school leaders. However, this relationship was not confirmed by our data. It is possible that by removing the role perceptions from the group of antecedents, locating them between the antecedents and the behavior of school leaders, we place too much emphasis on the role perceptions of the school leader; it is highly probable that role perceptions are just one of the many antecedent factors that affect the behavior of school leaders.

Yet another possibility is that the role perceptions of Quinn and Rohrbaugh (1983) cannot be compared with the notion of school leader vision. In order to translate the concept of vision in terms of the Competing Values Framework, we operationalized it as ‘role perceptions’. Looking back, role perceptions may not have been the most appropriate operationalization of vision. Our role perceptions do not measure the vision of school leaders. Vision on the one hand refers to the ideas of a school leader concerning the (best) organization of the school and the direction in which the school should be developed, and role perceptions on the other hand relate to the different roles a leader can perform in an organization. Based on the cognitive perspective on leadership, vision is related to know-how in terms of problem solving and decision-making (Leithwood & Steinbach, 1995; Wassink, Sleegers, & Imants, 2004), whereas role perceptions refer to characteristics of the school leader within certain leadership styles. Vision is thus an active characteristic of school leaders that creates direction for their behavior, while role perceptions are more passive characteristics of which a school leader, ideally, needs to fulfill as many as possible. An interesting
direction for future research would be to include both vision and role perceptions in the research model. Vision can be added as an antecedent variable, or more specific, a personal characteristic of the school leader. The question that remains concerns the position of the role perceptions. In this section, based on our disappointing results concerning the relationship between antecedent factors, role perceptions, and school leader behaviors, we considered two new possibilities for the position of role perceptions in our research model. First we assumed that role perceptions are influenced by the behavior of school leaders instead of the other way around, as stated in our research model, and later we supposed that role perceptions are an antecedent factor that affect the behavior of school leaders. At first sight, these two alternatives seem to contradict, but a more obvious explanation is that both options hold: role perceptions influence the behavior of school leaders, while at the same time school leader behavior affects his/her role perceptions. Role perceptions are both an independent as well as a dependent variable and therefore the relationship with school leader behavior is reciprocal. With regard to the operationalization and the position of the variables in our model, we would thus suggest to include vision as an antecedent factor, and to consider the relationship between role perceptions and school leader behavior to be reciprocal. This would alter our research model as follows:

![Figure 6.2 New Research Model](image-url)
Chapter 6 – Conclusions and discussion

School leader tasks

The outcomes regarding school leader tasks can be viewed in the same manner. Our model assumes that school leader tasks lead to certain role perceptions, which lead to certain behavior. However, our data show that certain tasks lead to certain behavior without the mediating influence of role perceptions; it is therefore possible that school leaders have certain role perceptions and a consequence thereof is that they choose a certain task. If this is the case, the role perceptions predict the tasks. On the other hand, role perceptions and tasks more or less measure the same thing, namely: matters that school leaders judge to be important. School leaders who do not have much responsibility for administration and control seem to fulfill the mentor role more often, emphasizing a concern for sensitivity and consideration, as well as valuing the development of individuals.

It is necessary to find out more about the task selection of school leaders. How do school leaders decide which tasks they want to complete themselves and which tasks they will delegate to others? Is there a deliberate choice being made, or is it more or less a matter of coincidence? We know that the profile of the school leader is addressed in the job application, and that school leaders are most likely to apply to job descriptions that match their personality and ambitions; however, it could also be the case that school leaders steer the content of their job. If school leaders only apply to jobs that fit their demands and at the same time actively select which tasks they want to carry out personally, the tasks may no longer be antecedent variables that influence the role perceptions or the behavior of school leaders. In that case, the role perceptions influence the tasks.

We conclude that the tasks a school leader is responsible for play an important role in school leadership. Our study shows that tasks influence the behavior of school leaders directly without the mediating effect of role perceptions; perhaps future studies can reconsider the location of the tasks in our model as well as finding out to what extent these coincide with role perceptions.
Conclusion

In conclusion, we think it could be interesting to reconsider the order of variables examined in our research model. While we hypothesized that role perceptions are a mediating variable between antecedent factors and school leader behavior, we hardly found any relationship between the three groups of antecedents, the role perceptions, and school leader behavior. Yet, previous research indicates an influence of role perceptions on school leader behavior and when examining the relationship between role perceptions and school leader behavior (the variables from the Competing Values Framework) without taking into consideration the influence of antecedent variables, we also found significant correlations between the two variables; perhaps the relationship between role perceptions and school leader behavior is reciprocal.

