

## Context-specific definitions of organizational concepts: Defining ‘team effectiveness’ with use of the Delphi Technique

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### Abstract

Definitions are social constructions rather than objective descriptions. They set clear boundaries for what is considered normal in a situation. Common words in organizations, like effectiveness or success, carry different meanings in different contexts. In this paper, we evaluate the Delphi Technique as a method for explicating context-specific definitions and illustrate its use in formulating a context-specific definition of ‘an effective health care team’. Eight multi-disciplinary organization members participated in the study and reached consensus on characteristics assigned to team effectiveness in three rounds. The final definition implies the influence of organizational values, underscoring the importance of context specificity in organization studies.

**Keywords:** Delphi Technique, consensus methods, team effectiveness, health care teams, context-specific definitions

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### INTRODUCTION

Teamwork is generally considered as something inherently positive (Finn, Learmonth, & Reedy, 2010). It is believed to increase job satisfaction, professional accountability, innovation, support, and improved coordination and communication (Opie & Buchanan, 1997; Mathieu, Goodwin, Heffner, Salas, & Cannon-Bowers, 2000; Mathieu, Maynard, Rapp, & Gilson, 2008). Especially, in today’s health care context, team effectiveness is considered important in dealing with financial pressure, increasing health care consumption and an increasing shortage of health care workers (Heinemann & Zeiss, 2002; Kozlowski & Ilgen, 2006; Algesheimer, Dholakia, & Gurău, 2011). Although teamwork has the potential to contribute to organizational success, substantial challenges, such as power sharing and decision making, often hinder this potential (Opie & Buchanan, 1997; Finn, 2008).

When determining if a team is effective or not, it should be clear from the start what goals the team is expected to accomplish and how. The operationalization of an ‘effective’ team is, in essence, a culturally based concept. Different organizations have differing notions of what is ‘effective’ (Benders & Van Hootegeem, 1999). Hence, the formulation of a definition for team effectiveness resides neither in one individual nor can it be defined definitely irrespective of context. The aim of this paper is to

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evaluate the Delphi Technique as a method for explicating context-specific definitions and illustrate its use in a context-specific definition of ‘an effective health care team’.

Many researchers (Opie & Buchanan, 1997; Vliet Vlieland & Hazes, 1997; Millward & Jeffries, 2001) have sought to bring clarity and consistency to the definition of a team and to operationalize the multiple dimensions of teams and team effectiveness. The difficulty in doing so is that conceptualizations can vary widely according to membership, organizational context, tasks and interactions (Lemieux-Charles & McGuire, 2006), leading to a diversity of definitions and teamwork frameworks (Cohen & Bailey, 1997; Millward & Jeffries, 2001; Rousseau, Aubé, & Savoie, 2006; Salas, Stagl, Burke, & Goodwin, 2007; Rosen et al., 2008).

Given the complexity of team dynamics and the particular organizational setting in which teams operate, it is unlikely that a single, overarching model of team effectiveness is able to fit each and every specific context. Take, for example, the Integrated (Healthcare) Team Effectiveness Model (Lemieux-Charles & McGuire, 2006), that illustrates the interplay between the composition, capabilities, traits and outcomes of teamwork. The transferability of this model to different health care organizations is limited, as it does not contain sufficient details regarding organizational context, care delivery settings or care delivery strategies (Lemieux-Charles & McGuire, 2006). A set of universal indicators in a general definition does not have to be wrong, but it does not mean that such a description is meaningful for all organizations or all organization members (Sundstrom, McIntyre, Halfhill, & Richards, 2000; Devine, 2002).

While the majority of studies on team effectiveness does not address characteristics pertaining to organizational context (Lemieux-Charles & McGuire, 2006), these contextual characteristics are essential for two reasons. First, they are essential for outsiders to understand the team. Several field studies have shown that specific context variables, such as organizational culture and structure, influence team outcomes (Bower, Campbell, Bojke, & Sibbald, 2003; Lemieux-Charles & McGuire, 2006). Poor attention to this context will lead to shallow understanding of the team dynamics. Second, a contextual definition is helpful for the members themselves in order to make their actions explicit (Eppler, 2006; Eggins, O’Brien, Reynolds, Haslam, & Crocker, 2008). The reflection on the way people define the situations they encounter can facilitate organizational learning and avoid conflicts (Daft & Weick, 1984; Tekleab, Quigley, & Tesluk, 2009; Hovey & Craig, 2011). Therefore, a context-specific definition helps to create consistency in the interpretation of team effectiveness for both insiders and outsiders.

