

# Reflective and decisive supervision: The role of participative leadership and team climate in joint decision-making

Tessa Coffeng , Elianne F. van Steenbergen

*Social, Health and Organizational Psychology, Utrecht University, Utrecht, The Netherlands*

*Expertise Centre, The Dutch Authority for the Financial Markets, Amsterdam, The Netherlands*

Femke de Vries

*Constitutional Law, Administrative Law and Public Administration, University of Groningen, Groningen, The Netherlands*

*&samhoud, Utrecht, The Netherlands*

Niklas K. Steffens

*School of Psychology, The University of Queensland, St Lucia, Queensland, Australia*

Naomi Ellemers

*Social, Health and Organizational Psychology, Utrecht University, Utrecht, The Netherlands*

## Abstract

Supervisory bodies can intervene in organizational practices that may harm society, but their effectiveness to do so depends on their ability to make decisions *reflectively* and *decisively*. Are these tendencies incompatible with each other or can they go together? Can empowering leadership (i.e. participative, coaching, informing behaviors) stimulate reflectiveness *and* decisiveness? A 10-item Joint Decision-Making Questionnaire was developed and tested among supervisory officers ( $N = 87$ ) and supervisory board members ( $N = 158$ ). Reflectiveness and decisiveness were positively correlated, indicating that these tendencies can be reconciled in joint decision-making (Study 1). An examination of 44 supervisory teams further revealed that participative leadership relates to more reflectiveness and decisiveness, via cooperative trust and goal commitment (Study 2). Moreover, teams that experienced this team climate prior to COVID-19 reported that they acted more reflectively and decisively during this crisis (Study 3). Hence, participative leaders can foster reflectiveness and decisiveness, by promoting cooperative trust and goal commitment.

**Keywords:** cooperative trust, COVID-19, decision-making, goal commitment, participative leadership.

## 1. Introduction

Supervisory bodies, such as inspectorates and market authorities, are responsible for monitoring whether a regulated organization or market complies with the law and acts accordingly. When this is not the case, supervisory bodies have to decide on appropriate measures and take action to redirect undesirable behaviors. The measures and sanctions at their disposal (ranging from a warning to license revocation) impact the reputation of targeted organizations and can intervene with their ability to continue their activities. The awareness among supervisory bodies that their decisions can have such far-reaching consequences – and might be challenged in a court of law – prompts them to act carefully in collecting and weighing all available evidence before deciding to take action. However, this approach can delay decision-making, and can postpone formal intervention that is sometimes needed to prevent harm to society.

Correspondence: Tessa Coffeng, Utrecht University, Heidelberglaan 1, 3584 CS Utrecht, The Netherlands. Email: [t.coffeng@uu.nl](mailto:t.coffeng@uu.nl)

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This matches public perceptions of incidents that have emerged in regulated organizations and markets. Journalists and politicians often comment that businesses can be expected to bend the law but blame the responsible supervisory bodies for not having acted sooner or firmer. This poses a potential dilemma for supervisory bodies. If they act very decisively without sufficient deliberation, their verdicts may be inaccurate or suboptimal. If they take a long time intending to act reflectively, they may forego the opportunity to take action before social damage is done. Although one might think that reflectiveness undermines decisiveness or vice versa, it is yet unclear whether these tendencies are indeed incompatible with each other or rather go hand in hand. In this contribution, we examine the extent to which supervisory bodies can reach decisions reflectively *and* decisively, and investigate the role of empowering leadership in creating the conditions that foster this.

What are real-life consequences when supervisory bodies do *not* act reflectively and decisively? A study comparing investigation reports of incidents in the Netherlands and the United Kingdom revealed that in many cases supervisory bodies did not live up to their responsibility because of inaccurate and, in particular, untimely decision-making (Ottow 2015). This study provides ample examples of supervisory bodies that did not take appropriate action or refrained from taking any action when corrective measures were in order. For instance, Icesave Bank and DSB Bank were banks that went bankrupt, resulting in losses for their clients and severe harm to society. In both cases, the investigative committees argued that the responsible supervisory bodies spent too much time trying informal means rather than taking formal measures. They were considered too optimistic in their view that conversations could lead to adequate solutions. Consequently, no formal actions were taken.

It thus seems that supervisory bodies can be prone to the risk to show insufficient decisiveness, by spending a lot of time analyzing risks and developing informal strategies, which then delays decision-making on formal supervisory measures. This was also the conclusion by the International Monetary Fund (IMF 2010) in their influential report on the role of supervisory bodies in the global financial crisis. In their report, the IMF urged supervisory bodies to increase their willingness to act timely, which was lacking before and during this crisis. Likewise, and more recently in Australia, the Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry (2019) blamed the responsible supervisory bodies for their inability to detect and sanction malpractice in banking, despite a number of alarming signals that were brought to their attention. These examples all point to the importance of decisive action by supervisory bodies to minimize harm to society.

Nevertheless, previous research on decision-making has paid limited attention to increasing decisiveness but rather focused on stimulating reflectiveness (e.g. De Dreu *et al.* 2008). In this prior research, much emphasis is placed on the significance of devoting time to the joint analysis of information as a primary strategy to reach high-quality decisions. For supervisory bodies, as indicated above, the problem may *not* always be that too little time is spent on deliberation, but rather that no timely action is taken. Therefore, it is important to consider decisiveness as a key aspect of joint decision-making, next to reflectiveness. We define *reflectiveness* as indicating the decision-making group's activities to examine their assumptions and alternative views, and *decisiveness* as capturing their actions to maintain momentum and reach decisions quickly. In the studies reported here, we explore whether reflectiveness and decisiveness can go hand in hand, enabling informed *and* timely decisions.

Furthermore, we examine how reflectiveness and decisiveness can be stimulated simultaneously. Because team leaders strongly influence how teams behave and reach their decisions, even more than formal policies and procedures (Kish-Gephart *et al.* 2010), we scrutinize how *empowering leadership* can foster reflectiveness and decisiveness (Arnold *et al.* 2000). Building on previous research that showed that leaders' participative, coaching, and informing behaviors play an important role in promoting employee engagement in decision-making (Gao *et al.* 2011), we examine how these empowering leadership behaviors relate to the reflectiveness and decisiveness of supervisory teams. We also address the underlying process, by examining whether a team climate of cooperative trust and goal commitment mediates this relationship. Moreover, we investigate these relationships just before and during the COVID-19 crisis as a means to establish to what extent the abrupt shift to working from home impacted teams' reflectiveness and decisiveness.

The current research has three aims, namely (i) to explore how reflectiveness and decisiveness are interrelated, (ii) to examine how empowering leadership is related to the reflectiveness and decisiveness of supervisory teams, and (iii) to investigate how the onset of the COVID-19 crisis impacted teams' reflectiveness and decisiveness. So far, investigations have primarily addressed regulatory decision-making in response to specific incidents. These case studies often take a macro-level approach by examining the political-administrative circumstances impacting

certain regulatory decisions. This implies that less effort has been made to understand how regulatory decision-making is shaped by the social context – within organizations – in which supervisory officers operate on a day-to-day basis. By developing a 10-item Joint Decision-Making Questionnaire, and testing it among supervisory officers working at various supervisory bodies, just before and during the COVID-19 crisis, this research offers more structured insights into meso-level factors that contribute to regulatory decision-making.

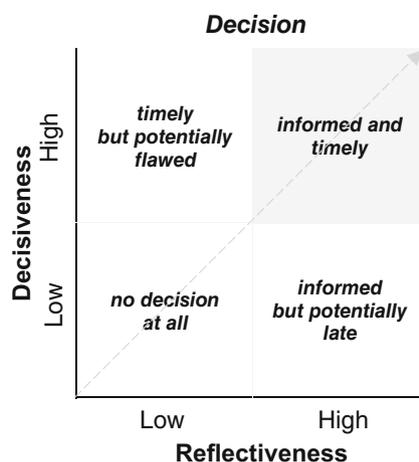
### 1.1. How are reflectiveness and decisiveness interrelated?

For societies to survive and thrive, supervisory bodies need to act both reflectively and decisively. As supervisory bodies are often criticized for their lack of *decisiveness*, this aspect is especially relevant to pay attention to when examining their decision-making. Nevertheless, in studies on decision-making to date, behavioral scientists have mainly focused on increasing deliberation as a way to improve the quality of decision-making. For instance, motivated information processing has been shown to increase the systematic consideration of differing perspectives in groups, which leads to higher decision quality (e.g. De Dreu *et al.* 2008). In this line of research, it is emphasized that spending time on the consideration and discussion of alternatives is needed for high-quality decisions. As supervisory bodies often seem to delay intervention while spending much time discussing alternative strategies, decisiveness should be examined as a key aspect of their decision-making, in its own right, next to reflectiveness.