With regard to our research model and the Competing Values Framework, we can conclude that both models proved to be of value, except perhaps not in combination with each other. Our research model, based on the Bossert et al. model, fulfilled our need to study the chain of variables that play a role in school leadership, whereas the Competing Values Framework served as an instrument to fill in the variables of the Bossert model: the framework was apt to measure both our school leader variables. Using the Competing Values Framework we found no effect of context variables on school leader variables, which we hypothesize to be caused by our choice to consider role perceptions as mediating factors instead of having a reciprocal relationship with school leader behavior and/or to the homogeneous contexts of the havo-schools. We did find a relationship between the two school leader variables using the Competing Values Framework. With a few exceptions, role perceptions belonging to one of the four organizational models, predicted school leader behavior in that model. The advantage of this specific general management framework over other models used in educational leadership research, is its broad perspective. Educational leadership models only examine internal aspects of school leadership (section 6.2), whereas the Competing Values Framework also takes into consideration external aspects of school leadership,
Chapter 6 – Conclusions and discussion

thus paying attention to a fuller range of facets in the job of school leaders. The chain of variables in the Bossert model (1982) remains important to keep in mind all aspects that (indirectly) contribute to the effectiveness of the school.

6.4 Suggestions for further research

Based on the results of our study, several suggestions for further research can be made. The recommendations have already been interwoven into the three discussion sections above; in this section they are presented separately for the sake of clarity.

Multiple methods

Firstly, suggestions concerning the methods and instruments used to examine school leadership in this thesis can be made. Our work utilized school leader and teacher questionnaires to measure school leader behavior, presenting similar questionnaires to the school leader and to the teachers in his or her school. Different findings in each of the two groups, as well as a low amount of school-level variance in the teacher questionnaires made us reconsider the aptness of questionnaire research for measuring school leader behavior. The fact that teachers' and school leaders' scores on the same questions do not correlate leads us to wonder which of the two questionnaires is the most valid measure of school leader behavior. Teachers may not be able to see all the behavior of school leaders, and school leaders may overestimate their own behavior; in addition, the response from both the teachers and the school leaders is subjective. Finally, the low school-level variance indicated that teachers in one school have differing perceptions about their school leader. We therefore conclude that our teacher questionnaires do not measure school leader behavior, but the teacher's perception of school leader behavior. In section 6.3.1 we emphasized that we still consider teacher questionnaires to be valuable tools because they reveal the extent to which school leaders are transparent in their behaviors. In addition, teacher perceptions (partly) determine their attitude towards their school leaders, which is worthwhile information to collect. However, we suggest using more objective measures.
to examine the actual behavior of school leaders; teacher questions cannot be considered objective measures.

We also proposed the use of triangulation in section 6.3.1. For future research, we suggest not only continued usage of questionnaires, but also the addition of observations, logs and interviews as measurements. In line with the method employed by Bossert et al. (1982), we recommend observing the behavior of school leaders by means of shadowing or by the usage of video cameras. These data collection methods would produce more objective data on the behavior of school leaders; however, it would not provide data on their cognitions. In order to find out the intentions behind the actions, and to discover the motivating purpose behind their behavior, school leaders need to be confronted with their behavior in order to hear from the school leader what reasons were behind displaying that particular behavior. Combining these methods fits into the tradition of the behavioral and the cognitive perspectives; additionally, it provides more valid measures of school leader behavior.

**Operationalization of school leader behavior**

In the previous section we indicated the relevance of a general management framework over other models used in educational leadership research. Educational leadership models only examine internal aspects of school leadership (section 6.2), whereas the Competing Values Framework also takes into consideration external aspects of school leadership, thus paying attention to a fuller range of facets in the job of school leaders. In this study we tried to fit the items from the Principals' Instructional Orientation instrument by Krüger (1994) into the Competing Values Framework. However, Krügers' instrument was constructed from an educational leadership perspective, which could indicate a strong focus on internal aspects of school leadership at the cost of the external aspects of school leader behavior. In future research, we recommend to reconsider the operationalization of school leader behavior: the items concerning school leader behavior should be completed with more items on the external dimension. The chain of
variables remains important to keep in mind all aspects that (indirectly) contribute to the effectiveness of the school.