## DELPHI TECHNIQUE

Since the meaning of ‘team effectiveness’ is constructed in a social context, an organizational context-specific definition should be developed using the input of organization members. The Delphi Technique is designed to elicit and collect expert opinions about a complex problem, in a structured and multi-stage procedure that involves building from individual perspectives to reach an eventual overall group consensus (Linstone & Turoff, 1975; Whitman, 1990; McKenna, 1994). It has been widely used in organizational contexts (Linstone & Turoff, 1975; Reid, Pease, & Taylor, 1990) and is considered an ideal method for the refinement of views (Rowe & Wright, 2001).

The technique is characterized by four key features. *Anonymity* is achieved through the use of questionnaires (Rowe & Wright, 1999) and is important to avoid effects of group dominance and individual inhibition (Beech, 1991). Next, *iteration* refers to the multi-round process, which allow people to change or refine their opinions between the rounds (McKenna, 1994). *Controlled feedback* is the exchange of information between the experts carried out by a facilitator, in such a way that all irrelevant information is discarded (Landeta, 2006). *Statistical group response* refers to the quantitative

and statistical processing of the group's responses, so that the average group judgment can be presented as the final answer (Jones & Hunter, 1995).

Compared to similar decision-making methods, such as the Interacting Group Method (Loo, 2002), Nominal Group Technique (Rowe & Wright, 1999) and committee meetings (Beech, 1991; Rowe & Wright, 1999; Loo, 2002), Delphi has three major advantages. First, as Delphi participants never actually meet, group pressure and communication problems are avoided. Second, because of its non-interacting nature, individual responses and changes are both central and measurable, providing insight into the different and shared beliefs and perspectives of individual participants. A third advantage is the efficiency of the method in collecting and processing information, as travel costs and coordination problems in getting all participants together do not arise (Clayton, 1997). On the other hand, some scholars argue that extensive time commitment is needed, considering its multiple rounds, and due to the use of open questions, manual collection, and processing of questionnaires and sample fatigue (Duffield, 1993; Keeney, Hasson, & McKenna, 2001; Hsu & Sandford, 2007).

Besides its advantages, some limitations are also identified. As no universal guidelines exist and judgments are involved, the Delphi Technique has been criticized in relation to its reliability and validity (Walker & Selfe, 1996; Rowe & Wright, 1999; Loo, 2002). This critique includes the difficulty of checking the method's accuracy and reliability (Rowe & Wright, 1999), the limitation of the interaction (Landeta, 2006) and its sometimes deficient application, such as poorly formulated questions and a poor selection of experts. However, several studies have demonstrated the opportunities and usefulness of the technique when well designed and well conducted (Kirkwood, Wales, & Wilson, 2003; Landeta, 2006; Wiener, Chacko, Brown, Cron, & Cohen, 2009). A careful selection of participants and a strict implementation of the process will help to increase the validity, accuracy and reliability of the study results (Goodman, 1987; Williams & Webb, 1994; Rowe & Wright, 1999; Hasson, Keeney, & McKenna, 2000; Landeta, 2006). Taking these possibilities, advantages and limitations of the Delphi Technique into account, we consider the Delphi Technique as a powerful method in the formulation of a context-specific definition. We will use the features of Delphi as outlined in this section as a guide for our evaluation process of the method.

## METHOD

### Research context

To investigate whether context variables are reflected in a context-specific definition, we choose a specific health care organization with a strong organizational culture for the accomplishment of this study. Such a narrow research approach is necessary to guarantee context specificity, as context-specific characteristics tend to be less visible in organizations with a more implicit organizational culture (Eisenhardt, 1989). In accordance with this requirement, the study was conducted within a *solution-focused health care organization for mentally disabled* people. It delivers residential care and work coaching to 2,300 clients in about 90 different locations in the east of the Netherlands. At each location, one or more teams operate to provide comprehensive health care services. The solution-focused work approach (De Shazer, 1985; McAllister, 2003) was actively implemented in 2005 by means of trainings, workshops and video interaction guidance. This future-oriented and pragmatic approach is characterized by a focus on best practices and 'doing what works,' using the strong qualities of people (De Shazer, 1985).

### Participants

A multi-disciplinary expert panel of 13 potential participants was invited for participation. It consisted of three region managers, three office heads, three team managers and four team members.

Based on their expected knowledge and overview of the operation of various teams in the organization, we invited all region managers and office heads working in the organization (Loo, 2002). Team managers and team members were involved to provide detailed and practical input related to teamwork. As they are part of the area being studied, they can be considered as experts based on their team experiences, regardless of their educational level or role. Therefore, no strict demographical selection criteria were used for the inclusion of team members and team managers on the panel. Hence, they were selected based on earlier contact with the facilitator (first author) during introduction days in random teams in the organization. An emotional or professional link with the researcher can help to commit people more to the research (McKenna, 1994; Landeta, 2006). The potential panel existed of five women and eight men.

