
# AN EXPLORATIVE STUDY ON THE CONNECTION BETWEEN ETHICAL LEADERSHIP, PROTOTYPICALITY AND ORGANIZATIONAL MISBEHAVIOR IN A DUTCH FIRE SERVICE

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In this article, we examine the relationship between ethical leadership and organizational misbehavior in a Dutch fire service and the extent to which prototypicality mediates this relationship. It is found that ethical leadership of battalion chiefs is statistically negatively related to the occurrence of self-reported disobedience of 61 crew commanders. Being a group prototype or not seems to fully explain this effect, as we found a full mediation effect. In addition, we found no statistically significant connection between the three components of ethical leadership, role modeling, rewards and discipline, and communicating about ethics and values, and the self-reported organizational misbehavior. Consequently, the question arises whether leaders who are viewed as "ethical" leaders simply have more influence on the unethical behavior of subordinates due to their leadership or that their norms and values just more closely fit to the professional norms and values of subordinates.

In every organization there is some degree of organizational misbehavior. Organizational misbehavior can be defined as *"any intentional action by members of organizations that violates core organizational and/or societal norms"* and can be divided into instrumental processes (i.e.

*International Journal of Leadership Studies*, Vol. 8 Iss. 2, 2014

ISSN 1554-3145

misbehavior motivated by self-interest consideration) and normative processes (i.e. misbehavior due to identification with and devotion to what is seen as the organization) (Vardi & Wiener, 1996, p. 151).

Fire services are often considered in the literature as one of the few organizations which (can) operate successfully in a hierarchical command and control system, especially in emergency situations (e.g. Wenger et al., 1990), as it is commonly suggested that fire services have a strong culture which puts an emphasis on ranks, respect for authority, and command functions. It could therefore be expected that the degree of organizational misbehavior of fire service personnel during emergency situations is low. However, our research, which has been conducted in the Amsterdam Amstelland Fire Service, concludes the opposite. The few cases provided above give an impression as to why.

A scientific and practically relevant problem is the question as to how organizational misbehavior can be minimized. Much scholarly attention has been devoted to the forces that drive organizational members to engage in organizational misbehavior (Vardi & Wiener, 1996). However, our empirical knowledge about how to overcome organizational misbehavior is still limited (Brown et al. 2005; Brown & Trevino, 2006). In this article we therefore empirically examine the influence of ethical leadership as a positive force in relation to organizational misbehavior in the Amsterdam-Amstelland Fire Services, the largest professional fire service in the Netherlands. In the literature, ethical leadership is proposed to have direct positive effects on ethically appropriate conduct of organizational members and hence is supposed to be negatively associated with organizational misbehavior (Brown et al., 2005; Trevino et al., 2000; 2003; De Hoogh & Den Hartog, 2008; 2009; Kalshoven & Den Hartog, 2009). However, previous research on the effects of ethical leadership on organizational misbehavior shows conflicting results. While some research shows a positive relationship between ethical leadership and constructive work behavior (e.g. Brown et al., 2005; De Hoogh & Den Hartog, 2009; Mayer et al., 2009), other studies demonstrate that ethical leadership did not affect organizational misbehavior (Dineen et al., 2006; Detert et al., 2007). This means that more research is needed to better understand when and to what extent ethical leadership influences the extent of organizational misbehavior.

For that reason, we will look at the extent to which ethical leadership, as demonstrated by battalion chiefs (the fire department officer in charge at the site of an incident, who is supposed to coordinate multiple fire engines), influences organizational misbehavior of crew commanders (the commander of a fire engine is in charge of a team of 5 or 6 firefighters) and firefighters in emergency situations.

In addition, by drawing on the work of Kalshoven and Den Hartog (2009), we will examine the extent to which prototypicality mediates the relationship between ethical leadership and organizational misbehavior. Prototypical leaders possess characteristics that are typical of the group and which are shared by members of the group and thus reflect the group prototype (Van Knippenberg & Hogg, 2003; Van Knippenberg et al. 2004). As some studies have suggested, group prototypical leaders receive greater support from their men in comparison with non-prototypical leaders (Platow & Van Knippenberg, 2001) and communication from prototypical leaders has greater persuasive power (Van Knippenberg et al., 2000). Our working hypothesis will be that the effect of ethical leadership on limiting organizational misbehavior is enforced when the leader (i.e. the battalion chief) is seen as prototype of the group (i.e. crew commanders and his or her team). This hypothesis is based on preliminary interviews with 9 (of the 23) battalion chiefs, in which they claimed that they had more influence on crew



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commanders and their teams than their colleagues, because they frequently engaged in social activities with the team (for example: practicing sports together, frequently visiting fire stations and completing training activities as a group). Consequently they believed they were seen more as members of the group. This possible relationship between ethical leadership, prototypicality and organizational misbehavior has, as far as we have been able to determine, not been previously studied.

In this article we will first present a short theoretical overview of the concept of ethical leadership and its components: role modeling through visible action, the use of rewards and discipline and communication about ethics and values. We will then relate organizational misbehavior and ethical leadership, prototypicality and ethical leadership and ethical leadership, prototypicality and organizational misbehavior to formulate our hypotheses on these relationships. Subsequently we will present our methodology and our results. In conclusion, we will discuss these results and our view on the relationship between ethical leadership, prototypicality and organizational misbehavior.

## Ethical Leadership and Its Three Components

Ethical leadership is defined by Brown, Treviño and Harrison (2005) as *"the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through reinforcement, two-way communication, and decision-makin"* (p. 120). In the literature on ethical leadership, a distinction is made between being a moral person and a moral manager (e.g. Treviño et al., 2000). Being a moral person is a substantive basis of ethical leadership and implies that people think of you as having certain traits (e.g. being trustworthy, honest, etc.), engaging in certain kind of behavior and making decisions guided by ethical principles (Treviño et al., 2000). Being a moral manager is about drawing attention to ethical norms and values in the organization and attempting to foster followers' moral behavior by setting standards and expectation for moral conduct (Van den Akker et al., 2009). As we are interested in ways to minimize organizational misbehavior, we focus in this paper on moral management. Being a moral manager encompasses three key components: role modeling through visible action, the use of rewards and discipline, and communication about ethics and values (Treviño et al., 2000, p.131; Van den Akker et al., 2009). We refer to these as the components of ethical leadership or moral management.

### Role Modeling through Visible Action

Moral managers actively demonstrate normatively appropriate behavior, and are consequently seen as legitimate and credible role models (Brown et al., 2005; Brown & Treviño, 2006). Role-modeling behavior is supported by the "social learning theory." The social learning theory suggests that individuals learn to pay attention to the attitude, behavior and values of believable role models, as well as, to reproduce these types of behavior (Brown & Treviño, 2006, p. 598; Brown et al., 2005, p. 119; Weaver et al., 2005, p. 314). Based on this theory, Brown and Treviño (2006) suggest that most individuals need others for ethical guidance. Their argument is similar to Weaver et al (2005), who argue that employees are strongly influenced by those individuals who are closest to them. Employees who work for an ethical leader are most inclined to imitate the behavior of their leader by showing ethical behavior themselves (Kaptein et al., 2005, p. 305; Treviño et al., 2000, p. 136; Treviño et al., 2003, p. 6).



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### Use of Rewards and Discipline

Moral managers use a system of rewards (involving rewards and punishments) to hold followers accountable for ethical behavior (Treviño et al., 2000, 2003; Lasthuizen, 2008). Ethical leaders set the standards for ethical behavior and control their adherence (Treviño et al., 2003, p. 18; Weaver et al,. 2005, p. 328). This mechanism is based on the reinforcement theory by Skinner (1953) and entails that people act, because they anticipate certain consequences. According to the reinforcement theory followers keep track of the people who get punished and the people who get rewarded in an organization (Arvey & Jones, 1985; Kanfer, 1990). That is why moral behavior should be publically rewarded. Otherwise followers do not know that ethical norms should be adhered to. Of course, this functions the other way around as well. When immoral behavior is left unpunished, followers will assume such behavior is tolerated (Weaver et al., 2005, p. 328).

### Communication About Ethics and Values

Moral managers should be unambiguous in their communication about ethics and values. Clear and frequent communication about ethics and values is therefore recommended, as well as relating ethics to ordinary business processes and being as open as possible about these processes (Treviño et al., 2000; Brown et al., 2005; Treviño et al., 2003; Van den Akker et al., 2009). Moral managers should not only focus on articulating ethics, but should be able to "receive" information as well. Employees must feel safe to discuss ethical dilemmas and other problems they encounter in the workplace (Lasthuizen, 2008; Weaver et al., 2005). Employees should, for example, be stimulated by management to report bad news, without being reprimanded (Van Dyck et al., 2005).