**Coping with complexity: effectiveness**

The next suggestions are the result of our usage of the Competing Values Framework (which assumes that behavioral complexity is a requisite for effectiveness). We mapped the behavior of school leaders in the Netherlands onto the four types of behavior distinguished in the framework, but lacking an appropriate effectiveness measure, such as student outcomes or teacher satisfaction, we could not relate these data to the effectiveness of the school leaders. One of the first questions that comes to mind when looking at the results of this study is: 'how can we interpret these outcomes in terms of the effectiveness of the school leaders?'. We therefore suggest further research which includes measures of effectiveness. A good assessment of school leader effectiveness is the survey measure of Denison et al. (1995), which uses the judgment of superiors. An advantage of this measure is that judgment by superiors closely resembles the natural situation (for example an annual review), in which school leaders are judged by their supervisors.

**Variation in contexts**

Another relevant question as an artifact of using the Competing Values Framework concerns the role of the school's context in our findings. Throughout this thesis we have stressed the importance of context in school leadership research and have given it a prominent place in our research model. At the same time, we bring to the reader's attention the lack of consideration that is given to it by Quinn and Rohraubh (1983) in the Competing Values Framework. This is striking, because the context of an organization is important in their line of reasoning: they state that leaders face competing demands from the environment and that behavioral complexity is crucial to meeting these competing demands. Despite the importance of behavioral complexity, leaders need not display all types of behavior at the same time; instead, the right behavior should emerge at the right time. This thesis studies school leadership in a context of decentralization and in our discussion we at-
Chapter 6 – Conclusions and discussion

Contribute some of our findings to the context of decentralization and reform in which schools have been operating for many years (Commission Dijsselbloem, 2008) and in which our data was collected. It evoked innovative and goal-oriented behavior among school leaders. We argue that the one-sided focus of school leaders on rational goal and open system behavior was caused by two factors: the increased accountability resulting from decentralization, and the significant amount of innovation that has been imposed on schools. We maintain that rational goal and open system behavior are necessary behaviors for dealing with the requirements of this environment. To test this, conducting the same study in other countries such as France or Germany, where decentralization and imposed innovation have not played a large role recently, could provide more information about whether or not school leaders that do not have to deal with these two contexts, also display the same behavior. Comparing the scores of French and German school leaders with the scores of Dutch school leaders, could increase our understanding of how and to what extent external demands affect school leaders’ behavior.

Denison, Hooijberg and Quinn (1995) propose differentiating between paradoxical conditions in the organizational environment and then studying the behavioral complexity these conditions provoke among effective leaders. Our suggestion is to reveal the contradictory situations in the school’s context by interviewing school leaders, and then observe the resulting behavior and the effectiveness of this behavior.

Role perceptions and vision

In line with the cognitive theory, we assume that the beliefs of school leaders influence their behavior. These beliefs are operationalized by means of the role perceptions of Quinn and Rohrbaugh (1983). While other authors found evidence for the cognitive theory (Leithwood, 1995; Krug, 1989, 1992; Witziers, Bosker, & Krüger, 2003), hardly any relationship of this sort was found in our data. We subscribed this to our operationalization of beliefs in terms of role perceptions (section 6.3.3.) instead of in terms of vi-
Chapter 6 – Conclusions and discussion

In looking at the research conducted from this perspective, one can discern a central role for the vision of the school leader. The beliefs of school leaders about running their schools should be operationalized by means of the construct of vision; we therefore suggest including, in addition to role perceptions, the vision of the school leader. Both vision and role perceptions can then be considered personal characteristics of the school leader and thus antecedent factors.

**Task selection process**

A final recommendation is that of examining if and how school leaders select the tasks they are responsible for themselves, and which tasks they delegate to others. We found evidence that school leader tasks are important predictors of their behavior and suspect that this is due to the fact that school leaders choose their own tasks. In this view, school leader tasks are not antecedent factors, but a reflection of school leaders’ beliefs.

In addition to task selection mechanisms, the job selection process can be studied as well; school leaders are most likely to apply to jobs that match their personality and their beliefs about good schools.

**Conclusion**

This study provides insight into the role perceptions and behavior of school leaders, as well as into the relationship between antecedent factors, role perceptions, and school leader behavior. This study also raises new interesting questions. School leadership research has frequently made use of questionnaires as a means of examining the behavior of school leaders; our data indicates that one should critically question the validity of questionnaire research in the field. The many disadvantages we found in using teacher and school leader questionnaires to measure school leader behavior have been elaborated on; in addition, we have made a suggestion to also use more objective measures, such as observation or camera registrations. Triangulation is crucial in this; different methods can be used to uncover different aspects of school leadership. While teacher questionnaires are useful in establishing the perceived be-
behavior of school leaders, observations provide more objective data on school leader behavior. Lastly, school leader interviews may help to reveal the intentions behind the behaviors observed and uncover what the school leader in fact aimed to attain with his or her behavior. As for the context of the school, conducting this study in other countries would help one to better discern the specific behavior that is needed in specific contexts.