Eight of the 13 invited professionals participated in the study, a response rate of 62%. The active panel consisted of three region managers, two office heads, one team manager and two team members working as health care professionals; seven of them were male and one female. Reasons for non-response were three absences due to holidays, and two are unknown. Of these unknown, one member at least reacted enthusiastic on the invitation for participation, but did not respond in the first round of the study. This indicates a typical example of passive non-response, referring to people who may have wanted to return the questionnaire, but because of circumstances, they could or did not (Rogelberg & Stanton, 2007). The response rate over the rounds was very good; all eight participants successfully completed all three rounds.

## Procedure

The process included three e-mail-based rounds including written questions coordinated by the facilitator (first author). Beforehand, the participants were informed about the aim, procedure and time schedule of the study. Participants were guaranteed quasi-anonymity, meaning that their contributions would remain strictly anonymous, but respondents knew who else was involved in the exercise (McKenna, 1994). E-mails to the participants were sent in a group mail and responses were returned directly to the facilitator. To avoid drop-outs, rounds took place every successive week. The panel was given two days to respond on every e-mail round. Reminders were sent after four days after the due date.

A qualitative first-round approach was employed, consisting of three open questions. This allowed the participants free scope to identify – and generate ideas on – characteristics they consider important for an effective health care team. Round two served to extract the most important characteristics for inclusion in a concept definition, based on priority scores assigned to every characteristic. Round three served to improve the concept definition into a definitive definition. Between each round, qualitative feedback was provided to inform the group members about the anonymous opinions of their colleagues. No statistical feedback was supplied. No items were added during analysis and the wording used by the participants was used as much as possible in successive rounds (Hasson, Keeney, & McKenna, 2000).

## Data collection and analysis

### *Round one*

On August 18, 2010, the first questionnaire was sent to the panel. It consisted of three open questions about participants' experiences with – and practical knowledge about – team effectiveness (Wiener et al., 2009). They were asked: (1) to describe an effective health care team within their organization; (2) to mention characteristics typical of an effective team and typical of an ineffective team based on their experiences in the organization; and (3) to describe how to distinguish between effective and

ineffective teams in terms of characteristics, expressions, behavior and processes. A reminder was sent on August 24.

The facilitator analyzed the responses and developed a list with all the characteristics assigned to an effective team. Overlapping terms were both included in the list. The characteristics assigned to ineffective teams were used to gain insight into more important or any conflicting characteristics. To create a clear overview of the type of characteristics, the list was clustered in the four categories *team composition and capabilities*, *team processes*, *team outcomes* and *group experiences* (Hasson, Keeney, & McKenna, 2000; Wageman, Hackman, & Lehman, 2005; Lemieux-Charles & McGuire, 2006). Also, the frequency of each characteristic was included.

### **Round two**

The second e-mail was sent on August 25, 2010. It contained an explanatory letter and the list with characteristics as derived in the first round. The panel was asked to rate the characteristics for relevance using a 5-point Likert scale (1 = 'very irrelevant,' 5 = 'very relevant'). In addition, participants were invited to add comments on each characteristic.

The facilitator analyzed the responses on median and inter-quartile range (IQR) in order to help develop a concept definition (Jones & Hunter, 1995; Rudy, 1996). The median scores the agreement on the relevance of each item for the development of the definition. The IQR scores the dispersion of agreement between experts about the scored relevance. Characteristics with an IQR of  $\leq 1.5$  can be considered as good consensus, an IQR of 0 indicates perfect consensus (Jenkins & Smith, 1994; Jones & Hunter, 1995; Rudy, 1996). To develop a consensus-based definition, all characteristics with a median score of 4 and 5 with an  $\text{IQR} \leq 1.5$  were included.

The comments related to the inserted characteristics served as input for the design and formulation of a proper definition. The definition was formulated according to the following criteria: it should be comprehensible and relevant to the context in which it is offered (Sundstrom et al., 2000; Devine, 2002) relevant and accessible for use (Davenport & Prusak, 2000) and consistent, both internally and in comparison with other established definitions (Davenport & Prusak, 2000; Eppler, 2006). Because of the complexity of the concept, an enumerative definition was chosen as an obvious design.

### **Round three**

The third e-mail was sent on September 1, 2010. In this round, the participants were asked to review – and comment on – the formulated concept definition. The comments were taken into account for a reformulation of the concept definition. Consensus was considered when at least 80% of the participants agreed with the final definition (Green, Jones, Hughes, & Williams, 1999). A final e-mail included a presentation of the final definition, an invitation for any questions arising from the study result and an acknowledgment for contribution and commitment to the study.

## **RESULTS**

### **Round one**

From the answers given in the first round, 62 characteristics assigned to an effective health care team were extracted (see Table 1, column A). Ten characteristics were related to team composition and capabilities, 24 to team processes, 12 to team outcomes and 16 to group experiences. Characteristics in the dimension 'team outcomes' were primarily mentioned by the region managers and characteristics in the dimension 'group experiences' by the team members and team manager. Characteristics in the dimensions 'team composition and capabilities' and 'team processes' were equally mentioned by all participants. The most cited characteristic in the first round was about feedback and openness.