Following the preceding paragraphs, it can be concluded that a moral manager is a role model, hands out rewards and punishment for good and bad behavior and communicates effectively about ethics and norms. In this study, we include the one-dimensional ethical leadership measure developed by Brown et al. (2005) as well as the three ethical leader components as measured by Treviño et al. (2000, p. 131) and Van den Akker et al. (2009). Thus, we measure role modeling, use of rewards and discipline, and communication about ethics and values (which, when taken together, could also be regarded as an ethical leadership scale) *in addition* to the one-dimensional ethical leadership scale, since we would like to know the extent to which the different components are related to organizational misbehavior and hence what component of ethical leadership matters most.

## Organizational Misbehavior and Ethical Leadership

Organizational misbehavior consists of acts which hurt an organization and its stakeholders (i.e. customers, colleagues, suppliers and managers) or diverge from the norms and values which are stipulated by an organization or society in general (Ter Maat & Aarsten, 2005). This behavior can be visible, such as aggression or theft, but can also be more difficult to distinguish, such as not following specific instructions or doing work incorrectly. Organizational misbehavior can consequently be divided in passive and active organizational misbehavior behavior and can be directed towards an organization, as well as individual colleagues (Semmer



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et al., 2010, Berry, Ones & Sackett, 2007; Robinson & Bennet, 1995; Robinson & Bennet, 2000). Examples are, respectively, gossiping about colleagues and taking long breaks from work (Dalal, 2005). Jones (2009) notes that organizational misbehavior can also be exclusively directed towards management.

Much of the research on organizational misbehavior is centered on finding the cause of organizational misbehavior, without addressing the question as to how it can be reduced. Also there has been little research on the relationship between ethical leadership and organizational misbehavior. There are a few exceptions. Detert, Treviño, Burris en Andiappen (2007) found no significant relationship between ethical leadership and unethical behavior. Other research shows (e.g. Brown et al., 2005; De Hoogh & Den Hartog, 2009; Kalshoven et al., 2011; Mayer et al., 2009) that ethical leadership has a positive relationship with positive work behavior. This implies that ethical leadership stimulates positive work behavior and that ethical leadership reduces organizational misbehavior. This is confirmed by Mayer et al. (2009). Their study suggests that ethical leadership is associated with a reduction of organizational misbehavior and a stimulation of positive behavior. Other research suggests that fair treatment of employees (Greenberg, 1990) and social charismatic leadership (Brown, et al., 2006) decreases organizational misbehavior. In accordance with the literature, we therefore put forward the following hypothesis:

> H 1a: Ethical leadership has an overall negative relationship with organizational misbehavior.

It can be deduced from the social learning theory that independent leadership traits, such as being a role model, having a system of rewards and punishment and communication about ethics and norms, influences organizational misbehavior. Employees identify themselves with ethical leaders, and even admire them, and try to reach the same level of ethical behavior (Brown & Treviño 2006, p. 607; Weaver et al., 2005, p. 314). It can also be deduced that rewards and punishment are one of the ways in which employees learn what acceptable behavior is (Bandura, 1977; Bandura 1986). Moreover this can be learned by witnessing ethical behavior or by hearing what possible consequences of unethical behavior are. It can be argued from Skinner's reinforcement theory (Skinner, 1953) that employees exhibit more ethical behavior and less organizational misbehavior when ethical behavior is rewarded and unethical behavior is punished. Recent research by Jones (2009) suggests that organizational misbehavior can be reduced when managers treat their employees with respect and dignity and explain why certain decisions were made. The corresponding aspect is communication on ethical leadership about ethics and norms. The literature leads us to the following hypotheses:

> H 1b, 1c, 1d: The ethical leadership components role modeling through visible action (1b), the use of rewards and discipline (1c) and communication about ethics and values (1d) have a negative relationship with organizational misbehavior.

## Prototypicality and Ethical Leadership

The prototype is used in expressing identity information and describes and prescribes what appropriate behavior is applicable for group membership in a certain context (Giessner & Van Knippenberg, 2008). The prototype reflects the social identity and is a reference point for people who identify with a specific group. Prototypical group members show preferred behavior.



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Prototypicality can be understood from social identity theory (Tajfel & Turner, 1986). According to this theory the identity of a person is dichotomous. One part is shaped by a personal identity, which means that people have a free will. The other part consists of the social identity of an individual which comes from the knowledge that people are part of social groups and is shaped by the values and emotions which are part of this group membership (Syroit, Van Dijke & Völink, 2005). The more people identify themselves with a specific group (i.e. describe themselves in terms of a group identity), the more group membership shapes attitudes, conviction and behavior.

Kalshoven & Den Hartog (2009) are, as far as we know, the only scholars who studied the relationship between ethical leadership and prototypicality. Their research shows that prototypicality influences the relationship between ethical leadership and the perceived effectiveness of a leader indirectly. Ethical leaders are shown to be the ideal representatives of a group. This seems to suggest that ethical leaders are seen as more group prototypical. The following hypothesis can be derived from the work of Kalshoven & Den Hartog (2009):

H 2a: Overall ethical leadership has a positive relationship with prototypicality.

As mentioned before, we not only look at overall leadership, but at the three components of moral managers as well. According to Hogg (2001; see also Kalshoven & Den Hartog, 2009), prototypical leaders exemplify and amplify normative behavior. This relates closely to role modeling through visible action, using rewards and discipline and communicating about ethics and values. Based on this, we could formulate the following hypotheses:

H 2b, 2c, 2d: The ethical leadership components role modeling through visible action (2b), the use of rewards and discipline (2c) communication about ethics and values (2d) are positively related to prototypicality.

## Ethical Leadership, Prototypicality and Organizational Misbehavior

Ethical leadership is associated with a decrease in organizational misbehavior, because employees identify themselves with ethical leaders, admire ethical leaders, try to reach the same level of ethical behavior and see an ethical leader as a role model for ethical behavior. (Brown & Treviño 2006, p. 607; Weaver et al., 2005, p. 314). Prototypicality is also partly associated with a decrease in organizational misbehavior, because prototypical leaders can influence the behavior of subordinates and employees identify themselves with the prototype, just like with ethical leadership.

The more a leader corresponds with a prototype, the more he or she represents group standards, norms and values (Hogg, 2001). Consequently, a prototypical leader is more effective in mobilizing and influencing followers than leaders who are not seen as prototypical (Hains, Hogg & Duck, 1997; Hogg, Hains & Mason, 1998; Van Knippenberg, Lossie & Wilke, 1994). This implies that prototypical leaders can influence organizational misbehavior of group members in a positive and negative manner. The expectation is therefore that overall ethical leadership and the ethical leadership components, as viewed by followers, influence organizational misbehavior. The literature suggests partial mediation, as it is stated that besides prototypicality other mechanisms also influence the relationship between ethical leadership and organizational misbehavior. (For instance: the personal relationship between leader and follower



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outside the work environment, the degree to which crew commanders and battalion chiefs have interacted, etc. (cf. Van Kalshoven & Den Hartog, 2009)). Based on prior research, we can formulate the following hypotheses:

> H 3a, 3b, 3c, 3d: Prototypicality has a partial mediating influence on the relationship between ethical leadership (3a) and the ethical leadership components (role modeling through visible action (3b), the use of rewards and discipline (3c) and communication about ethics and values (3d) and organizational misbehavior.

Figure 1. Conceptual model 1a.