At the individual level, one might expect that reflectiveness and decisiveness are at odds with each other; taking time to consider alternative views might hinder decisiveness, whereas quick decision-making may undermine reflectiveness. At the group or team level, however, reflectiveness and decisiveness possibly go together. Specifically, team members can engage in different tasks and guard different aims (e.g. Rink & Ellemers 2010); some individuals might guard that they take into account different views, while others can monitor that they progress toward decision closure. In turn, supervisory teams may critically test their assumptions *while* taking steps to reach decisions quickly. As illustrated in Figure 1, when both reflectiveness and decisiveness are high (e.g. when teams consider alternatives while they keep pace), their decisions can be both informed *and* timely. In contrast, when reflectiveness and/or decisiveness are low, this can lead to potentially flawed or late decisions or no decision at all. In the case that reflectiveness and decisiveness are positively interrelated decision-making behaviors, supervisory bodies can act more decisively without giving in on reflectiveness. Hence, we explore whether reflectiveness is likely to impede or support decisiveness by investigating how these decision-making behaviors are interrelated.

### 1.2. How can team leaders stimulate reflectiveness and decisiveness?

As supervisory teams make most day-to-day decisions on ongoing investigations and possible interventions, we address the decision-making of supervisory teams and the role of team leaders in this process. Specifically, we examine how particular leadership behaviors are related to both reflectiveness *and* decisiveness. We thus focus on leadership behaviors that potentially support supervisory teams in making decisions, rather than management



**Figure 1** A reflectiveness–decisiveness model of joint decision-making.

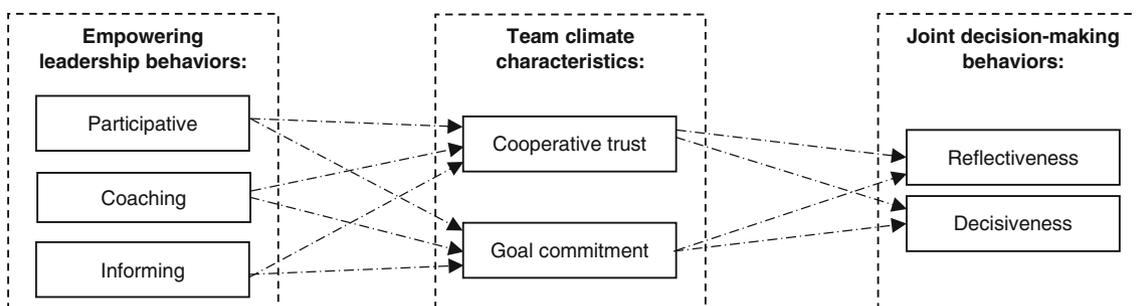
activities, such as budgeting and hiring (Kniffin et al. 2020). Building on previous research (Gao et al. 2011), we focus on three types of leadership behaviors that are potentially relevant for reflectiveness and decisiveness, namely participative, coaching, and informing leadership behaviors. Together, these indicate an “empowering leadership” approach (Arnold et al. 2000). *Participative leaders* encourage team members to express their ideas, consider their ideas whether or not they disagree with them, and use their suggestions to make decisions. *Coaching leaders* stimulate team members to focus on shared goals, solve problems together, and develop good relations with one another. *Informing leaders* explain management decisions, the purpose of company policies, and the rules and expectations that apply to the team. Informing leadership behaviors has been found to increase the pace of decision-making, which should benefit decisiveness (Li et al. 2018). However, informing behaviors can undermine reflectiveness by reducing information sharing and the quality of decisions (Cruz et al. 1999). This is why empowering leadership is also characterized by participative and coaching leadership behaviors, which are known to enhance voice behavior (Wang et al. 2017), knowledge sharing (Srivastava et al. 2006), and decision quality (Meyer et al. 2016).

In the organizational psychology literature, a team’s social climate – the set of norms, attitudes, and expectations that are perceived by team members (Schneider 1990) – is seen as a key mediator through which leadership impacts team behavior (e.g. Edmondson et al. 2004). Prior research has shown that empowering leadership relates to higher trust (Zhang & Zhou 2014) and commitment (Clark et al. 2009), which we address as relevant team climate characteristics for reflectiveness and decisiveness. *Cooperative trust* is relevant for reflectiveness, as it implies that team members openly deal with issues or problems and are open to advice from others, who may subsequently consider more alternative views during decision-making (Costa et al. 2001). *Goal commitment* speaks to decisiveness as it indicates team members’ commitment to and felt responsibility for the team goals, possibly increasing their focus on reaching these goals timely (Hoegl et al. 2004). In sum, we anticipate that empowering leadership relates to more reflectiveness as well as more decisiveness, by building a team climate of cooperative trust and goal commitment. This is in line with a review of prior studies showing that teams are most effective when members feel safe to speak up and feel responsible for the team outcomes (Edmondson 2018). Hence, we explore how participative, coaching, and informing leadership behaviors that characterize empowering leadership are related to the reflectiveness and decisiveness of supervisory teams (see Fig. 2). Rather than focusing on one type of leadership behavior, which is seen as an important limitation within the scientific literature on leadership (Glynn & Raffaelli 2010), we thus compare and test the effects of three types of leadership behaviors on joint decision-making.

**1.3. How did the COVID-19 crisis impact reflectiveness and decisiveness?**

By disrupting habits and common patterns of team functioning, crises may make it more difficult for teams to continue to act reflectively and decisively. This was evident in the COVID-19 crisis when people were suddenly forced to start working from home and to work apart from their co-workers (Van Bavel et al. 2020; Kniffin et al. 2021). It is possible that this led team members to experience fewer opportunities to share perspectives and guidelines, thereby reducing critical reflection and their effectiveness in joint decision-making.

The ability of supervisory teams to remain reflective and decisive during COVID-19 may have depended on the extent to which team leaders had successfully built a team climate of cooperative trust and goal commitment



**Figure 2** Research model.

prior to the onset of this crisis. As teams suddenly had to operate more autonomously and independently from their team leader, empowering leadership may represent an effective strategy to enable satisfactory decision-making when being disrupted by a crisis, as this approach builds the trust and commitment team members need to work together effectively when the team leader is absent (Van Bavel *et al.* 2020; Kniffin *et al.* 2021). In the current research, we examine how initial levels of empowering leadership, cooperative trust, and goal commitment before COVID-19 (at Time 1) influenced the reflectiveness and decisiveness of supervisory teams during this crisis (at Time 2). This sheds more light on the degree to which investing in the team's ability to reconcile reflectiveness and decisiveness serves as a resource in times of crisis.

The following sections report three empirical studies conducted among various supervisory bodies in the Netherlands. We investigate whether supervisory bodies can act both reflectively and decisively (Study 1), whether empowering leaders can simultaneously stimulate reflectiveness and decisiveness (Study 2), and how the onset of the COVID-19 crisis impacted the reflectiveness and decisiveness of supervisory teams (Study 3). We develop and test a new 10-item Joint Decision-Making Questionnaire that measures reflectiveness and decisiveness as joint decision-making behaviors, which offers a practical tool for supervisory bodies to assess to what extent they reach decisions in a reflective and decisive manner. Furthermore, we provide greater insight into specific actions that team leaders can take to support their team to make decisions reflectively and decisively on a more daily basis. This also helps their team to effectively deal with challenging circumstances, such as the COVID-19 crisis that forced supervisory officers to work apart from their co-workers.

## 2. Study 1: Reflectiveness and decisiveness

In Study 1a and 1b, we conceptualized and tested reflectiveness and decisiveness as distinct decision-making behaviors. We collected data through online questionnaires among supervisory officers and supervisory board members. We took several steps to develop appropriate scales to measure reflectiveness and decisiveness. To the best of our knowledge, there are no existing scales that measure reflectiveness and decisiveness as joint decision-making behaviors. We used the *Learning Styles Questionnaire* by Honey and Mumford (2000) as inspiration, which distinguishes reflection-oriented from more action-oriented learning styles. For example, an item relevant to decision-making, indicating a reflection-oriented style, was "I like to reach a decision carefully after weighing up many alternatives" and, indicating an action-oriented learning style, was "In discussions, I like to get straight to the point." This questionnaire was designed to help individuals identify their preferred learning style. We however focus on *joint decision-making behaviors* rather than individual preferences, so we used these example items as inspiration and developed additional items to operationalize reflectiveness and decisiveness.

To develop additional items, we conducted in-depth interviews with subject-matter experts ( $N = 8$ ) who studied supervisory practice as researchers or practitioners working at various supervisory authorities in the Netherlands. During these interviews, we asked exploratory questions regarding the way supervisory bodies reach their decisions. All eight experts spontaneously mentioned the need to reflect and/or the need to take decisive action. For example, a behavioral science expert emphasized the importance of reflectiveness for the quality of regulatory decisions. A regulatory expert referred to the difficulty to act decisively and make impactful decisions based on limited information. This supports the notion that reflectiveness and decisiveness are two essential decision-making behaviors for supervisory practice. Based on these subject-matter expert interviews, we developed scale items to assess reflectiveness and decisiveness as two distinct decision-making behaviors. We discussed these items with a supervisory research team that was expert in the subject matter as well as experienced in developing questionnaires to be used in the field, resulting in some final adjustments. The final Joint Decision-Making Questionnaire items are shown in Table 1.