TABLE 1. CHARACTERISTICS ASSIGNED TO EFFECTIVE HEALTHCARE TEAMS

Number	Category	Characteristics	A	B	C	D	E
			Times mentioned	Median	IQR	Included in definition	Formulation in definition
1	Team composition and capabilities	Team members have complementary skills	1	4.0	0.5	×	Professionals, complementary
2		Team exist of different kind of people; a mixture of young and old and men and women	3	2.0	1.5		
3		Between six and eight members is still useful	2	2.0	1.0		
4	Team processes	Team members are proactive	2	4.0	0.5	×	Motivated, taking responsibility
5		Team members are studious	2	4.0	0.5	×	Studious
6		Team members are experts in their work field	2	4.0	1.5	×	Competent
7		Team members are willing to go the extra mile	1	4.0	2.0		
8		Team members are intrinsically motivated/ambitious/engaged	3	5.0	1.0	×	Motivated, engagement
9		Team members dare to take responsibility	3	4.0	1.0	×	Taking responsibility
10		Adaptability/flexibility	1	4.0	1.5	×	Flexible
11		Clear task design	3	3.5	2.5		
12		Easy handling and influencing the environment	1	1.0	1.0		
13		Helping each other, taking over jobs	5	5.0	1.0	×	Helping each other
14	Mistakes are aloud	1	3.0	1.5			
15	Humor	2	3.5	2.0			
16	Businesslike	1	2.5	1.5			
17	Doing what works	2	4.0	0.5	×	Doing what works	
18	Seeing possibilities/see problems as a challenge	2	4.0	1.0	×	Permanently searching for improvements	
19	Using each other's qualities/build on each other strengths	4	4.0	1.0	×	Using their strengths; expertise, personality and skills	
20	Short communication lines	1	4.0	1.0	×	Short communication lines	
21	Giving feedback, asking for feedback, receiving feedback, openness	6	5.0	1.5	×	Honest and clear communication and feedback	
22	Meetings only if necessary, not because it is planned	1	3.0	1.0			
23	Permanently searching for improvements	3	4.0	0.5	×	Permanently searching for improvements	
24	Clear and concrete appointments	2	4.0	1.0	×	Making clear appointments	
25	Team reflection and evaluation through intervision and supervision meetings	3	3.0	1.0			
26	Leadership focused on team members' needs	1	3.5	2.0			
27	Processes are clearly described	1	2.5	1.5			
28	Account on changes in time, anticipate on work	1	2.5	2.0			
29	Following marked line	1	2.5	2.0			

TABLE 1 (Continued)

Number	Category	Characteristics	A	B	C	D	E
			Times mentioned	Median	IQR	Included in definition	Formulation in definition
30		Monitoring progress	1	2.5	2.0		
31		Self-managing, needs little control	2	3.5	1.0		
32		Divide responsibilities as it should be	1	3.5	1.0		
33		Solution-focused working	1	3.5	1.0		
34	Team output	Consistency in health care professionals' behavior	1	3.5	1.0		
35		Contributing to organization's interests	1	2.5	2.0		
36		Maximum performance within the triangle – care–resources–employee	2	3.5	2.5		
37		Low absenteeism	1	2.5	1.5		
38		Good financial results	1	3.0	1.0		
39		High employee satisfaction/positive reaction on question about work	2	4.0	0.0	×	Employee satisfaction
40		Flow of employees	1	2.0	1.5		
41		Orderly environment	1	3.5	1.5		
42		Reaching predetermined goals	1	4.0	2.5		
43		High client satisfaction	1	5.0	1.0	×	Client satisfaction
44	Low number of complains of employees, clients, relatives and others	1	4.0	1.0	×	Positive appearance to clients, relatives and other teams	
45	Positive appearance to clients, relatives and other teams	1	4.0	0.5	×	Positive appearance to clients, relatives and other teams	
46	Group experience	Idea richness	1	3.5	1.5		
47		Trust each other unconditionally	2	4.0	0.0	×	Trust between team members
48		Connectedness	3	4.0	0.5	×	Working together
49		Good climate of cooperation, pleasant working atmosphere	4	4.0	1.0	×	A healthy organization
50		Loyal to each other	2	3.5	2.0		
51		Having fun at work	3	4.0	1.0	×	Fun
52		Everyone knows the common interest, the purpose of the team	4	4.0	1.0	×	Achieve their goals
53		Proud of achievements, proud of team	2	4.0	0.5	×	Proud
54		Happy to belong to the team	1	3.0	1.5		
55		Team members feel safe	1	4.0	1.5	×	Sense of safety
56		Team members accept leadership	1	3.5	1.0		
57		Genuine interest in each other	1	3.0	1.0		
58	Workload does not feel too high	1	2.5	2.0			
59	Low level of nagging	2	3.0	2.0			
60	Respect for individual differences	1	3.0	2.0			
61	The cluster manager has confidence in the skills of the team members	1	4.0	0.5	×	Trust in and from management	
62	Team members have faith in the management of the organization	1	4.0	0.5	×	Trust in and from management	

IQR = inter-quartile range.