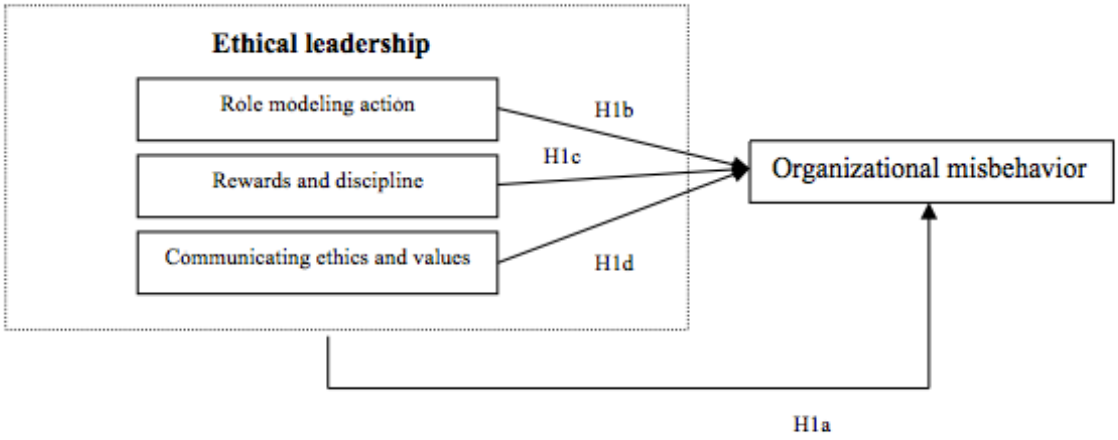
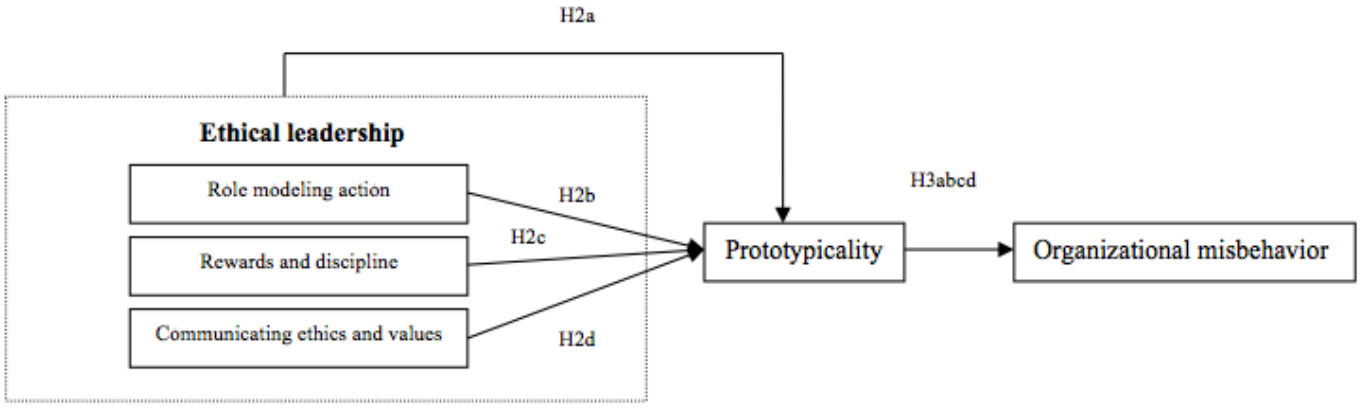



Figure 2. Conceptual model 1b.



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## Methodology

### Participants

As Brown (2007, p. 142) suggests, ethical leadership can best be understood by studying those people who are being leaded. We therefore asked all 97 professional crew commanders of the Amsterdam-Amstelland Fire Service to fill out a questionnaire. Crew commanders work irregular 24 hour shifts and can be hard to get a hold of (because they cannot leave their station). To get the response rate as high as possible, the questionnaires were distributed during crew commander "theme meetings" held each year in May and October. During these meetings our research goal was presented and afterwards the questionnaires were handed out. A total of 61 crew commanders filled out the complete questionnaire (a 63% response rate). The crew commanders had to fill out the questionnaire immediately, since we knew from prior experience in fire services that crew commanders are hard to motivate to participate in survey research.

The questionnaire consists of 43 questions and has been tested beforehand (see below). When filling out the questionnaire the crew commanders were asked to keep the last battalion chief they"ve worked with (during an incident) in mind.

### Scale

We have measured *ethical leadership* by using Brown et al.'s (2005) Ethical Leadership Scale (ELS) (p. 125). The ELS consists of ten items which are ranked on a 7 point Likert Scale, where 1 stands for "Strongly Disagree" and 7 for "Strongly Agree." By comparing the results of the crew commanders an ethical leadership average of the battalion chiefs was calculated.

The questionnaire was pre-tested in order to know whether the questionnaire was understandable for the participants. The result of the pre-test was that certain items were not apparent to the respondents. On every question "leader" has therefore been changed in battalion chief. For example in: "The battalion chief listens to what employees have to say." All questions have been revised according to this setup. In addition it was not understood what was meant by "the battalion chief sets an example of how to do things the right way in terms of ethics." To clarify we added an example, and revised it as follows: "the battalion chief sets an example of how to do things the right way in terms of ethics, for example by abiding to the safety rule strictly." Also "ethical" in the item "conducts his/her personal life in an ethical manner" has been explained, following the theory, by using sincerity, reasonability and caring as examples. "Ethical standards" in the item "disciplines employees who violate ethical standards" are explained by giving examples of security protocols, the correct usage of material or the limits of the response area. In the item "discusses business ethics or values with employees" examples are provided of business ethics and values, such as the fact that the cars of the fire service may not be used for personal reasons or beards are not allowed. At the request of the Amsterdam Amstelland Fire Service three items were added: (1) The battalion chief can change/withdraw orders based on the arguments of his/her co-workers; (2) The battalion chief defines success as a collaborative act, and (3) The battalion chief can be both critical and vulnerable.

The internal consistency between the 13 items was very high ($\alpha$ .924). Therefore, all 13 items are taken together into the overall ethical leadership scale.



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*Role-modeling behavior, the use of rewards and discipline and the communication about ethics and values* are measured by using Akker et al.'s (2009) scale. Akker et al. measure the moral manager aspect (see Trevino et al., 2000) based on six statements and three answer categories. Each of these corresponds to an ethical leadership element. The respondents assign priority to the ethical behavior they would like to see and fill out the behavior they actually see. In our study we ask what the observed ethical behavior is. The six statements are not measured according to a Likert Scale, as are the other questions. The variables are nominal and cannot be used in a regression analysis with the other variables. To make this possible each statement is transformed in a dichotomous variable, which means that we have made two answer categories out of initial three. In Van den Akker et al.'s (2009) questions the word "moral" is used. In our pre-test it was found that the content of "moral" was not clear to the respondents. Because of this in our questionnaire "moral" and "ethical" are, in accordance with Brown et al (2005), translated in "sincere," "reasonable" and "caring."

*Prototypicality* is measured by using the Van Knippenberg and Van Knippenberg (2005) scale. The answer scale is a 5-point Likert-scale in which 1 corresponds to "disagree" and 5 to "agree." In our pre-test it came up that the word "group values" in the questions on prototypicality was not clear either. This item has been changed in "the Battalion Chief embodies our group values. This means that he acts in a way me and my group finds appropriate." The internal consistency between the items was very high (α .925). Therefore, all six items are taken together into the overall scale prototypicality.

*Organizational misbehavior* is measured best by observing it in real life, for instance by the use of a helmet mounted camera. In this study organizational misbehavior is measured by asking questions to employees (hence employee self-report), which is an accepted and widely used method in literature for measuring organizational misbehavior (e.g., Aquino et al., 1999; Fox et al., 2001; Robinson & Bennett, 2000; Fox et al., 1999). Organizational misbehavior is measured by using the Organizational Deviance Scale by Robinson and Bennet (1995; 2000). As we were interested in a specific form of organizational misbehavior, i.e. disobedience in operational settings, we added five items: (1) Do you start negative rumors on the Amsterdam-Amstelland Fire Service? (2) Have you ever endangered yourself or colleagues by not following order from the Battalion Chief? (3) How many times have you entered a burning building against the orders of a Battalion Chief? (4) How many times did have you acted as if you haven't heard an order from the Battalion Chief? (5) How many times did you present a fire smaller than it actually was, so a Battalion Chief was not called for?
Answers can be provided according to a seven-point Likert-scale, where 1 corresponds to "never" and 7 to "always." In our questions "boss" is replaced by Battalion Chief, and organization has been supplemented with Amsterdam Amstelland Fire Service. Also "at the site of an incident" is added, for example, to the item "employee talking with co-worker instead of working."

The internal consistency between the items was acceptable (α .7654). Therefore, all 16 items are taken together into the overall scale organizational misbehavior.

At the request of the Amsterdam-Amstelland Fire Service two questions were added to the questionnaire: (1) Are you reprimanded by a Battalion Chief when you scaled up an incident not according to the rules?; (2) Do you think it's a good idea for Battalion Chiefs to reprimand Crew Commanders when rules are broken?



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## Results

### Descriptive Results

As already noted, 61 of the 97 Crew Commanders filled out the questionnaire, a response rate of 63%. All of the respondents were male. At the moment there were no female Crew Commanders working at the Amsterdam-Amstelland Fire Service. On average the respondents have worked for the fire service for 26.5 years (starting as firefighter, "climbing through the ranks" to crew commander) and have a MBO (vocational) education.

The average, the mode and the standard deviation of the variables "ethical leadership," "prototypicality" and "organizational misbehavior" are presented in the table below.

Table 1. Descriptive Statistics.

| | *M* | Mode | *SD* | 1 | 2 |
|---|---|---|---|---|---|
| Ethical Leadership | 4.80 | 4.08 | 1.00 | | |
| Prototypicality | 2.82 | 2.00 | .86 | ,760** | |
| Organizational Misbehavior | 1.91 | 1,40[a] | .64 | -,385** | -,390** |

*Note*: **$p < .01$.