In Study 1a, we surveyed a sample of supervisory officers, so-called external supervisors, and conducted exploratory factor analyses to examine the properties of the two scales. In Study 1b, we used a sample of supervisory board members, so-called internal supervisors, and performed confirmatory factor analyses to test whether the questionnaire items represent two distinct scales. In both studies, we also investigate how the scales indicating reflectiveness and decisiveness are interrelated.

## 2.1. Study 1a

### 2.1.1. Methods

2.1.1.1. *Procedure and participants* The Joint Decision-Making Questionnaire measuring reflectiveness and decisiveness was distributed among a highly diverse sample of supervisory officers working at various supervisory organizations (e.g. health care inspectorate, financial market authority) in the Netherlands. The link to the questionnaire was sent via e-mail to all 152 participants of their professional association’s annual conference. In this e-mail, we informed participants that participation was voluntary and anonymous and that data would be handled confidentially, which was the case for all the studies reported in this article. No incentives were provided to participants in any of the studies. The questionnaire was part of a larger survey on regulatory decision-making that was used as input for an interactive presentation by the researchers during the conference. Other measures that were part of this survey were beyond the scope of this article. A total of 87 questionnaires were completed (response rate = 57 percent). Descriptive statistics and correlations can be found in Appendix I. There were no significant correlations between the background variables and reflectiveness and decisiveness (see Table A1 in Appendix I).

2.1.1.2. *Measures* The 10-item questionnaire measured *reflectiveness* (5 items; e.g. “In our organization, we examine our assumptions.”) and *decisiveness* (5 items; e.g. “In our organization, we act decisively.”) as joint decision-making behaviors (see Table 1 for all items). The items were introduced as follows: “Decision-making is central to the work of supervisory officers and can impact the supervisory body’s effectiveness. This concerns, for instance, decisions about identifying, assessing, or mitigating risks. Below statements refer to the decision-making *in your organization*.” To capture perceptions of joint decision-making and guard against self-favoring bias, participants were asked to reflect on their organization (or “board” in Study 1b, and “team” in Study 2 and 3) rather than their own behavior. As such, the items started with: “In my organization....” All responses were measured on a 7-point Likert scale ranging from (1) – “strongly disagree” to (7) – “strongly agree,” and collected in the Dutch language. This was the case for all three studies described in this article.

### 2.1.2. Results

To examine whether the 10 items of the questionnaire represented two distinct clusters of joint decision-making behaviors (i.e. reflectiveness and decisiveness), an exploratory factor analysis (principal component analysis, varimax rotation) was performed. The data were suitable for this analysis because the result of the Kaiser–Meyer–Olkin test was higher than 0.80 (KMO = 0.87). As intended, the analysis revealed two orthogonal components with eigenvalues larger than 1, explaining 71.8 percent of the total variance. The rotated component matrix confirmed that the items loaded strongly on one of two components, with low or no cross-loadings (see Table 1). This procedure yielded two highly reliable 5-item scales capturing reflectiveness ( $\alpha = 0.88$ ) and decisiveness ( $\alpha = 0.91$ ). These items and scales were used in further analyses.

**Table 1** Rotated component matrix showing factor loadings

Q	In my organization...	1. Decisiveness	2. Reflectiveness
3	...we maintain momentum in our approach.	0.86	
2	...we act decisively.	0.84	
5	...we address complex decisions.	0.84	
1	...we quickly reach a decision.	0.84	
4	...we come to the point immediately.	0.77	
8	...we take time to listen to differing views.		0.88
9	...we bring in alternative views.		0.87
7	...we examine our assumptions.		0.77
6	...we are critical of our actions.		0.76
10	...we actively ask for alternative views.		0.75

Note. Factor loadings < 0.40 are suppressed.

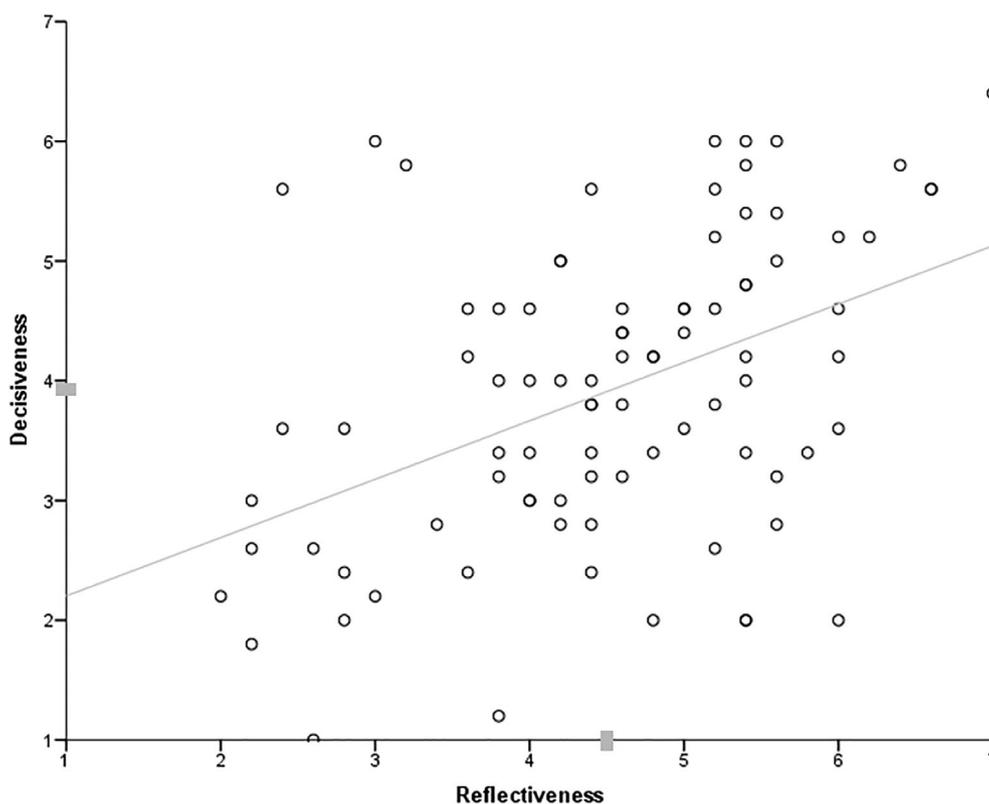
On average, participants reported higher scores on reflectiveness ( $M = 4.53$ ,  $SD = 1.15$ ) than on decisiveness ( $M = 3.92$ ,  $SD = 1.26$ ),  $t(86) = 4.44$ ,  $P < 0.001$ . Reflectiveness and decisiveness were positively correlated with each other ( $r[87] = 0.44$ ,  $P < 0.001$ ). As shown in Figure 3, this positive correlation indicates that higher scores on reflectiveness go hand in hand with higher scores on decisiveness.

## 2.2. Study 1b

### 2.2.1. Methods

**2.2.1.1. Procedure and participants** The Joint Decision-Making Questionnaire measuring reflectiveness and decisiveness was distributed among approximately 1,300 members of various supervisory boards in the Netherlands. Supervisory boards have the primary duty to monitor, advise, and appoint the managing board of an organization. Participants received the link to the questionnaire via an e-mail from their professional association. This questionnaire was again part of a larger survey that was used as input for an interactive presentation by the researchers. A total of 158 questionnaires were completed (response rate = 12 percent). As only 48 participants attended our interactive presentation, we consider this response rate quite high. Descriptive statistics and correlations can be found in Appendix I. There were two significant but weak correlations between the background variables and decisiveness (see Table A2 in Appendix I); male board members and board members who worked more hours reported higher scores on decisiveness.

**2.2.1.2. Measures** In Study 1b, we used the same 10-item questionnaire to measure reflectiveness and decisiveness as in Study 1a. The only difference in the introduction of the items was that “the statements below are about the decision-making in your supervisory board.” As such, the items started with: “In my supervisory board....”



**Figure 3** Figure Scatterplot showing the relationship between reflectiveness and decisiveness.

**Table 2** Fit indices for proposed and alternative model

Model	$\chi^2$	<i>df</i>	<i>P</i>	TLI	CFI	RMSEA
M1: Proposed 2-factor model	55.46	157	< 0.05	0.96	0.97	0.06
M2: Alternative 1-factor model	268.98	157	< 0.001	0.54	0.64	0.21

CFI, comparative fit index; RMSEA, root mean square error of approximation; TLI, Tucker-Lewis Index.