### Round two

In the second round, four of the 62 characteristics were rated as 'very relevant' based on the median and had an  $IQR \leq 1.5$  (see characteristics 8, 13, 21 and 43 in Table 1, columns B and C). A total of 26 characteristics were rated as 'relevant' and 24 of these characteristics had an  $IQR \leq 1.5$ . Comments on the characteristics included explanations of and questions about the interpretation of words and the emphasis on the relevance of certain characteristics. Some examples of comments were: 'What is nagging? Nagging can have a good function. Is being critical the same as nagging?'; 'Trust I will give a 5 (very relevant), unconditionally trust is tricky, that's not how the world works'; 'Not every team member has to be businesslike, balance is the key word'; 'I think self-managing capabilities are more important than leadership'.

The formulation of the concept definition was based on the clustering of all the relevant-scored characteristics with an  $IQR \leq 1.5$ . These characteristics were interpreted by the facilitator and second author (Table 1, column E), who suggested a concept definition clustered in five categories.

### Round three

Seven of the eight participants agreed with the concept definition, illustrated in reactions such as: 'Nice, huh?'; 'Thanks for your e-mail, nice definition, nice terms'; 'It is logical and complete what you have defined'. One of the participants was missing a characteristic representing 'development,' related to one of the organization's viewpoints: 'I develop myself' and a professional/personal quality, such as courage, being different, innovative. Based on these comments, the facilitator decided to add the characteristics 'continuous personal development' and 'innovative,' because it would not cause a significant difference in the meaning of the definition. 'Continuous personal development' can be considered as a result of being 'studious' and 'innovative' that can be interpreted as a quality that corresponds with 'seeing possibilities/see problems as a challenge' and 'permanently searching for improvements.' The following definition was brought forward as the final definition for an effective health care team:

*Professionals (1), working together (2), using their strengths (3), to achieve their goals (4) in a healthy organization (5)*

1. Motivated, competent, innovative, taking responsibility, flexible, studious, complementary
2. Helping each other, honest and clear communication and feedback, permanently searching for improvements, clear appointments, doing what works, short communication lines
3. Expertise, personality and skills
4. Client satisfaction, employee satisfaction, positive appearance to clients, relatives and other teams, continuous personal development
5. Trust between team members, fun, engagement, pride, trust in and from management, sense of safety

No questions or comments were received after the final definition was sent to the participants.

### Judgment changes over rounds

The individual input and judgments over the rounds offer a clear picture of the consensus building process and the personal contribution of the participants. *In the first round*, the participants inserted 6–22 characteristics assigned to an effective team. *In the second round*, six of the eight participants scored 81–100% of their own inserted characteristics as 'relevant' or 'very relevant.' The other two participants scored 54 and 17% of their own inserted characteristics as relevant or very relevant, which



TABLE 2. INDIVIDUAL INPUT AND JUDGMENTS OVER ROUNDS

Member	Profession	Inserted characteristics	% of characteristics in total list	Relevant scores in own inserted list	% of relevant scores in own inserted list	Relevant scores in the total list	% of own inserted characteristics in own relevant-scored list	Number of inserted characteristics included in final definition	% of inserted characteristics included in final definition
1	Regional manager	16	14	13	81	50	26	9	56
2	Office head	10	9	10	100	30	33	6	60
3	Team manager	13	12	7	54	23	30	6	46
4	Team member	17	15	15	88	38	39	9	53
5	Regional manager	22	20	18	82	41	44	11	50
6	Regional manager	6	5	6	100	41	15	2	33
7	Office head	15	14	13	87	44	30	13	87
8	Team member	12	11	2	17	5	40	7	58

was still 30–40% of their complete list of relevant characteristics. Overall, 15–44% of the participants' relevant list included own inserted characteristics. The complete list of relevant and very relevant characteristics included 33–87% of participants' own inserted characteristics. Panel member eight scored aberrant compared with the other participants (see Table 2). However, the participant's contribution to the final definition was still substantial; 58% of this member's inserted characteristics were included in the final definition. *In the third round*, seven of the eight participants agreed with the concept definition right away, a 87% consensus rate. This consensus was reached on 45% of the total inserted characteristics.