The results demonstrate that battalion chiefs, in the perception of the crew commanders, show a low level of ethical leadership and are generally not regarded as group prototypes. According to their self-reports, crew commanders rarely engage in organizational misbehavior, although respondents to some extent admit to disobeying orders from battalion chiefs. In appendix A we enclosed the scores of the different items of the Ethical Leadership Scale, prototypicality and organizational misbehavior.

### Role Model Behavior

On the first statement, "My Battalion Chief displays ethical consistency in that…," 53.4% of our respondents (n=58) answered that their Battalion Chief at least "talks the walk," 24.1% said their Battalion Chief "walks the talk" and 22.4% says that their Battalion Chief "always walks the talk and talks the walk." On the second statement, "My Battalion Chief routinely demonstrates his/her moral values to me," 56.6% of the respondents (n=46) said that this is only the case in professional situations, 34.8% said that this happens in both private and professional situations, and 8.6% said this only the case in private situations. It should be noted that most Crew Commanders acknowledged to not having seen their Battalion Chief in private situations.

### System of Reward and Punishment

On the first statement, "My manager secures the ethical behavior of employees by emphasizing…," 45.1% of our respondents (n=51) said that their Battalion Chief punishes deviance from organizational values, principles and standards, 15.7% said their Battalion Chief



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rewards conformity to organizational values, principles and standards and 39.2% said their Battalion Chief rewards conformity and punishes deviance. On the second statement, "My manager is exemplary in defining success in that he or she…," 49.1 % of the respondents (n=53) said that their Battalion Chief defines success not only by results, but in also in the way these were achieved, 28.3% said that their Battalion Chief defines success by results, but does not allow unethical or illegal conduct in obtaining them and 22.6% of the respondents said their Battalion Chief defines success by results, regardless of how these are achieved.

**Communication on Ethics and Norms**

On the first statement, "My Battalion Chief transmits organizational values, principles and standards to me…," 51.9% of the respondents (n=54) said that his happened in a spirit of commitment through coaching, 40.7% said this happened in a spirit of compliance, by telling the way it should be done and 7.4 said that his happened in a spirit of self governance, through intense dialogue. On the second statement, "My Battalion Chief would consider me most exemplary if I was willing to…," 52.8% (m=53) said they needed to report unethical behavior to him or her when I experience it in my work environment, 41.5% said they needed to stand up to their Battalion Chief when they sensed he or she is displaying or allowing unethical behavior and 5.7% said they needed to close their eyes and shut their ears to unethical behavior he or she is experiencing in the work place.

**Additional Questions**

On the question "Are you reprimanded by a battalion chief when you scaled up an incident not according to the rules?" 52.7% (n=55) answered that this almost never happened. 47.3% of the crew commanders (n=55) answered that they sometimes or often are reprimanded when they scaled up not according to the rules. Though most crew commanders are not reprimanded by battalion chiefs when they scale up not according to the rules, 90.9% agrees that crew commanders should be reprimanded when rules are broken. 9.1% thinks that reprimanding crew commanders is bad.

**Regression Analysis**

A number of regression analyses have been performed to review the extent to which prototypicality mediates the relationship between ethical leadership and organizational misbehavior. To be able to study the mediating role of prototypicality on the relationship between ethical leadership and organizational misbehavior, we have followed the three steps by Baron and Kenny (1986). First we needed to show a significant relationship between the antecedent ethical leadership and the dependent variable organizational misbehavior. As expected the regression analysis demonstrated a statistically significant negative relationship between the two (ß = -.385, $p$<.01). Hypothesis 1a is therefore accepted. Second we needed to show a statistically significant relation between ethical leadership and and prototypicality, and between prototypicality and organizational misbehavior. As expected the regression analysis show a positive and significant relationship between ethical leadership and prototypicality (ß = .760, $p$<.01). Hypothesis 2a is therefore also accepted. Between prototypicality and organizational misbehavior the regression analysis shows a statistically significant negative



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relationship (ß = -.390, $p$<.01). Third we should measure the impact of prototypicality as a mediating variable. In the regression analysis prototypicality has been added as a mediator in the equation between ethical leadership (independent variable) and organizational misbehavior (dependent variable). Our results show that the significance of the ß drops from -.385 to -.202. This shows there is a mediating effect. The beta value of ethical leadership changes from statistically significant to non-significant. This implies there is a full mediation effect. Hypothesis 3a can hence be partially accepted (see figure 5 and table 4).

Figure 3. Regression ethical leadership and organizational misbehavior

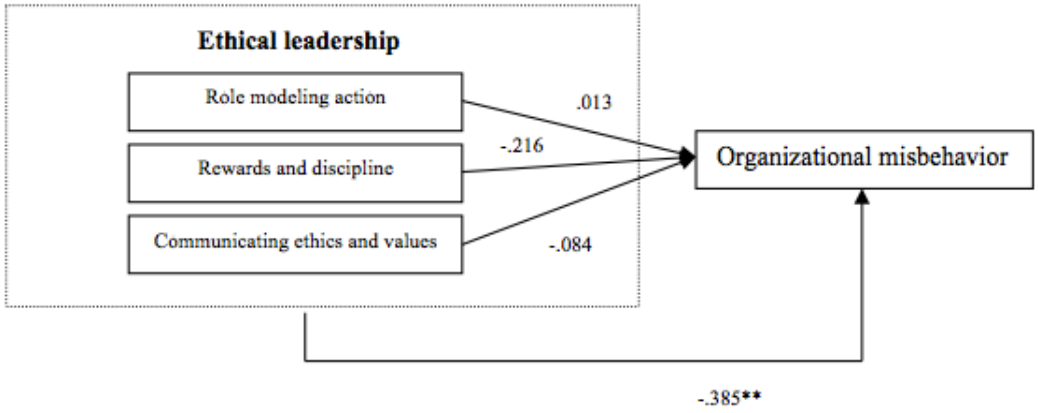


Table 2. Regression results ethical leadership and its three components and organizational misbehavior

| | Organizational misbehavior | | | |
|---|---|---|---|---|
| | $R^2$ | $AdjR^2$ | $F$ | $\beta$ |
| Ethical leadership | .148 | .132 | 9.55** | -.385** |
| Role modeling through visible action | .000 | -.019 | .009 | .013 |
| Rewards and discipline | .047 | .029 | 2.59 | -.216 |
| Communicating ethics and values | .007 | -.012 | .378 | -.084 |

*Note*: **$p$ < .01.

Figure 4. Regression analysis ethical leadership and prototypicality



ISSN 1554-3145

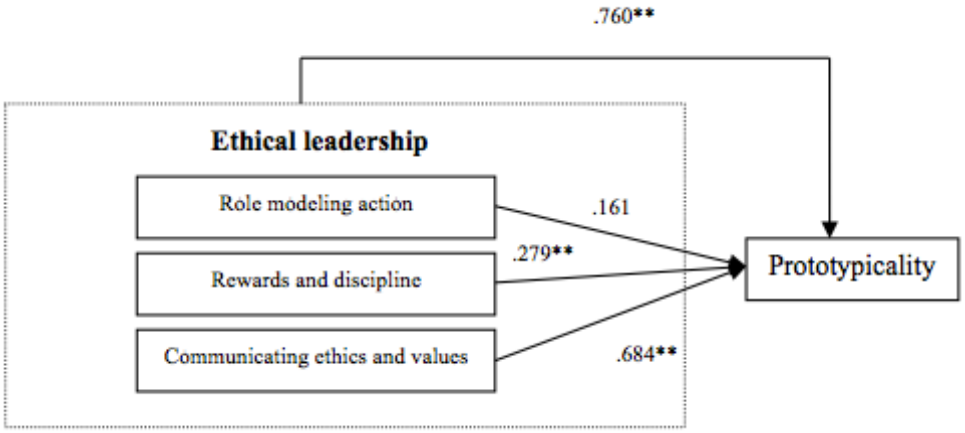


Table 3. Regression results ethical leadership and its three components and prototypicality

| | | Organizational misbehavior | | |
|---|---|---|---|---|
| | $R^2$ | $AdjR^2$ | $F$ | $\beta$ |
| Ethical leadership | .577 | .570 | 79.10** | .760** |
| Role modeling through visible action | .026 | .008 | 1.47 | .161 |
| Rewards and discipline | .078 | .061 | 4.54** | .279** |
| Communicating ethics and values | .468 | .458 | 47.45** | .684** |

*Note*: $^{**}p < .01$.

For practical implications we have also looked at the R-squared of this regression, which is 16.7%. This means that 16.7% of the variance in organizational misbehavior is caused by the variables ethical leadership and prototypicality.