6.5 Implication for the practice of school leaders

The results of this thesis have implications for the daily practice of school leaders, and they can also be used to improve school leadership development programs.

Daily practice

We conclude that, as a result of decentralization, school leaders display some types of behaviors more than others. School leaders have a narrow focus on one or two types of behavior: we found relatively few internal process behavior. It would be advantageous for these leaders, to perform internal process behavior as well, thus showing more behavioral complexity.

Earlier in the thesis, we pointed out that school leaders in schools that are part of a larger school system perceive less effects of decentralization. The major decisions are made at the top of the organization; this 'umbrella' organization can play a large role in the quality of managers. If the larger organization takes care of government-imposed policies, the school leaders at the individual schools have more time to spend on the daily workings of their own school. Christopher Day (2000) refers to this urgency as ‘buffering’; according to him, managers need to keep bureaucratic processes out of the school and start thinking about the quality of education. It is the responsibility of the manager to decide which characteristics of the context are to be considered in the school and then go back to the primary processes in the school.

Leadership training

The Competing Values Framework has been used in many leadership trainings. The results of our study show that this general
management framework is also applicable in educational settings. Based on the findings in this thesis, we have some suggestions of how the framework could be used in the training of school leaders. A valuable asset of the Competing Values Framework is the insight it provides in the practice of school leaders. When collecting our data, we found that most school leaders enjoyed thinking and talking about their jobs. Completing questionnaires concerning role perceptions and behavior help school leaders to learn more about themselves and their focus in the school.

Firstly, we suggest a combined use of the instruments regarding the role perceptions and behaviors in the training. We recommend to start questioning the school leaders on their actual behavior and then have them complete the questionnaire on role perceptions. Starting with the role perceptions may evoke school leaders to answer the questions on their behavior differently, and perhaps more in line with their role perceptions. When aware of the roles they consider important, they may want to fill in the questions regarding their behavior in accordance with those roles. It is more interesting for school leaders to get insight in their own behavior first, then learn about their thoughts and beliefs (the role perceptions) and finally link the results of the two tests.

A next step would be to check whether the behavior of school leaders, as reported by the school leaders themselves, is perceived by their teachers as well. Similar to the procedure used in this study, this can be done by having the teachers complete the questionnaire regarding the behavior of their school leader. The results from this exercise will provide the school leaders with information on two important issues: teachers’ perceptions of the daily activities of the school leader and the extent to which there is a sense of unity amongst the team of teachers. If the answers of the teachers show much variation, this could be due to the fact that the teachers are not a team, but more a group of individuals. With this knowledge, school leaders can improve the cohesion in their team by organizing team building activities. The teachers’ perceptions of the school leader behavior will show the school leader whether his/her behavior comes through. In our
study we found that, sometimes, teachers reported different behavior than their school leaders and that not all school leader behavior was reported to the same extent: if school leaders reported a certain behavior to a large extent, teachers stated that the same behavior was only displayed to a small extent. This can either indicate that teachers do not have a good view of the job of their school leader, or that they have certain needs that are not acknowledged by the school leader. For instance, we found that teachers hardly report any human relations behavior, while school leaders themselves state that they do display this type of behavior. We subscribed this discrepancy to the fact that teachers possibly attach greater importance to behavior that is aimed at participation, cohesion and human resource development than school leaders recognize. All discrepancies found in the teacher and school leader questionnaires are a good starting point for dialogue and further investigation.

The final implication of this thesis for the practice of school leaders, concerns the influence of the context of schools. In practice, we found that many school leaders complain about the restricting influences of factors in- and outside the school. School leaders feel restricted by the type of students in their schools, by laws, and by many other factors. They perceive the context of the school as a fixed situation that they have to deal with. However, our results show that, in fact, context factors do not have much influence on the behavior of school leaders. This knowledge may help school leaders to overcome their passive attitude towards context factors and actively use the context of their schools to their advantage. Instead of submissively respond to the environment, school leaders could anticipate to (changes in) context factors and fit them into their vision for the ideal school. By doing this, school leaders can make a difference.