## DISCUSSION

The aim of this paper is to evaluate the Delphi Technique as a method for explicating context-specific definitions and illustrate its use in a context-specific definition of 'an effective health care team.' Here, we discuss the formulated definition, the strengths and limitations of the Delphi Technique, and the theoretical and practical implications of this study.

### Definition

Strikingly, the formulated definition of 'an effective health care team' seems at first sight more general than context specific. It shows evident overlap with prior definitions and operationalizations in the literature (Lemieux-Charles & McGuire, 2006). Like most teamwork models, the definition is based on the input-process-output approach (Hackman, 1987) and includes behavioral, cognitive and affective phenomena (Rousseau et al., 2006). Although most characteristics identified by the participants are not new in teamwork literature, the context specificity can be recognized in the emphasis of certain characteristics and the omission of others. It demonstrates the prioritization and experiences of the organization's members.

First, the characteristics 'doing what works' and 'using everybody's strengths' are typical for a solution-focused approach. Second, the low priority scores on 'processes are clearly described,' 'following the marked line' and 'monitoring processes,' indicate a promotion for flexibility and a pragmatic approach in work structures, which meets the solution-focused principle to search for exceptions to discover what works (De Shazer, 1985; McAllister, 2003). Third, the limited role of leadership assigned to an effective team is in line with a solution-focused management approach of not knowing and leading from one step behind (McAllister, 2003), with a focus on self-management and personal responsibility. As earlier research indicate the importance of leadership for health care team effectiveness (Corrigan, Garman, Lam, & Leary, 1998; Outhwaite, 2003), it is striking that the participants of this study gave no priority to leadership as characteristic of an effective team.

In conclusion, the context-specific definition shows the influence of the organization's solution-focused work approach, especially in the categories 'team processes' and 'group experience.' Although the final definition offers little specificity regarding the meaning of general characteristics such as 'motivated,' it offers a useful starting point for further research on team effectiveness. It provides clear accents for the team and organization to focus on, which is shown in its use in the research organization, where the definition is used for organizational presentations and to guide policy making.

### Delphi Technique

The use of the Delphi Technique showed a number of advantages for the aim of this study. First, the combination of its non-interacting nature and the qualitative approach in the first round provided valuable information about differences in focus, use of terms and perspectives between

the participants. The open questions enabled us to detect individual differences in perspectives, and to identify common language and unique context-specific characteristics.

Second, the Delphi Technique gave insights into the level of agreement between the individual members. The results of round two showed that every participant's priority list comprised more than half of characteristics introduced by others. Considering the diversity of answers given in round one, this outcome supports the use of a multi-disciplinary panel to avoid a unilateral focus. At the same time, the overall low IQR scores indicated a shared understanding of the concept.

Third, the process of the Delphi method joined up with the solution-focused principle to use everybody's strengths. A major advantage of assigning people an expert position and involve them in decision-making tasks, is that they are more likely to commit themselves to the outcomes that emerge (Beech, 1999; Wiener et al., 2009). We argue that the above average response rate in the first round (Baruch & Holtom, 2008) and the 100% response rate over the rounds might be a result of the inclusion of participants of the same organization. As colleague participants work on a joint product that can yield direct profit for their own work field and they know who else is involved in an exercise, their motivation is likely to be higher.

Finally, although some criticisms maintain that the Delphi Technique is time-consuming (Duffield, 1993; Keeney, Hasson, & McKenna, 2001; Hsu & Sandford, 2007), our implementation showed that a Delphi study can be conducted within 3 weeks, using a strict time schedule and process, and including a qualitative first round.

## Limitations

There are also some limitations that need to be addressed. First, the active panel may have been small. However, given that the aim of this project was to generate new information on a topic that is generally understood but not specifically defined, a small panel is generally accepted (Rowe & Wright, 2001). While larger groups provide more intellectual resources, panels comprising of 5–20 members are practically suggested (Armstrong, 1985; Rowe & Wright, 2001). Large panels do have a higher risk of member drop-out. The eight participants in this study were very committed to the process, which resulted in a 100% response rate over the rounds and no incompletely answered questions. This is important for an unbiased analysis and consensus process.

Second, the representation of team members and team managers in the active panel was relatively small due to (passive) non-response. The secondary criteria to select panel members based on earlier contact with the researcher, in order to commit them more to the research (Landeta, 2006), did not result in a significantly higher response in the first round. Also, the 100% response rate over the rounds cannot be attributed to this earlier contact, as the region managers and office heads committed comparable over the rounds. Therefore, we cannot make any statements about the value of these selection criteria in this study. Still, the response rate in the first round falls well within the norm, as the benchmark average is around 50% (Baruch & Holtom, 2008).

Third, the male–female ratio in the response group was not equally distributed. The underrepresentation of women in management positions does play a part in this outcome, as well as the distribution of the response. The underrepresentation of women is not necessarily problematic, as the representation of at least one participant of each organization layer in combination with passive non-respondents, give no strong reasons for non-response bias (Rogelberg & Stanton, 2007).