The three ethical leadership components, role model behavior (ß .013 p>.1), system of rewards and punishment (ß -.216 p>.1), and communication on ethics and norms (ß -.084 p>.1), show no statistically significant correlation with the variable organizational misbehavior. Hypotheses 1b, 1c and 1d should be rejected therefore. There are several reasons for this. The most important one is the fact that the organizational misbehavior shows little explained variance. The variable has a reach between 0 and 7, but 63% has scored below 2 and less than 10% above 2.5. Relationships between other variables are thus less likely to be significant. As we found no statistically significant correlation, a mediation effect of prototypicality on the relationship between the ethical leadership components and organizational misbehavior (hypotheses 3b, 3c and 3d) cannot be measured. The regression analysis on the three ethical leadership components and prototypicality shows some conflicting results. Role model behavior and prototypicality appear to have no significant relation (ß .161 p>.05). For the two other components (system of rewards and punishment and communication on ethics and norms) the



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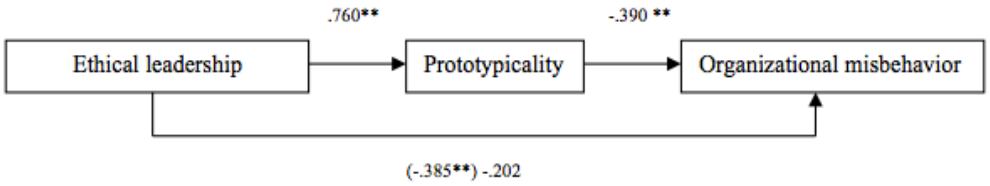
relation was significant (ß .279 p<.05, ß .684 p<.01). Hypothesis 2b is therefore rejected, hypotheses 2c and 2d are accepted.

Figure 5. Regression for mediation results




*Note*: **$p < .01$.

Table 4. Regression for mediation results

| | Prototypicality | Organizational misbehavior | Organizational misbehavior | Organizational misbehavior |
|---|---|---|---|---|
| Ethical leadership | .760** | -.385** | | |
| Prototypicality | | | -.390** | |
| Ethical leadership<br>Prototypicality | | | | -.202 |
| $R^2$ | .577 | .148 | .152 | .167 |
| $F$ | 79.10** | 9.55** | 9.88** | 5.43** |

Note: Relation between ethical leadership and organizational misbehavior and the mediating variable prototypicality. N=61, *Note*: **$p < .01$.

## Additional Analysis

Additionally, we put together the three components of ethical leadership into the variable "composed components of ethical leadership" to examine the possible relations between the components of ethical leadership, prototypicality and organizational misbehavior. While the three separate components have no statistically significant relation with organizational misbehavior, the composed components of ethical leadership show to be statistically significant correlated with organizational misbehavior (ß = -.251, $p<.05$, $F = 3.172$, $p<.05$). To attain more information on the separate components of ethical leadership, we examined the three components as independent variables of ethical leadership and looked at the coefficient R-square, which explains the variance in ethical leadership. The variance in ethical leadership is explained by 9.7%, 15.5% and 52.5% for role model behavior, rewards and discipline and communication about ethics and values respectively. More than half of the variance is explained by the variable "communication about ethics and values." Apparently this component determines the largest part of the effect of ethical leadership.



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## Discussion

In line with our hypotheses the results of our research show that ethical leadership of battalion chiefs, as experienced by crew commanders, is statistically negatively related to the occurrence of self-reported disobedience of crew commanders. Being a group prototype or not seems to fully explain this effect, as we found that prototypicality completely mediates the connection between ethical leadership and organizational misbehavior. Furthermore, we found no statistically significant relationship between the three separate components of ethical leadership (role modeling, rewards and discipline and communicating about ethics and values) and self-reported organizational misbehavior. Only the three components together appear to be negatively statistically related to organizational misbehavior.

Our research adds to current literature which has reported conflicting results regarding the connection between ethical leadership and unethical behavior (Mayer et al., 2009; Detert et al., 2007; Dineen et al., 2006). But, in our opinion, the most important contribution of our research is that it shows the importance of prototypicality for research on ethical leadership. According to our research, the more leaders are regarded by group members as prototypical and hence demonstrate the norms and values of the group, the less group members are likely to engage in disobedient behavior. Kalshoven & Den Hartog (2009) arrived at similar conclusions and found that prototypicality is an important mediator in the relationship between ethical leadership and perceived leader effectiveness. Along the same line, Van den Akker et al. (2009, p. 116) reported in their research on the connection between ethical leadership and trust that *"the more leaders act in ways followers feel is the appropriate ethical leader behavior, the more that leader will be trusted."* These findings suggest that ethical leaders do not simply have more influence due to their leadership as is noted in prior research (e.g. Mayer et al., 2009; 2010), but that their leadership more closely fits to the professional norms and values of the group members to be led. Based on the interviews with battalion chiefs and the examples in the questionnaires provided by crew commanders, we concluded that crew commanders and battalion chiefs sometimes have different perceptions of the professional norms and values to be demonstrated at the incident site. Task-autonomy, an example noted by crew commanders, is an important professional value for crew commanders and their team. So when battalion chiefs demonstrate that they respect the task-autonomy of crew commanders and thus not interfere with crew commanders" decision-making, they are likely to be seen as ethical leaders and as a result very unlikely to face disobedient behavior. But when battalion chiefs deem a situation to be unsafe and therefore centralize decision-making, they are not very likely to be seen as ethical leaders (as they do not respect task-autonomy) and therefore the effect of "ethical" leadership will be limited. However, centralizing decision-making in this case may be imperative as the battalion chief generally have a more comprehensive view on what is going on at the incident site and thus can make better tactical decisions. Hence, our research shows that when leader and followers have a different view on what is normatively appropriate, which seems to be very context-dependent, the leader is unlikely to be regarded by followers as an ethical leader, even when the leader from an outsiders' perspective demonstrates appropriate conduct. This observation sheds a new light on the existing research which reported positive relationships between ethical leadership and follower behavior. In fact, these studies seem to say more about the congruence of observed and desired leader behavior by followers, than the extent to which a leader truly is an effective moral manager.



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Our research has several limitations. First, the crew commanders involved in our research were not randomly selected. It may be possible that the crew commanders who engage in (significant forms of) organizational misbehavior did not want to participate in our research and hence did not fill out a questionnaire. Second, the results of our research only reflect the opinion of crew commanders in the Amsterdam Amstelland Fire service, and hence is not *a priori* valid to other fire services. Nonetheless, some battalion chiefs with working experience in other fire services indicated that the degree of organizational misbehavior in the Amsterdam Amstelland Fire Service is not remarkable. Third, while the number of participants in our study was high in relation to the total number of professional crew commanders in the Amsterdam Amstelland Fire Service, the absolute number of participants was low. Fourth, as the questions in the questionnaire were sometimes badly understood by the participants, we had to provide some examples. This may have influenced the answers given by the participants. Fifth, as crew commanders and battalion chiefs rarely work together, we asked the crew commanders to think of the last battalion chief they worked with (in an emergency situation) when filling out the questionnaire. Some crew commanders reported that they found it difficult to think only of the last battalion chief they worked with.

Based on our research we would like to provide some recommendation for future research. First, we recommend researchers examining ethical leadership to take more contextual factors into account, i.e. by referring to specific situations (work deadlines, crisis situations, briefings, informal meetings, formal meetings etc.) In addition, we think it is important to understand what leaders and followers define as appropriate conduct and how this is related to the ethics of the organization. If leader and followers simply have a different perception of the ethics of the organization, it cannot be concluded that the leader demonstrates limited levels of ethical leadership. It only shows that the leader demonstrates different ethical values. Furthermore, for gaining insight into the effect of ethical leadership, we propose to use both quantitative as qualitative research methods. For instance, the ELS item "the leader sets an example of how to do things the right way in terms of ethics," is very abstract and does not say anything about how often or in which situations a leader sets an example. After filling out the questionnaire a crew commander noted that *"he does not listen to battalion chiefs who do not wear a helmet, while wearing a helmet is obligatory for all fire service personnel at the incident site."* These kind of statements can be used to incorporate a concrete question about the degree to which a leader is a role model and sets an example of how to do the things right way in terms of ethics. For researching the effect of (ethical) leadership in extreme contexts, such as emergency situations, we recommend researchers to use a participatory research design and use helmet-mounted cameras. Second, we would suggest researchers to take more objective criteria into account when examining the *effect* of ethical leadership, e.g. by examining the relation between ethical leadership and unit profitability or unit health-related absenteeism. Then it becomes possible to draw more reliable conclusions regarding the relation between ethical leadership and follower behavior.