### 2.2.2. Results

To examine whether the two decision-making behaviors (i.e. reflectiveness and decisiveness) can be statistically distinguished, confirmatory factor analyses were conducted. As shown in Table 2, the proposed two-factor model for the questionnaire items demonstrated a highly satisfactory fit, whereas the alternative one-factor model indicated a poor fit. A chi-square difference test between the proposed two-factor model (M1) and the alternative model (M2) showed that the proposed model fitted the data significantly better than the alternative model ( $\chi^2[1, N = 158] = 213.52, P < 0.001$ ). These results confirm that reflectiveness and decisiveness refer to distinct decision-making behaviors. The final two-factor model showing standardized factor loadings is shown in Fig. B1 in Appendix II. The two 5-item scales measuring reflectiveness ( $\alpha = 0.86$ ) and decisiveness ( $\alpha = 0.82$ ) were again highly reliable.

Similar to Study 1a, participants indicated slightly higher scores on reflectiveness ( $M = 5.56, SD = 0.82$ ) than on decisiveness ( $M = 5.24, SD = 0.81$ ),  $t(157) = 4.22, P < 0.001$ . A correlational analysis again demonstrated that reflectiveness and decisiveness were positively correlated with each other ( $r[156] = 0.27, P = 0.001$ ; see Fig. C1 in Appendix III).

### 2.3. Discussion

In both samples we examined, reflectiveness was rated higher than decisiveness. In other words, supervisory officers and supervisory board members perceived members of their supervisory body to be better at discussing alternative views than at maintaining momentum in their approach. This is consistent with prior observations of how supervisory bodies tend to operate (e.g. spending much time on analyzing risks and alternatives; Ottow 2015).

Our findings also show that reflectiveness and decisiveness are positively interrelated decision-making behaviors. This suggests that reflectiveness and decisiveness are not at odds with each other, but can be reconciled in joint decision-making. Thus, reflectiveness does not seem to impede decisiveness but is more likely to support decisiveness.

## 3. Study 2: The role of empowering leadership

In Study 2, we examined supervisory teams to gain more insight into the question of how empowering leadership is related to reflectiveness and decisiveness. The choice of predictors in this study was partly based on 17 in-depth interviews with supervisory officers ( $N = 6$ ), team managers ( $N = 6$ ), and department heads ( $N = 5$ ) from the supervisory organization we examined, to prepare for the study. Almost all interviewees emphasized the importance of team leaders who provide room for challenge and a clear direction, to act reflectively *and* decisively. For example, a department head referred to trust and clarity as fundamentals of an effective team within the organization, and the critical role of team leaders in creating the conditions that foster this. Also, a supervisory officer shared positive experiences with a leader who provides direction and, at the same time, shows trust by responding constructively and avoiding micromanagement. As elaborated in the introduction, we included *empowering leadership*, *cooperative trust*, and *goal commitment* as potential predictors of reflectiveness and decisiveness (Arnold et al. 2000; Costa et al. 2001; Hoegl et al. 2004). We used path analysis to test how empowering leadership predicts cooperative trust and goal commitment and, in turn, the reflectiveness and decisiveness of supervisory teams.

### 3.1. Methods

#### 3.1.1. Procedure and participants

An online questionnaire was distributed among 470 supervisory officers working at a supervisory organization in the Netherlands, via an e-mail from its managing board. A total of 271 questionnaires were completed (response rate = 58 percent). Participants worked at different supervisory teams throughout the organization. In total, there were 44 teams in our dataset. Similar to prior research (e.g. Maloney *et al.* 2010), we used the criterium of at least two participants per team to include the team in the analysis. As all teams had met this criterium, all 44 teams were used in further analyses. The response rates within teams ranged from 25 to 100 percent. On average, there were 6 participants per team, ranging from 2 to 11.

Furthermore, participants were asked whether they worked in their team for less than one year, which was the case for 28 percent of the participants. These participants were evenly distributed among the teams ( $\chi^2[43, N = 271] = 46.69, P = 0.323$ ). As this variable (i.e. working in this team for less than one year) was not significantly correlated with any of the dependent variables (see Table A3 in Appendix I), we did not control for this in further analyses. No further background information was asked because we did not want to raise concerns about anonymity as this study was conducted within a single organization. Team size ( $M = 12.44, SD = 6.49$ ) was not significantly correlated with any of the dependent variables (see Table A3 in Appendix I) and therefore not controlled for in further analyses.

#### 3.1.2. Measures

In the online questionnaire, participants were asked to reflect on their team. Based on calculations of interrater agreement coefficients and intra-class correlations (see Table D1 in Appendix IV), the data were aggregated at the team level, and mean scores were computed.

*Empowering leadership* was assessed with the Empowering Leadership Questionnaire by Arnold *et al.* (2000). The original scales for participative leadership and informing leadership consisted of 6 items, whereas the original scale for coaching leadership consisted of 11 items. The latter was reduced by focusing on the six most relevant items so that three 6-item scales were obtained (Gao *et al.* 2011). Example items are: “My manager encourages team members to express ideas/suggestions” (participative;  $\alpha = 0.91$ ), “My manager helps team members to focus on their goals” (coaching;  $\alpha = 0.92$ ), and “My manager can properly explain the role of my team within the organization” (informing;  $\alpha = 0.93$ ).

*Cooperative trust* was measured with the three most relevant items from the 6-item scale developed by Costa *et al.* (2001): “In my team, we discuss and deal with issues or problems openly; We take each other’s opinions into consideration; Most team members are open to advice and help from others” ( $\alpha = 0.84$ ).

*Goal commitment* was measured with the three most relevant items from the 5-item scale developed by Hoegl *et al.* (2004). Because these items were originally intended to measure “project commitment,” we slightly adjusted the items to focus on team members’ commitment to the team and its goals. This led to the following items: “My team feels responsible for achieving our goals; Team members have committed themselves to our goals; Team members are proud to be part of this team” ( $\alpha = 0.82$ ).

*Joint decision-making behaviors* were assessed with the 10-item Joint Decision-Making Questionnaire that was developed in Study 1. The 5-item Reflectiveness-scale ( $\alpha = 0.86$ ) and the 5-item Decisiveness-scale ( $\alpha = 0.90$ ) again showed good reliability. The items were introduced as follows: “Below statements are about the decision-making in your team. This decision-making can be formal (e.g., on formal measures) as well as informal (e.g., on informal agreements).” As such, the items started with: “In my team....”

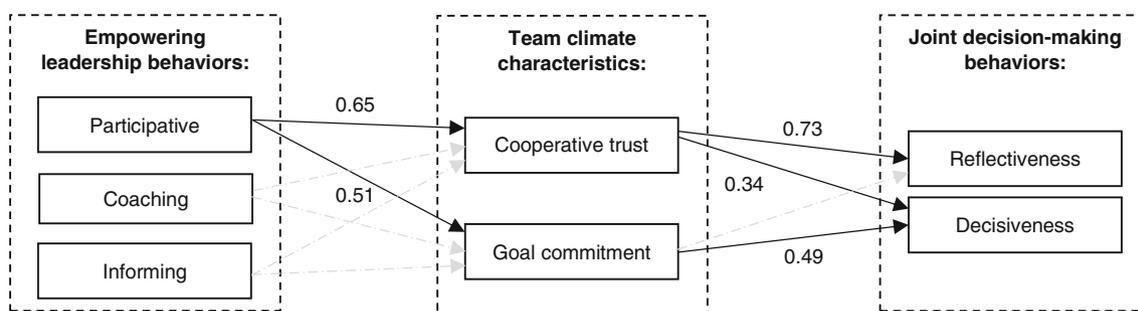
### 3.2. Results

Similar to Study 1, participants indicated higher scores on reflectiveness ( $M = 5.12, SD = 0.60$ ) than on decisiveness ( $M = 4.63, SD = 0.65$ ),  $t(43) = 5.78, P < 0.001$ . As shown in Table 3, reflectiveness and decisiveness were again positively correlated with each other (see Fig. C2 in Appendix III). The other study variables also showed moderate to strong positive correlations (e.g. teams that experienced more cooperative trust were also more committed to the team goals). Nevertheless, confirmatory factor analyses revealed that the study variables refer to distinct constructs and can therefore be analyzed as such (see Table E1 in Appendix V).

**Table 3** Means, standard deviations, Cronbach’s alphas, and correlations of study variables ( $N_{teams} = 44$ )

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Participative leadership	5.53	0.60	(0.91)						
2. Coaching leadership	5.33	0.75	0.82**	(0.92)					
3. Informing leadership	5.17	0.67	0.73**	0.71**	(0.93)				
4. Cooperative trust	5.33	0.58	0.65**	0.57**	0.53**	(0.84)			
5. Goal commitment	5.43	0.72	0.51**	0.46**	0.34*	0.66**	(0.82)		
6. Reflectiveness	5.12	0.60	0.54**	0.54**	0.39**	0.73**	0.52**	(0.86)	
7. Decisiveness	4.63	0.65	0.56**	0.50**	0.42**	0.66**	0.72**	0.59**	(0.90)

\* $P < 0.05$ ; \*\* $P < 0.01$ .