A final question refers to the inclusion of managers rather than team members. We considered team managers to be experts of teamwork, and good spokespersons for their teams. To indicate differences of expertise or accuracy among the panel members, we relied on an analysis of the individuals' judgment changes over the rounds. Earlier studies have shown panel experts 'holding-out,' while less-expert panelists 'swing' toward the group average (Rowe & Wright, 1999). We found

an equal degree of change of judgments over the rounds between the different disciplines, which suggests high face validity in terms of an appropriate selection of panel members (Williams & Webb, 1994). Furthermore, the overlap with characteristics outlined in literature also indicate a certain degree of credibility (Devers, 1999).

On the whole, the heterogeneity of the expert group, the excellent response rate between the rounds and the high level of consensus achieved suggest that this study demonstrated concurrent validity (Williams & Webb, 1994). However, in future research employing the Delphi Technique, it is recommended to include more panel members of different layers of the organization to prevent underrepresentation of gender or discipline.

### **Theoretical and practical implications**

In this paper, we highlighted the value of a refreshing look at implicit assumptions. The divergent assumptions of what is meant with 'team effectiveness' indicate the importance of a better understanding of organizational sense making. Definitions can be arbitrary and usually provide political advantage for some group, and can easily produce blinders as insight (Deetz, 2001). Therefore, the attempt to define team effectiveness within a specific context is not to enhance the analytical precision of the concept, but to understand different and similar interpretations among organizational contexts. This is valuable in extending the present overarching models on the context level by further deepening into context-specific meanings of team effectiveness.

A practical implication for organizations and managers is to make explicit what they are doing and to develop definitions as means for understanding and discussing the complex and dynamic aspects of teamwork. It is a way to check whether people agree about their implicit understanding of core concepts like team effectiveness. The presented definition of an effective health care team shows that interpretation processes differ among organization members and are influenced by organizational context. Almost every organizational activity or outcome is in some way contingent on interpretation (Daft & Weick, 1984). Therefore, organizations should be clear about their expectations of teamwork and interpretations of the different aspects of teamwork to realize teamwork and organizational benefits. Managers may have a tendency to make interpretations spontaneously and intuitively, but it is important that they realize their role in defining the work environment for other participants. By detecting, sharing and prioritizing practitioners' understanding of team effectiveness or other organizational concepts, team members are better able to give direction to their actions. The Delphi Technique is a useful and efficient method to extract, identify and share context-related information.

### **CONCLUSION**

The Delphi Technique was successfully used to formulate a context-specific definition of an effective health care team. The definition shows the influence of context-specific interpretations of team effectiveness and priorities in teamwork characteristics. Where frameworks and overarching models lack specificity regarding what teams are expected to be effective at doing and fail in distinguishing between team types and work processes, a context-specific definition provides more specific information about teamwork expectations and purposes. Although considerably more research is necessary, the findings highlight the importance of more context-specific research to improve our theoretical understanding of social constructions in organizations.