For leaders in fire services, our research has practical implications. It seems important that leaders know what the groups norms and values are. Our research suggests that to be effective, leaders should attempt bringing the professional norms and values of the group in line with their own. In line with prior research (Van den Akker et al., 2009), we propose that this can be accomplished by training or discussions at group-level, in which both followers and leaders can come to a common understanding of appropriate conduct during incidents. In addition, when searching for new fire service personnel, we think it is imperative to select personnel which



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already has the desired professional norms and values. Finally we think that crew commanders and battalion chiefs should use the debriefing (the meeting after an incident) more effectively, for instance by providing feedback and discussing the norms and values demonstrated by both leaders as follower.

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## References

Acquino, K., Lewis, M. U., & Bradfield, M. (1999). Justice constructs, negative affectivity, and employee deviance: A proposed model and empirical test. *Journal of Organizational Behavior*, *20*, 1073–1091.

Arvey, R. D., & Jones, A. P. (1985). The use of discipline in organizational settings: A framework for future research. In L. L. Cummings & Staw, B. M. (Eds.), *Research in organizational behavior*, 7 (pp. 367-408). Greenwhich, CT: JAI Press.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice–Hall.

Bandura, A. (1986). *Social foundations of thought and action.* Englewood Cliffs, NJ: Prentice–Hall.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.



ISSN 1554-3145

Berry, C. M., Ones, D. S., & Sackett, P. R. (2007). Interpersonal deviance, organizational deviance, and their common correlates: A review and meta-analysis. *Journal of Applied Psychology*, *92*, 410–424.

Brown, M. E. (2007). Misconceptions of ethical leadership: How to avoid potential pitfalls. *Organizational Dynamics, 36*(2)*,* 140-155.

Brown, M. E., & Trevino, L. K. (2006). Ethical leadership. A review and future directions*, Leadership Quarterly*, *17*, 595–616.

Brown, M. E., Trevino, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes*, *97*, 117-134.

Dalal, R. S. (2005). A meta-analysis of the relationship between organizational citizenship behavior and counterproductive behavior. *Journal of Applied Psychology*, *90*, 1241–1255.

De Hoogh, A. H. B., & Den Hartog, D. N. (2008). Ethical and despotic leadership, relationships with leader"s social responsibility, top management team effectiveness and subordinates" optimism: A multi-method study. *The Leadership Quarterly, 19*, 297–311.

De Hoogh, A. H. B., & Den Hartog, D. N. (2009). Empowering behaviour and leader fairness and integrity: Studying perceptions of ethical leader behaviour from a levels-of-analysis perspective. *The European Journal of Work and Organizational Psychologist*, *18*(2), 199-230.

De Hoogh, A. H. B., Den Hartog, D. N., & Koopman, P. L. (2004). De ontwikkeling van de CLIO: Een vragenlijst voor charismatisch leiderschap in organisaties. *Gedrag & Organisatie*, *17*, 354-382.

Detert, J. R., Treviño, L. K, Burris, E. R., & Andiappan, M. (2007). Managerial modes of influence and counterproductivity in organizations: A longitudinal business-unit-level investigation. *Journal of Applied Psychology*, *92(4)*, 993–1005

Detert, J. R., Treviño, L. K., Burris, E. R., & Andiappen, M. (2007). Managerial models of influence and counterproductivity in organizations: A longitudinal businessunit level investigation. *Journal of Applied Psychology*, *92*, 993–1005.

Dineen, B. R., Lewicki, R. J., & Tomlinson, E. C. (2006). Supervisory guidance and behavioral integrity: Relationships with employee citizenship and deviant behavior. *Journal of Applied Psychology, 91,* 622–635.

Fox, S., Spector, P. E., & Miles, D. (1999). *Counterproductive work behavior (CWB) in response to job stressors and organizational justice: the moderator effect of autonomy and emotion traits.* Paper presented at the annual meeting of the Society for Industrial and Organizational Psychology, Atlanta.

Fox, S., Spector, P. E., & Miles, D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: some mediator and moderator tests for autonomy and emotions. *Journal of Vocational Behavior, 59*, 291–309.

Giessner, S. R., & Van Knippenberg, D. (2008). *When does a leader show fair behavior? Influences of group prototypicality and the social context.* Paper presented at the 15th General Meeting of the European Association of Experimental Social Psychologists.

Greenberg, S. (1990, April) Sharing views and interactions with single-user applications. *Proceedings of the Conference on Office Information Systems*, Boston.



ISSN 1554-3145

Hains, S. C., Hogg, M. A., & Duck, J. M. (1997). Self-categorization and leadership: Effects of group prototypicality and leader stereotypicality. *Personality and Social Psychology Bulletin*, *23*, 1087−1100.

Hogg, M. A. (2001). A social identity theory of leadership. *Personality and Social Psychology Review*, *5*, 184−200.

Hogg, M. A., Abrams, D., Otten, S., & Hinkle, S. (2004). The social identity perspective: Intergroup relations, self-conception, and small groups, *Small Group Research*, *35,* 246–276.

Hogg, M. A., Hains, S. C., & Mason, I. (1998). Identification and leadership in small groups: Salience, frame of reference, and leader stereotypicality effects on leader evaluations. *Journal of Personality and Social Psychology, 75*, 1248−1263.

Hogg, M. A., & Van Knippenberg, D. (2003). Social identity and leadership processes in groups. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology, 35*, 1–52.

Jones, D. A. (2009). Getting even with one"s supervisor and one"s organization: Relationships among types of injustice, desires for revenge, and counterproductive work behaviors. *Journal of Organizational Behavior*, *30*(4), 525 - 542.

Kalshoven, K., & Den Hartog, D. N. (2009). Ethical leader behavior and leader effectiveness: The role of prototypicality and trust. *International Journal of Leadership Studies, 5*(2), 102-120.

Kalshoven, K., Den Hartog, D. N., & De Hoogh, A. H. B. (2011). Ethical leadership at work questionnaire (ELW): Development and validation of a multidimensional measure. *The Leadership Quarterly*. *22*(1), 51 – 69.

Kanfer, R. (1990). *Motivation theory and industrial and organization psychology*. In M. D. Dunnette and L. Hough (Eds.), *Handbook of industrial and organizational psychology* (Volume 1). *Theory in industrial and organizational psychology*. Palo Alto, CA: Consulting Psychologists Press.

Kaptein, M., Huberts, L. W. J. C., Avelino, S., & Lasthuizen, K. (2005). Demonstrating ethical leadership by measuring ethics: A survey of U.S. public servants. *Public Integrity*, *7*(4), 299-311.

Lasthuizen, K. (2008). *Leading to integrity: Empirical research into the effects of leadership on ethics and integrity.* Amsterdam: VU University Amsterdam.

Mayer, D. M., Kuenzi, M., & Greenbaum, R. L. (2010). Examining the link between ethical leadership and employee misconduct: the mediating role of ethical climate. *Journal of Business Ethics*. *95*, 7-16.

Mayer, D. M., Kuenzi, M., Greenbaum, R. L., Bardes, R., & Salvador, M. R. (2009). How low does ethical leadership flow? Test of a trickle-down model. *Organizational Behavior and Human Decision Processes*, *108*, 1–13.

Platow, M. J., & Van Knippenberg, D. (2001). A social identity analysis of leadership endorsement: The effects of leader ingroup prototypicality and distributive intergroup fairness. *Personality and Social Psychology Bulletin*, *27*, 1508−1519.

Platow, M. J., Van Knippenberg, D., Haslam, S. A., Van Knippenberg, B., & Spears, R. (2006). A special gift we bestow on you for being representative of us: Considering leader charisma from a self-categorization perspective. *British Journal of Social Psychology*, 45, 303–320.

Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behavior: A multidimensional scaling study. *Academy of Management Journal*, *38*, 555-572.



ISSN 1554-3145

Robinson, S. L., & Bennett, R. J. (1997). Workplace deviance: Its definitions, its manifestations, and its causes. In R. J. Lewicki, R. J. Bies, and B. H. Sheppard (Eds.), *Research on Negotiations in Organizations*, JAI Press Inc: Greenwich, CT, 3–28.

Robinson, S. L., & Bennett, R. J. (2000). Development of a measure of workplace deviance. *Journal of Applied Psychology, 85*(3), 349-360.

Skinner, B. F. (1953). *Science and human behaviour*. MacMillan.

Syroit, J., Van Dijke, M., & Völink, T. (2005). *Groepen in organisaties. Werkboek.* Grafisch centrum OUNL: Heerlen.

Tajfel, H., & Turner, J. C. (1986). *The social identity theory of intergroup behaviour*. In S. Worchel, & W. G. Austin (Eds.), *Psychology of intergroup relations*, Chicago: Nelson-Hall.