**Figure 4** Path model showing standardized betas of the significant paths ( $P < 0.05$ ).  
 Note: The dotted non-significant paths all had standardized betas of 0.15 or lower.

To test whether the empowering leadership behaviors (i.e. participative, coaching, and informing behavior) were related to reflectiveness and decisiveness, via cooperative trust and goal commitment, we performed path analysis. Figure 4 illustrates the significant paths of the final model ( $\chi^2[43, N = 44] = 5.94, P = 0.877, TLI = 1.00, CFI = 1.00, RMSEA = 0.00$ ). This model shows that participative leadership was related to higher cooperative trust and goal commitment. In turn, cooperative trust was related to more reflectiveness, and goal commitment was related to more decisiveness. In addition, cooperative trust was related to more decisiveness, but this relationship was less strong.

Analyses showed that participative leadership had a positive indirect relationship with reflectiveness via cooperative trust ( $b_{indirect} = 0.43, P = 0.002$ ); participative leadership did not significantly relate to reflectiveness when cooperative trust was included ( $b = 0.11, P = 0.421$ ). Further, participative leadership had a positive indirect relationship with decisiveness via goal commitment ( $b_{indirect} = 0.29, P = 0.006$ ); participative leadership was not significantly related to decisiveness when goal commitment was included ( $b = 0.17, P = 0.196$ ). The indirect relationship between participative leadership and decisiveness via cooperative trust was only marginally significant ( $b_{indirect} = 0.16, P = 0.057$ ). In sum, participative leadership positively relates to cooperative trust and goal commitment and, in turn, to reflectiveness and decisiveness. We did not find these relationships for coaching leadership and informing leadership.

**3.3. Discussion**

Compared to coaching and informing leadership, participative leadership was related most clearly to the reflectiveness and decisiveness of supervisory teams. As anticipated, cooperative trust and goal commitment were important mediators. Cooperative trust was related to more reflectiveness, whereas goal commitment was related to more decisiveness. These findings suggest that participative leaders can increase reflectiveness by promoting cooperative trust, and enhance decisiveness by creating goal commitment.

Why is participative leadership a more important predictor of cooperative trust and goal commitment than coaching and informing leadership? One difference between these forms of leadership is that participative leaders

involve team members in the decision-making that affects the team. In contrast, coaching and informing leadership represent more individual approaches that focus on providing support (e.g. helping team members to focus on their goals) and providing clarity (e.g. giving team members clear direction and guidelines), and focus less on the team as a whole. Therefore, these may affect team members' feelings of cooperative trust and their commitment to the team goals to a lesser extent.

#### 4. Study 3: The impact of the COVID-19 crisis

In Study 3, a second round of data collection was conducted to test how the onset of the COVID-19 crisis impacted the reflectiveness and decisiveness of supervisory teams. The first wave (Time 1), which is reported in Study 2, was conducted in February 2020, just before the outbreak of the COVID-19 pandemic in the Netherlands. However, once the pandemic hit, this significantly disrupted the nature of work such that office workers were no longer allowed to travel to and work at the office, to have face-to-face meetings, and to bring children to day-care or school. This study sought to examine how the onset of the COVID-19 crisis affected the reflectiveness and decisiveness of supervisory teams in April 2020 (at Time 2), and whether this was influenced by initial levels of empowering leadership, cooperative trust, and goal commitment before this crisis (at Time 1). Thus, we performed a “natural experiment” which means that the experimental manipulation is determined by factors outside the control of the researchers, in this case, the onset of the COVID-19 crisis.

##### 4.1. Methods

###### 4.1.1. Procedure and participants

A brief questionnaire was distributed two months after the first round of data collection, in the same manner, and among the same teams as in Study 2. In total, 215 questionnaires were completed (response rate = 45 percent). This resulted in 42 teams we could use in further analyses, according to the criterium of at least two participants per team. The response rates within teams ranged from 25 to 83 percent. On average, there were 5 participants per team, ranging from 2 to 11.

As this second round of data collection during COVID-19 was initially not planned, we did not have individual-level data that are necessary to check whether the same team members participated in both waves. Although we were still able to compare mean scores at the team level between both waves, possibly there was some variation in the team members who participated in the second wave compared to the first wave. To account for dependency in responses between the first wave and the second wave, we examined the interrater agreement within teams at Time 1 and Time 2, and conducted a paired sample comparison. For teams' reports of *reflectiveness* (i.e. 2-item measure, see Measures below), the average interrater agreement coefficient ( $rwg(j),\text{uniform}$ ) was 0.80 at Time 1 and 0.77 at Time 2, showing high agreement within the teams at both points in time ( $t[41] = 0.74, P = 0.462$ ). For teams' reports of *decisiveness* (i.e. 2-item measure, see Measures below), the average interrater agreement coefficient ( $rwg(j),\text{uniform}$ ) was 0.71 at Time 1, and 0.76 at Time 2, again showing high agreement within the teams at both points in time ( $t[41] = -0.89, P = 0.379$ ). These results indicate that team members agreed with each other on the extent to which their team reaches decisions reflectively and decisively, which was the case in both waves. We found no significant differences between the interrater agreement between Time 1 and Time 2, which means that team members agreed just as much with one another when they were working at the office (Time 1) as when they were forced to be working from home due to COVID-19 (Time 2).

Further, of all 213 participants, 97 percent were working from home completely at the time of data collection at Time 2, while they had all been working at the office at Time 1. Thus, the teams were similar to this important characteristic of the COVID-19 crisis. Working from home was not significantly correlated with reflectiveness or decisiveness at Time 2 (see Table A4 in Appendix I), so we did not control for this in further analyses.

###### 4.1.2. Measures

The study variables (i.e. cooperative trust, goal commitment, reflectiveness, and decisiveness) were measured with the two highest-loading items of the scales used in Study 2 according to confirmatory factor analyses. The data of each measure were again aggregated at the team level, based on calculations of interrater agreement coefficients

and intra-class correlations (see Table D1 in Appendix IV). Mean scores of the two highest-loading items were computed for the teams in both waves (i.e. just before and during the COVID-19 crisis).

*Cooperative trust* was measured with the following two items: “In my team, we discuss and deal with issues or problems openly; We take each other’s opinions into consideration” ( $\alpha = 0.84$ ). *Goal commitment* was measured with the following two items: “My team feels responsible for achieving our goals; Team members have committed themselves to our goals” ( $\alpha = 0.91$ ). *Joint decision-making behaviors* were assessed with the two highest-loading items of the reflectiveness-scale (“In my team ...we take time to listen to differing views; ...we bring in alternative views;”  $\alpha = 0.87$ ), and the two highest-loading items of the decisiveness-scale (“In my team ...we maintain momentum in our approach; ...we act decisively;”  $\alpha = 0.88$ ). To specify that we wanted participants to respond to the current situation during COVID-19, these items were introduced as follows: “Assess the following statements reflecting on your situation or experience at this moment during the COVID-19 crisis.”

## 4.2. Results

To test whether the onset of the COVID-19 crisis influenced the reflectiveness and decisiveness of supervisory teams, paired-samples *t*-tests were performed. These showed that decisiveness significantly increased ( $M_{\text{time1}} = 4.70$  vs.  $M_{\text{time2}} = 5.13$ ;  $t[41] = -3.16$ ,  $P = 0.003$ ), and that reflectiveness significantly decreased ( $M_{\text{time1}} = 5.34$  vs.  $M_{\text{time2}} = 4.93$ ;  $t[41] = 3.03$ ,  $P = 0.004$ ). During the COVID-19 crisis (at Time 2), on average, teams reported higher scores on decisiveness than on reflectiveness ( $t[41] = -0.22$ ,  $P = 0.037$ ). Further, we found that the positive correlation between reflectiveness and decisiveness became stronger ( $r_{\text{time1}}[42] = 0.45$  vs.  $r_{\text{time2}}[42] = 0.67$ ). Cooperative trust and goal commitment did not significantly increase during the COVID-19 crisis (i.e. cooperative trust:  $M_{\text{time1}} = 5.13$  vs.  $M_{\text{time2}} = 5.32$ ,  $t[41] = -1.72$ ,  $P = 0.092$ ; goal commitment:  $M_{\text{time1}} = 5.32$  vs.  $M_{\text{time2}} = 5.59$ ,  $t[41] = -1.96$ ,  $P = 0.057$ ), and are therefore not examined over time in further analyses.

To examine whether the effect of the COVID-19 crisis on decisiveness and reflectiveness (at Time 2) was positively impacted by initial levels of empowering leadership behaviors, cooperative trust, and goal commitment (at Time 1), a repeated measures ANCOVA was performed. Mean scores of empowering leadership behaviors, cooperative trust, and goal commitment from the first wave (Study 2) were used as covariates in these analyses. There was a significant positive interaction effect between time (crisis) and goal commitment on decisiveness ( $F[1,36] = 5.01$ ,  $P = 0.031$ ,  $\eta^2 = 0.12$ ). This indicates that teams that were more committed to their team goals before the COVID-19 crisis, scored somewhat higher on decisiveness during this crisis than teams that initially experienced less goal commitment. Moreover, there was a significant positive interaction effect between time (crisis) and cooperative trust on reflectiveness ( $F[1,36] = 4.66$ ,  $P = 0.038$ ,  $\eta^2 = 0.12$ ). This implies that teams that experienced more cooperative trust before the COVID-19 crisis, scored somewhat higher on reflectiveness during this crisis than teams that experienced less cooperative trust. None of the three empowering leadership behaviors assessed at Time 1 significantly interacted with time (crisis) on reflectiveness or decisiveness (at Time 2); all effect sizes ( $\eta^2$ ) were lower than 0.05. Thus, changes in reflectiveness and decisiveness during COVID-19 were more dependent on the initial levels of cooperative trust and goal commitment in teams, than on the leadership behaviors that had induced this team climate.

## 4.3. Discussion

During the COVID-19 crisis, supervisory teams reported less reflectiveness and more decisiveness than prior to the onset of this crisis. Possibly, team members were less motivated or experienced fewer opportunities to share information and perspectives with one another, now that they were forced to work apart. Likewise, this crisis may have enhanced team members’ sense of urgency, prompting them to work toward decision closure.

As anticipated, supervisory teams that reported higher levels of cooperative trust and goal commitment prior to the COVID-19 crisis reported more reflectiveness as well as more decisiveness during this crisis. In other words, teams that already experienced more cooperative trust and goal commitment were better able to reconcile reflectiveness and decisiveness during the COVID-19 crisis. The increased correlation between reflectiveness and decisiveness indicates that teams were doing this even better in times of crisis. This suggests that by fostering

cooperative trust and goal commitment, team leaders can prepare their team to make decisions both reflectively and decisively when being disrupted by a crisis.

## 5. General discussion

In this contribution, we focused on the decision-making taking place within supervisory bodies that aim to prevent harm to society, by mitigating risks occurring in institutions and markets that they supervise. On the one hand, supervisory bodies have to make sure that information is optimally exchanged so that they can base their judgments on all available information. To do this, they need to show reflective behavior, such as examining their assumptions and asking for alternative views. On the other hand, supervisory bodies should intervene timely to mitigate risks before damage is done, with sufficient but not necessarily complete knowledge of all the facts. Therefore, they need to maintain momentum in their approach and act decisively. The current research examined to what extent supervisory bodies make decisions in ways that are reflective as well as decisive. Specifically, we examined supervisory organizations, boards, and teams as the source of decision-making rather than examining regulatory decision-making after the occurrence of a specific incident.

In three studies, we showed that supervisory organizations, boards, and teams should be able to act reflectively *and* decisively, that participative leaders can stimulate both decision-making behaviors by promoting a climate of cooperative trust and goal commitment, and that experiencing this type of climate supported teams to act reflectively and decisively when being disrupted by the COVID-19 crisis. First, the current research showed that reflectiveness and decisiveness are positively interrelated decision-making behaviors. Thus, reflectiveness and decisiveness can go hand in hand at the group or team level (e.g. Rink & Ellemers 2010), and are not incompatible with each other. This finding indicates that supervisory boards and teams can take time to consider alternative strategies, as long as they keep in mind at which moment they should intervene. Hence, in joint decision-making, some individuals might guard that the group or team takes into account different views, while others can monitor that they progress toward decision closure.

Second, this research showed that team leaders can support supervisory teams to make decisions more reflectively *and* decisively. In line with previous research (Srivastava *et al.* 2006; Clark *et al.* 2009; Gao *et al.* 2011; Zhang & Zhou 2014), participative leadership relates to a team climate of cooperative trust and goal commitment and subsequently to more reflectiveness and decisiveness. Participative leaders involve team members in the decision-making and explicitly ask for alternative views (Arnold *et al.* 2000). Consequently, team members trust each other more with their opinions and feel more committed to the team goals (Costa *et al.* 2001; Hoegl *et al.* 2004). Experiencing cooperative trust, in turn, relates to more reflectiveness, and goal commitment relates to more decisiveness. Hence, by demonstrating participative leadership behaviors, team leaders can foster a team climate of cooperative trust and goal commitment to increase reflectiveness and decisiveness.

Third, we found that teams that experienced more cooperative trust and goal commitment *prior* to the COVID-19 crisis reported more reflectiveness and decisiveness *during* this crisis. As people were suddenly forced to work from home, they had to reach decisions more autonomously, at a physical distance from their team leader and co-workers (Van Bavel *et al.* 2020). It appears that teams that experienced more openness to sharing their thoughts and felt more responsible for the team outcomes were better equipped to consider various perspectives and to make decisions quickly during the COVID-19 crisis. In contrast, for teams that experienced less cooperative trust or goal commitment prior to COVID-19, online collaboration might have made it even more difficult to raise alternative views or to proceed toward a joint decision. This finding provides another argument for team leaders to build a team climate based on cooperative trust and goal commitment, to enable team members to make decisions reflectively and decisively when the circumstances ask for this.

### 5.1. Limitations and future research

Although a strong point of our research is that we examined the decision-making of a specific and underexamined professional group, our approach came with several limitations. First, we were dependent on the number of supervisory officers and supervisory board members that were approached by their association or organization to participate in our research. As we did not provide incentives to participants in any of the studies,

this possibly resulted in relatively small samples and selection bias. Also, as all three studies were performed in the Netherlands, our findings might be specific to the Dutch national context. For example, in countries where directive leadership is valued to a greater extent, participative leadership might be less prevalent and its influence on joint decision-making behaviors might be weaker (e.g. Dorfman *et al.* 1997). Nonetheless, we are confident that the current findings are likely to apply to a broader set of contexts, as these are in line with prior studies performed in other types of organizations and national cultures (e.g. among employees in the telecommunication or manufacturing industry in China; Gao *et al.* 2011; Zhang & Zhou 2014). Future research should test whether the found relationships are indeed applicable to different types of supervisory bodies in various contexts.

Second, we examined reflectiveness and decisiveness by measuring supervisory officers' experiences regarding their leadership, team climate, and joint decision-making. This approach allowed us to investigate predictors of and the interrelationship between reflectiveness and decisiveness reported by supervisory officers. Although the found relationships are in line with findings from prior research (e.g. leadership influences team climate; e.g. Edmondson *et al.* 2004), the cross-sectional design of Study 2 makes it difficult to draw firm conclusions about causality. Future experimental or longitudinal research should further validate the causal direction of the relationships we observed. Specifically, it might be interesting to test how reflectiveness and decisiveness jointly affect the quality of actual regulatory decisions, which was beyond the scope of the current research. Although it is highly difficult to measure objective decision quality in real-life settings, which makes the case for self-report measurement stronger (Amason 1996), future research could seek objective indicators of decision quality, such as the number of successful legal trials.

Third, we were able to perform a natural experiment, as we collected data just before and during the COVID-19 crisis that was characterized by the abrupt shift to working from home. Although we were only able to compare mean scores at the team level between both waves, and not at the individual level, we found that this crisis strongly impacted the reported reflectiveness and decisiveness of supervisory teams. We cannot exclude the possibility that another event besides the onset of this crisis impacted changes in the decision-making behavior of supervisory teams that we observed between Time 1 and Time 2. However, as we found substantial differences within a short period (i.e. two months), it is likely that only an anomalous and drastic event, such as this crisis, could have had such a profound effect. Future research should examine which specific characteristics of crises (e.g. new working conditions, self-prioritization, change in focus; Van Bavel *et al.* 2020) mostly explain why teams might act more decisively and less reflectively during a crisis.

Fourth, our primary aim was to understand the social context in which supervisory officers reach their decisions, by examining leadership and team climate as predictors of reflectiveness and decisiveness. Thus, we gained new insights into important meso-level factors that contribute to regulatory decision-making. Future research could further scrutinize these factors in combination with macro-level mechanisms that might play a role in the extent to which decisions are made reflectively and decisively. For instance, external political or media pressure may influence this, temporarily enhancing the decision-making pace, or prompting supervisory bodies to act more carefully in testing their assumptions before making a decision (Berry 2010). Another example is that the reluctance of regulated organizations to share information may hinder supervisory bodies in their attempt to obtain and consider all relevant facts, and make informed decisions quickly. Furthermore, it could be illuminating to compare various types of decisions. For example, the severity or impact of the decision to be made (e.g. sanctions vs. warnings) might influence the tendency of supervisory bodies to invest in reflectiveness as well as decisiveness.