Ter Maat, H. E., & Aartsen, R. (2005*). Geen succes zonder u! Een onderzoek naar mogelijke oorzaken en gevolgen van normafwijkend gedrag en integriteitsaantasting binnen de politie-organisatie.* Apeldoorn: Nederlandse Politie Academie.

Treviño, L. K. (1986). Ethical decision making in organizations: A person–situation interactionist model. *Academy of Management Review*, *11*, 601−617.

Treviño, L. K., Brown, M., & Hartman, L. P. (2003). A qualitative investigation of perceived executive ethical leadership: Perceptions from inside and outside the executive suite. *Human Relations*, *56*, 5−37.

Treviño, L. K., & Brown, M. E. (2005). The role of leaders in influencing unethical behavior in the workplace. In R. Kidwell, & C. Martin (Eds.) *Managing Organizational Deviance.* Thousand Oaks, CA: Sage.

Treviño, L. K., Hartman, L. P., & Brown, M. (2000). Moral person and moral manager: How executives develop a reputation for ethical leadership. *California Management Review*, *42*, 128−142.

Treviño, L. K., Weaver, G., Gibson, D., & Toffler, B. (1999). Managing ethics and legal compliance: What works and what hurts. *California Management Review*, *41*(2), 131-151.

Treviño, L. K., & Youngblood, S. A. (1990). Bad apples in bad barrels: A causal analysis of ethical decision-making behavior. *Journal of Applied Psychology, 75*, 378−385.

Van den Akker, L., Heres, L., Lasthuizen, K., & Six, F. (2009). Ethical leadership and trust: It"s all about meeting expectations. *International journal of Leadership Studies*, *5*(2), 102-122.

Van Knippenberg, B., & Van Knippenberg (2005). Leader self-sacrifice and leadership effectiveness: The moderating role of leader prototypicality. *Journal of Applied Psychology*, *90,* 25−37.

Van Knippenberg, D., & Hogg, M. A. (2003). A social identity model of leadership effectiveness in organizations. *Research in Organizational Behavior*, *25*, 243–296.

Van Knippenberg, D., Lossie, N., & Wilke, H. (1994). In-group prototypicality and persuasion: Determinants of heuristic and systematic message processing. *British Journal of Social Psychology*, *33*, 289–300.

Van Knippenberg, D., Van Knippenberg, B., & Van Dijk, E. (2000). Who takes the lead in risky decision making? Effects of group members" risk preferences and prototypicality. *Organizational Behavior and Human Decision Processes*, *83*(2), 213-234.

Vardi, Y., & Weitz, E, (2004), *Misbehavior in organizations: Theory, research, and management.* Mahwah, New Jersey: Lawrence Erlbaum.



ISSN 1554-3145

Vardi, Y., & Wiener, Y. (1996). Misbehavior in organizations: A motivational framework. *Organization Science*, *7*(2), 151-165.

Weaver, G. R., Treviño, L. K., & Agle, B. (2005). "Somebody I look up to:" Ethical role models in organizations. *Organizational Dynamics*, *34*, 313−330.

Wenger, D. E., Quarantelli E. L., & Dynes, R. R. (1990). *Is the incident command system a plan for all seasons and emergency situations?* University of Delaware, Disaster Research Center. Preliminary Paper #215.

## Appendix

*Ethical Leadership Scale (Brown et al., 2005, with few adjustments made after pretesting)*

| **The battalion chief sets an example of how to do things the right way in terms of ethics, e.g. by abiding to the safety rules strictly.** | | |
|---|---|---|
| | *Frequency* | *Percent* |
| Completely disagree | 1 | 1,6 |
| Mostly disagree | 3 | 4,9 |
| Slightly disagree | 11 | 18,0 |
| Undecided | 10 | 16,4 |
| Slightly agree | 22 | 36,1 |
| Mostly agree | 8 | 13,1 |
| Completely agree | 6 | 9,8 |
| | **61** | **100** |
| **The battalion chief has the best interests of employees in mind.** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 0 | 0 |
| Mostly disagree | 5 | 8,2 |
| Slightly disagree | 5 | 8,2 |
| Undecided | 10 | 16,4 |
| Slightly agree | 13 | 21,3 |
| Mostly agree | 20 | 32,8 |
| Completely agree | 8 | 13,1 |
| | **61** | **100** |
| **The battalion chief can be trusted.** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 1 | 1,7 |
| Mostly disagree | 3 | 5,1 |
| Slightly disagree | 10 | 16,9 |
| Undecided | 14 | 23,7 |
| Slightly agree | 12 | 20,3 |
| Mostly agree | 14 | 23,7 |
| Completely agree | 5 | 8,5 |
| | **59** | **100** |
| **The battalion chief asks his or her coworkers when making decisions, "what is the right thing to do?"** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 2 | 3,3 |
| Mostly disagree | 2 | 3,3 |
| Slightly disagree | 8 | 13,1 |
| Undecided | 12 | 19,7 |
| Slightly agree | 9 | 14,8 |
| Mostly agree | 22 | 36,1 |
| Completely agree | 6 | 9,8 |
| | **61** | **100** |
| **The battalion chief makes fair and balanced decisions.** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 0 | 0 |
| Mostly disagree | 0 | 0 |
| Slightly disagree | 3 | 4,9 |
| Undecided | 17 | 27,9 |



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| | | |
|---|---|---|
| Slightly agree | 21 | 34,4 |
| Mostly agree | 16 | 26,2 |
| Completely agree | 4 | 6,6 |
| | **61** | **100** |
| **The battalion chief defines success not just by results but also the way that they are obtained.** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 1 | 1,6 |
| Mostly disagree | 3 | 4,9 |
| Slightly disagree | 6 | 9,8 |
| Undecided | 10 | 16,4 |
| Slightly agree | 21 | 34,4 |
| Mostly agree | 15 | 24,6 |
| Completely agree | 5 | 8,2 |
| | **61** | **100** |
| **The battalion chief listens to what employees have to say.** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 2 | 3,2 |
| Mostly disagree | 0 | 0 |
| Slightly disagree | 6 | 9,7 |
| Undecided | 13 | 21,0 |
| Slightly agree | 20 | 32,3 |
| Mostly agree | 14 | 22,6 |
| Completely agree | 6 | 9,7 |
| | **61** | **100** |
| **The battalion chief conducts his/her personal life in an ethical (sincere, reasonable and caring) manner.** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 2 | 3,6 |
| Mostly disagree | 0 | 0 |
| Slightly disagree | 4 | 7,3 |
| Undecided | 20 | 36,4 |
| Slightly agree | 8 | 14,5 |
| Mostly agree | 16 | 29,1 |
| Completely agree | 5 | 9,1 |
| | **55** | **100** |
| **The battalion chief disciplines employees who violate ethical standards (e.g.: security protocols, the correct usage of material or the limits of the response area).** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 1 | 1,7 |
| Mostly disagree | 0 | 0 |
| Slightly disagree | 6 | 10,2 |
| Undecided | 15 | 25,4 |
| Slightly agree | 16 | 27,1 |
| Mostly agree | 13 | 22,0 |
| Completely agree | 8 | 13,6 |
| | **59** | **100** |
| **The battalion chief discusses business ethics or values with employees.** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 3 | 5,1 |
| Mostly disagree | 4 | 6,8 |
| Slightly disagree | 8 | 13,6 |
| Undecided | 16 | 27,1 |
| Slightly agree | 17 | 28,8 |
| Mostly agree | 8 | 13,6 |
| Completely agree | 3 | 5,1 |
| | **59** | **100** |
| **Additional item I: The Battalion Chief can change/withdraw orders based on the arguments of his/her co-workers.** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 0 | 0 |
| Mostly disagree | 3 | 4,9 |
| Slightly disagree | 5 | 8,2 |
| Undecided | 12 | 19,7 |
| Slightly agree | 14 | 23,0 |
| Mostly agree | 18 | 29,5 |
| Completely agree | 9 | 14,8 |
| | **61** | **100** |
| **Additional item II: The Battalion Chief defines success as a collaborative act.** | | |



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| | *Frequency* | *Percent* |
|---|---|---|
| Completely disagree | 0 | 0 |
| Mostly disagree | 5 | 8,2 |
| Slightly disagree | 2 | 3,3 |
| Undecided | 14 | 23,0 |
| Slightly agree | 19 | 31,1 |
| Mostly agree | 15 | 24,6 |
| Completely agree | 6 | 9,8 |
| | **61** | **100** |
| **Additional item III: The Battalion Chief can be both critical and vulnerable.** | | |
| | *Frequency* | *Percent* |
| Completely disagree | 2 | 3,3 |
| Mostly disagree | 7 | 11,5 |
| Slightly disagree | 11 | 18,0 |
| Undecided | 8 | 13,1 |
| Slightly agree | 15 | 24,6 |
| Mostly agree | 11 | 18,0 |
| Completely agree | 7 | 11,5 |
| | **61** | **100** |