## 5.2. Practical implications

Rather than considering reflectiveness and decisiveness to be at odds with each other, our data has shown that these behaviors can be reconciled in joint decision-making. Supervisory bodies could use the newly developed Joint Decision-Making Questionnaire as a practical tool to assess whether decisions are reached in a reflective *and* decisive manner. When one of the two tendencies receives too little attention, insights of the current research can be used to increase reflectiveness and decisiveness. We suggest that leaders of supervisory teams or chairs of supervisory boards can positively contribute to reflectiveness by creating cooperative trust, and decisiveness by

fostering goal commitment. Below, we elaborate on what actions leaders can take to promote these team climate characteristics.

In general, the findings emphasize the importance for team leaders and chairs of supervisory boards to demonstrate participative leadership behaviors to promote a team climate of cooperative trust and goal commitment. This suggests that before making a strategic decision, there would be value for leaders to discuss possible directions with team members by encouraging them to express their ideas and suggestions, and giving them a chance to voice their opinions (Arnold *et al.* 2000). Importantly, leaders then use team members' suggestions to make a decision and consider their ideas even when disagreeing with them. When leaders do *not* involve team members in the decision-making, the risk increases that team members keep their thoughts to themselves, and do not feel responsible for the outcomes of the decision-making (Edmondson 2018). This could harm team effectiveness, but could also harm the organization as others might base new judgments on these outcomes.

Furthermore, at a somewhat higher level, it is important for supervisory bodies to acknowledge that the social climate within supervisory teams is likely to partly reflect the climate of an organization as a whole. For example, it could be that at all organizational levels one is reluctant to share one's thoughts and perspectives. To gain more insight into the organizational climate, the managing board of a supervisory organization might conduct questionnaires and in-depth interviews to examine how supervisory officers and higher managers experience various aspects of the organizational climate, such as cooperative trust. Based on the outcomes of this examination, managing board members might benefit from taking a close look at their exemplary behavior, in the view of encouraging participative leadership behavior (Van Steenberghe *et al.* 2019). In this way, both managing board members and team leaders can take a role in contributing to a climate of cooperative trust and goal commitment, to improve the decision-making taking place within supervisory bodies.

## 6. Conclusion

Reflectiveness and decisiveness are essential decision-making behaviors for supervisory bodies that make decisions with far-reaching consequences for regulated organizations. Although one might think that reflectiveness undermines decisiveness, the current research showed that these tendencies are, in fact, positively associated, and can be reconciled in joint decision-making. In addition, results showed that by demonstrating participative leadership behaviors, leaders can foster a social climate of cooperative trust and goal commitment. Consequently, supervisory bodies can act more reflectively and decisively to reach informed and timely decisions and, ultimately, to prevent harm to society.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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## APPENDIX I

### Study 1a

The sample of supervisory officers ( $N = 87$ ) consisted of 49 women (56 percent) and 38 men, whose average age was 48 years (range = 25–72). Almost all participants (97 percent) had completed higher education (i.e. higher professional education or university education). Further, 38 percent of the participants had previously worked in the specific sector which they currently supervised. Finally, 16 percent held a managerial position. The background variables did not significantly correlate with reflectiveness or decisiveness (see Table A1).

### Study 1b

The sample of supervisory board members ( $N = 158$ ) consisted of 49 women (31 percent) and 109 men, whose average age was 57 years (range = 25–73). Almost all participants (98 percent) had received higher education (i.e. higher professional education or university education). One-third (32 percent) of the participants had worked previously in the sector which they currently supervised. Of all background variables, gender and working hours were significantly but weakly ( $r < 0.30$ ) correlated with decisiveness (see Table A2).

### Study 2

More than a quarter (28 percent) of supervisory officers ( $N = 271$ ) were a member of their team for less than one year. The average team size was 12 (range = 3–39). These variables did not significantly correlate with any of the dependent variables (see Table A3).

### Study 3

Almost all supervisory officers (97 percent;  $N = 213$ ) were working from home at the moment of data collection during the COVID-19 crisis, which was significantly but weakly correlated with cooperative trust (at Time 2; see Table A4). The average team size was 12 (range = 5–38), which did not correlate with any of the dependent variables.

**Table A1** Descriptive statistics and correlations for background variables and dependent variables

Variables	<i>M</i>	<i>SD</i>	Reflectiveness	Decisiveness
Gender (0 = male, 1 = female)			–0.20	–0.05
Age	47.71	9.81	–0.10	0.02
Education (0 = low, 1 = high)			–0.02	–0.05
Working hours per week	33.99	5.36	–0.01	–0.19
Years of employment with the organization	10.75	9.43	–0.03	0.08
Employment in the supervised sector (0 = no, 1 = yes)			–0.03	0.06
Management position (0 = no, 1 = yes)			0.09	0.10

**Table A2** Descriptive statistics and correlations for background variables and dependent variables

Variables	<i>M</i>	<i>SD</i>	Reflectiveness	Decisiveness
Gender (0 = male, 1 = female)			0.12	–0.20*
Age	57.34	8.20	0.14	0.03
Education (0 = low, 1 = high)			–0.02	0.02
Working hours per month	14.57	9.46	0.09	0.21**
Years of employment as a supervisory board member	6.49	6.30	0.09	–0.08
Employment in the supervised sector (0 = no, 1 = yes)			–0.11	–0.12

\* $P < 0.05$ ; \*\* $P < 0.01$ .

**Table A3** Descriptive statistics and correlations for background variables and dependent variables

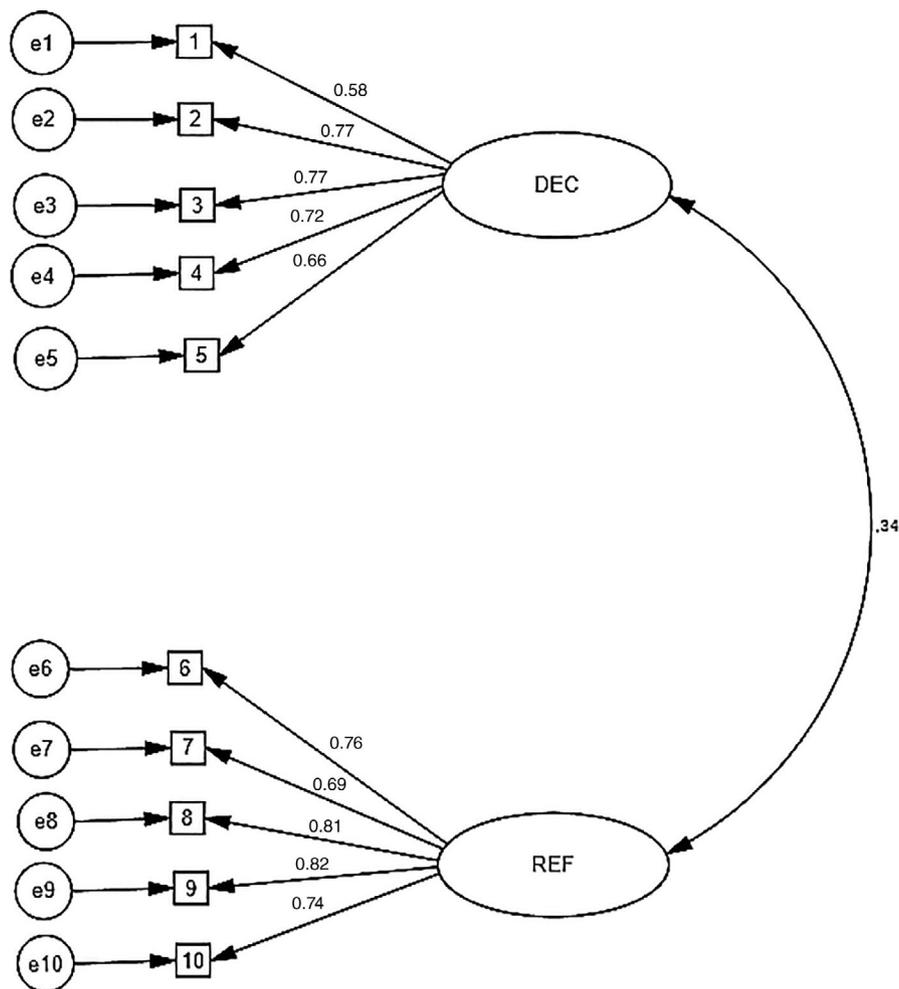
Variables	<i>M</i>	<i>SD</i>	Cooperative trust	Goal commitment	Reflectiveness	Decisiveness
Team member for less than one year (0 = no, 1 = yes)			0.08	0.05	0.12	0.11
Team size	12.44	6.49	-0.10	-0.05	-0.09	-0.08

**Table A4** Descriptive statistics and correlations for background variables and dependent variables (at Time 2)

Variables	<i>M</i>	<i>SD</i>	Cooperative trust	Goal commitment	Reflectiveness	Decisiveness
Working from home (0 = no, 1 = yes)			0.15*	-0.01	0.08	-0.01
Team size	12.20	6.09	-0.03	0.03	-0.01	0.05

\**P* < 0.05.

**APPENDIX II**



**Figure B1** Two-factor model of reflectiveness and decisiveness showing standardized factor loadings.

APPENDIX III

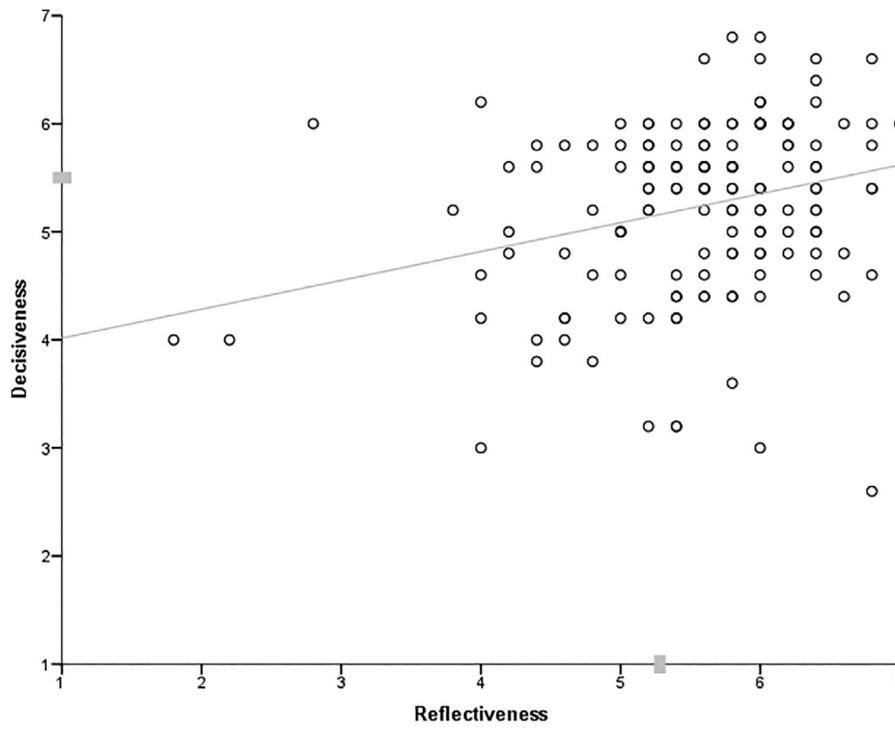


Figure C1 Scatterplot showing the relationship between reflectiveness and decisiveness ( $N = 158$ ).

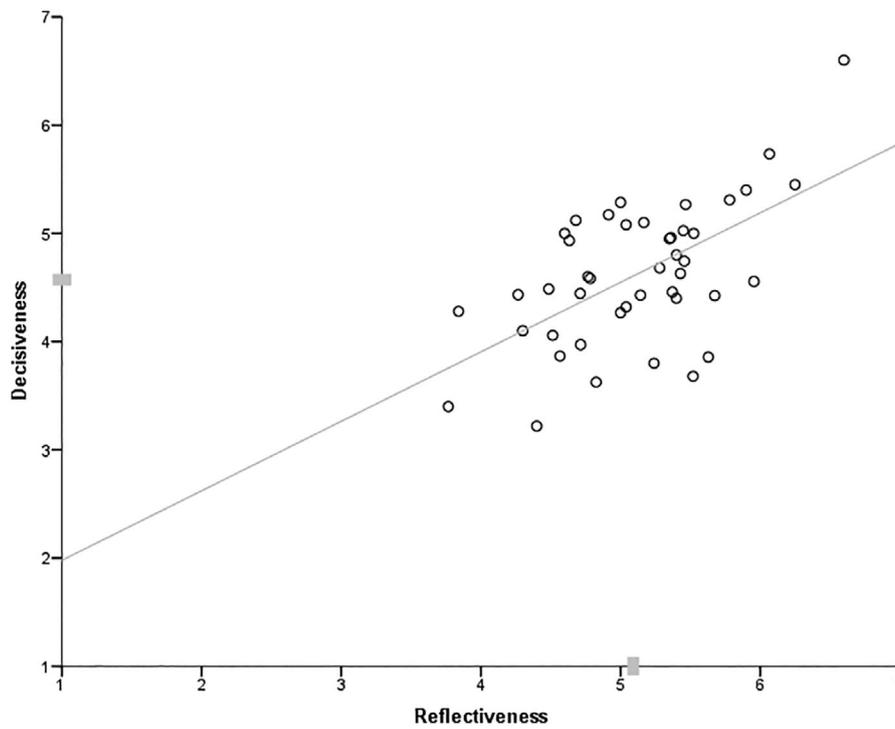


Figure C2 Scatterplot showing the relationship between reflectiveness and decisiveness ( $N_{teams} = 44$ ).

### APPENDIX IV

To determine whether data aggregation at the team level is accurate, we calculated interrater agreement coefficients for multi-item indices (median *rwg(j)*) compared to a uniform and slightly skewed distribution, and intra-class correlations ( $ICC_1$  and  $ICC_2$ ). These statistics are reported for each measure below (see Table D1). As all median *rwg(j)* values were above 0.70, all  $ICC_1$  values exceeded 0.05, and all  $ICC_2$  scores except for one were higher than 0.40, it was justified to aggregate the data at the team level.

**Table D1** Interrater agreement coefficients (median *rwg(j)*) and intra-class correlations ( $ICC_1$  and  $ICC_2$ )

Measures	<i>rwg(j)</i> , uniform	<i>rwg(j)</i> , skewed	$ICC_1$	$ICC_2$	<i>P</i>
Study 2					
Participative leadership	0.94	0.90	0.16	0.54	< 0.001
Coaching leadership	0.93	0.90	0.24	0.66	< 0.001
Informing leadership	0.94	0.90	0.14	0.50	< 0.01
Cooperative trust	0.87	0.80	0.15	0.52	< 0.001
Goal commitment	0.83	0.73	0.22	0.64	< 0.001
Reflectiveness	0.91	0.85	0.16	0.53	< 0.001
Decisiveness	0.88	0.81	0.12	0.46	< 0.01
Study 3					
Cooperative trust	0.87	0.82	0.13	0.43	< 0.01
Goal commitment	0.87	0.81	0.14	0.45	< 0.01
Reflectiveness	0.81	0.73	0.10	0.35	< 0.05
Decisiveness	0.83	0.76	0.13	0.42	< 0.01

### APPENDIX V

Because of moderate to strong correlations between the study variables in Study 2, confirmatory factor analyses ( $N = 271$ ) were conducted to determine whether the variables captured statistically distinct constructs. As can be seen in Table E1, the proposed 7-factor model showed a better fit than the alternative models in which variables that correlated strongly were combined into fewer factors. A chi-square difference test between the proposed 7-factor model (M1) and the best alternative model (M2) showed that the proposed model fits the data significantly better than the best alternative model ( $\chi^2[6, N = 271] = 136.57, P < 0.001$ ). These analyses thus revealed that the study variables can be statistically distinguished.

**Table E1** Fit indices of proposed and alternative models

Model	$\chi^2$	<i>df</i>	<i>P</i>	TLI	CFI	RMSEA
M1: Proposed 7-factor model	1,140.04	270	< 0.001	0.89	0.90	0.06
M2: Alternative 6-factor model	1,276.61	270	< 0.001	0.88	0.89	0.07
M3: Alternative 6-factor model	1,394.87	270	< 0.001	0.86	0.87	0.08
M4: Alternative 6-factor model	1,457.44	270	< 0.001	0.85	0.86	0.08
M5: Alternative 6-factor model	1,352.55	270	< 0.001	0.86	0.88	0.07
M6: Alternative 6-factor model	1,555.91	270	< 0.001	0.83	0.85	0.08
M7: Alternative 5-factor model	1,526.49	270	< 0.001	0.84	0.85	0.08
M8: Alternative 5-factor model	1,903.09	270	< 0.001	0.78	0.80	0.10

*Note.* M2: Alternative 6-factor model = cooperative trust and reflectiveness combined into one factor; M3: Alternative 6-factor model = goal commitment and decisiveness combined into one factor; M4: Alternative 6-factor model = cooperative trust and decisiveness combined into one factor; M5: Alternative 6-factor model = cooperative trust and goal commitment combined into one factor; M6: Alternative 6-factor model = reflectiveness and decisiveness combined into one factor; M7: Alternative 5-factor model = cooperative trust and reflectiveness combined into one factor, and goal commitment and decisiveness combined into one factor; M8: Alternative 5-factor model = participative leadership, coaching leadership, and informing leadership combined into one factor. CFI, comparative fit index; RMSEA, root mean square error of approximation; TLI, Tucker-Lewis index.