*Prototypicality (Knippenberg & Knippenberg, 2005 with few adjustments made after pretesting)*

| **The battalion chief is a good example of the kind of people that are members of my team.** | | |
|---|---|---|
| | *Frequency* | *Percent* |
| Strongly disagree | 6 | 10,0 |
| Disagree | 15 | 25,0 |
| Undecided | 21 | 35,0 |
| Agree | 14 | 23,3 |
| Strongly agree | 4 | 6,7 |
| | **60** | **100** |
| **The battalion chief represents what is characteristic about the team.** | | |
| | *Frequency* | *Percent* |
| Strongly disagree | 3 | 5,1 |
| Disagree | 18 | 30,5 |
| Undecided | 16 | 27,1 |
| Agree | 16 | 27,1 |
| Strongly agree | 6 | 10,2 |
| | **59** | **100** |
| **The battalion chief has a lot in common with the members of the team.** | | |
| | *Frequency* | *Percent* |
| Strongly disagree | 6 | 10,3 |
| Disagree | 21 | 36,2 |
| Undecided | 17 | 29,3 |
| Agree | 12 | 20,7 |
| Strongly agree | 2 | 3,4 |
| | **58** | **100** |
| **The battalion chief shares many characteristics of my team members.** | | |
| | *Frequency* | *Percent* |
| Strongly disagree | 6 | 10,2 |
| Disagree | 19 | 32,2 |
| Undecided | 24 | 40,7 |
| Agree | 7 | 11,9 |
| Strongly agree | 3 | 5,1 |
| | **59** | **100** |
| **The battalion chief is the same kind of person as the members of my team.** | | |
| | *Frequency* | *Percent* |
| Strongly disagree | 5 | 8,3 |
| Disagree | 26 | 43,3 |
| Undecided | 24 | 40,0 |
| Agree | 4 | 6,7 |
| Strongly agree | 1 | 1,7 |
| | **60** | **100** |
| **The battalion chief embodies our group values. This means that he acts in a way me and my group finds appropriate** | | |
| | *Frequency* | *Percent* |



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| | | |
|---|---|---|
| Strongly disagree | 5 | 8,5 |
| Disagree | 16 | 27,1 |
| Undecided | 15 | 25,4 |
| Agree | 18 | 30,5 |
| Strongly agree | 5 | 8,5 |
| | **59** | **100** |

*Organizational misbehavior (Robinson & Bennet, 1995; 2000 with few adjustments made after pretesting)*

| **How often do you go against a battalion chief"s decision?** | | |
|---|---|---|
| | *Frequency* | *Percent* |
| Never | 6 | 10,5 |
| Very rarely | 14 | 24,6 |
| Rarely | 11 | 19,3 |
| Occasionally | 14 | 24,6 |
| Very frequently | 11 | 19,3 |
| Always | 1 | 1,8 |
| | **57** | **100** |
| **How often do you work intentionally slowly?** | | |
| | *Frequency* | *Percent* |
| Never | 32 | 57,1 |
| Very rarely | 19 | 33,9 |
| Rarely | 1 | 1,8 |
| Occasionally | 3 | 5,4 |
| Very frequently | 0 | 0 |
| Always | 1 | 1,8 |
| | **56** | **100** |
| **How often do you lie about your hours worked to get paid more?** | | |
| | *Frequency* | *Percent* |
| Never | 46 | 85,2 |
| Very rarely | 7 | 13,0 |
| Rarely | 0 | 0 |
| Occasionally | 1 | 1,9 |
| Very frequently | 0 | 0 |
| Always | 0 | 0 |
| | **54** | **100** |
| **How often do you purposely break gear/equipment?** | | |
| | *Frequency* | *Percent* |
| Never | 39 | 69,6 |
| Very rarely | 11 | 19,6 |
| Rarely | 5 | 8,9 |
| Occasionally | 1 | 1,8 |
| Very frequently | 0 | 0 |
| Always | 0 | 0 |
| | **56** | **100** |
| **Do you start spreading negative rumers about the Amsterdam-Amstelland Fire Service?** | | |
| | *Frequency* | *Percent* |
| Never | 28 | 50,0 |
| Very rarely | 15 | 26,8 |
| Rarely | 4 | 7,1 |
| Occasionally | 4 | 7,1 |
| Very frequently | 4 | 7,1 |
| Always | 1 | 1,8 |
| | **56** | **100** |
| **Do you gossip about the battalion chief?** | | |
| | *Frequency* | *Percent* |
| Never | 14 | 25,0 |
| Very rarely | 14 | 25,0 |
| Rarely | 7 | 12,5 |
| Occasionally | 15 | 26,8 |
| Very frequently | 4 | 7,1 |
| Always | 1 | 1,8 |
| | **56** | **100** |



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| **Do you make deliberate mistakes?** | | |
|---|---|---|
| | *Frequency* | *Percent* |
| Never | 50 | 89,3 |
| Very rarely | 2 | 3,6 |
| Rarely | 2 | 3,6 |
| Occasionally | 2 | 3,6 |
| Very frequently | 0 | 0 |
| Always | 0 | 0 |
| | **56** | **100** |
| **Do you cover up mistakes?** | | |
| | *Frequency* | *Percent* |
| Never | 24 | 43,6 |
| Very rarely | 23 | 41,8 |
| Rarely | 4 | 7,3 |
| Occasionally | 2 | 3,6 |
| Very frequently | 2 | 3,6 |
| Always | 0 | 0 |
| | **55** | **100** |
| **How often do you endanger yourself by not following safety procedures?** | | |
| | *Frequency* | *Percent* |
| Never | 25 | 44,6 |
| Very rarely | 18 | 32,1 |
| Rarely | 8 | 14,3 |
| Occasionally | 2 | 3,6 |
| Very frequently | 3 | 5,4 |
| Always | 0 | 0 |
| | **56** | **100** |
| **How often do you talk at the site of an incident with a co-worker instead of working?** | | |
| | *Frequency* | *Percent* |
| Never | 18 | 32,7 |
| Very rarely | 19 | 34,5 |
| Rarely | 13 | 23,6 |
| Occasionally | 4 | 7,3 |
| Very frequently | 0 | 0 |
| Always | 1 | 1,8 |
| | **56** | **100** |
| **How often do you challenge a battalion chief"s decision?** | | |
| | *Frequency* | *Percent* |
| Never | 7 | 12,7 |
| Very rarely | 14 | 25,5 |
| Rarely | 10 | 18,2 |
| Occasionally | 14 | 25,5 |
| Very frequently | 7 | 12,7 |
| Always | 3 | 5,5 |
| | **55** | **100** |
| **Have you ever endangered yourself or colleagues by not following an order from the Battalion Chief?** | | |
| | *Frequency* | *Percent* |
| Never | 41 | 74,5 |
| Very rarely | 11 | 20,0 |
| Rarely | 2 | 3,6 |
| Occasionally | 1 | 1,8 |
| Very frequently | 0 | 0 |
| Always | 0 | 0 |
| | **55** | **100** |
| **Have you ever endangered other people than your colleagues by not following an order from the Battalion Chief?** | | |
| | *Frequency* | *Percent* |
| Never | 42 | 76,4 |
| Very rarely | 10 | 18,2 |
| Rarely | 2 | 3,6 |
| Occasionally | 1 | 1,8 |
| Very frequently | 0 | 0 |
| Always | 0 | 0 |
| | **55** | **100** |
| **How many times have you entered a burning building against the orders of a Battalion Chief?** | | |
| | *Frequency* | *Percent* |



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| | | |
|---|---|---|
| Never | 41 | 74,5 |
| Very rarely | 9 | 16,4 |
| Rarely | 1 | 1,8 |
| Occasionally | 1 | 1,8 |
| Very frequently | 3 | 5,5 |
| Always | 0 | 0 |
| | **55** | **100** |
| **How many times did have you acted as if you haven't heard an order from the Battalion Chief?** | | |
| | *Frequency* | *Percent* |
| Never | 40 | 72,7 |
| Very rarely | 12 | 21,8 |
| Rarely | 2 | 3,6 |
| Occasionally | 0 | 0 |
| Very frequently | 1 | 1,8 |
| Always | 0 | 0 |
| | **55** | **100** |
| **How many times did you present a fire smaller than it actually was, so a Battalion Chief was not called for?** | | |
| | *Frequency* | *Percent* |
| Never | 32 | 58,2 |
| Very rarely | 10 | 18,2 |
| Rarely | 5 | 9,1 |
| Occasionally | 5 | 9,1 |
| Very frequently | 3 | 5,5 |
| Always | 0 | 0 |
| | **55** | **100** |



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