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## References

- Algesheimer, R., Dholakia, U. M., & Gurău, C. (2011). Virtual team performance in a highly competitive environment. *Group & Organization Management*, 36, 161–190.
- Armstrong, J. S. (1985). *Long-range forecasting: From crystal ball to computer*. New York, NY: Wiley-Interscience.
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, 61, 1139–1160.
- Beech, B. F. (1991). Changes: The Delphi Technique adapted for classroom evaluation of clinical placements. *Nurse Education Today*, 11, 207–212.
- Beech, B. F. (1999). Go the extra mile – Use the Delphi Technique. *Journal of Nursing Management*, 7, 281–288.
- Benders, J., & Van Hootegem, G. (1999). Teams and their context: Moving the team discussion beyond existing dichotomies. *Journal of Management Studies*, 36, 609–628.
- Bower, P., Campbell, S., Bojke, C., & Sibbald, B. (2003). Team structure, team climate and the quality of care in primary care: An observational study. *Quality and Safety in Health Care*, 12, 273–279.
- Clayton, M. J. (1997). Delphi: A technique to harness expert opinion for critical decision-making tasks in education. *Educational Psychology: An International Journal of Experimental Educational Psychology*, 17, 373–386.
- Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23, 239–290.
- Corrigan, P. W., Garman, A. N., Lam, C., & Leary, M. (1998). What mental health teams want in their leaders. *Administration and Policy in Mental Health*, 26, 111–123.
- Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. *Academy of Management Review*, 9, 284–295.
- Davenport, T. H., & Prusak, L. (2000). *Working knowledge: How organizations manage what they know*. Boston, MA: Harvard Business School Press.
- De Shazer, S. (1985). *Keys to solution in brief therapy*. New York, NY.
- Deetz, S. (2001). Conceptual foundations. In F. M. Jablin & L. L. Putnam (Eds.), *The new handbook of organizational communication: Advances in theory, research, and methods* (pp. 3–46). Thousand Oaks, CA: Sage.
- Devers, K. J. (1999). How will we know ‘good’ qualitative research when we see it? Beginning the dialogue in health services research. *Health Services Research*, 34, 1153–1158.
- Devine, D. J. (2002). A review and integration of classification systems relevant to teams in organizations. *Group Dynamics*, 6, 291–310.
- Duffield, C. (1993). The Delphi Technique: A comparison of results obtained using two expert panels. *International Journal of Nursing Studies*, 30, 227–237.
- Eggs, R. A., O’Brien, A. T., Reynolds, K. J., Haslam, S. A., & Crocker, A. S. (2008). Refocusing the focus group: Airing as a basis for effective workplace planning. *British Journal of Management*, 19, 277–293.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14, 532–550.
- Eppler, M. J. (2006). *Managing information quality: Increasing the value of information in knowledge-intensive products and processes*. Heidelberg and New York, NY: Springer.
- Finn, R. (2008). The language of teamwork: Reproducing professional divisions in the operating theatre. *Human Relations*, 61, 103–130.
- Finn, R., Learmonth, M., & Reedy, P. (2010). Some unintended effects of teamwork in healthcare. *Social Science & Medicine*, 70, 1148–1154.
- Goodman, C. M. (1987). The Delphi Technique: A critique. *Journal of Advanced Nursing*, 12, 729–734.
- Green, B., Jones, M., Hughes, D., & Williams, A. (1999). Applying the Delphi Technique in a study of GPs’ information requirements. *Health and Social Care in the Community*, 7, 198–205.
- Hackman, J. R. (1987). The design of work teams. In J. W. Lorch (Ed.), *Handbook of organizational behavior* (pp. 315–342). Englewood Cliffs, NJ: Prentice-Hall.
- Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of Advanced Nursing*, 32, 1008–1015.
- Heinemann, G. D., & Zeiss, A. M. (2002). *Team performance in health care: Assessment and development*. New York, NY: Kluwer Academic/Plenum.
- Hovey, R., & Craig, R. (2011). Understanding the relational aspects of learning with, from, and about the other. *Nursing Philosophy*, 12, 262–270.

- Hsu, C. C., & Sandford, B. A. (2007). The Delphi Technique: Making sense of consensus. *Practical Assessment, Research & Evaluation, 12*, 1–8.
- Jenkins, D. A., & Smith, T. E. (1994). Applying Delphi methodology in family therapy research. *Contemporary Family Therapy, 16*, 411–430.
- Jones, J., & Hunter, D. (1995). Consensus methods for medical and health services research. *British Medical Journal, 311*, 376–380.
- Keeney, S., Hasson, F., & McKenna, H. P. (2001). A critical review of the Delphi Technique as a research methodology for nursing. *International Journal of Nursing Studies, 38*, 195–200.
- Kirkwood, M., Wales, A., & Wilson, A. (2003). A Delphi study to determine nursing research priorities in the North Glasgow University Hospitals NHS Trust and the corresponding evidence base. *Health Information & Libraries Journal, 20*, 53–58.
- Kozlowski, S. W. J., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest, 7*, 77–124.
- Landeta, J. (2006). Current validity of the Delphi method in social sciences. *Technological Forecasting and Social Change, 73*, 467–482.
- Lemieux-Charles, L., & McGuire, W. L. (2006). What do we know about health care team effectiveness? A review of the literature. *Medical Care Research and Review, 63*, 263–300.
- Linstone, H. A., & Turoff, M. (1975). *The Delphi method: Techniques and applications*. London: Addison-Wesley.
- Loo, R. (2002). The Delphi method: A powerful tool for strategic management. *Policing, 25*, 762–769.
- Mathieu, J. E., Goodwin, G. F., Heffner, T. S., Salas, E., & Cannon-Bowers, J. A. (2000). The influence of shared mental models on team process and performance. *Journal of Applied Psychology, 85*, 273–283.
- Mathieu, J. E., Maynard, T. M., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997–2007: A review of recent advancements and a glimpse into the future. *Journal of Management, 34*, 410–476.
- McAllister, M. (2003). Doing practice differently: Solution-focused nursing. *Journal of Advanced Nursing, 41*, 528–535.
- McKenna, H. P. (1994). The Delphi Technique: A worthwhile research approach for nursing? *Journal of Advanced Nursing, 19*, 1221–1225.
- Millward, L. J., & Jeffries, N. (2001). The team survey: A tool for health care team development. *Journal of Advanced Nursing, 35*, 276–287.
- Opie, A., & Buchanan, I. (1997). Effective team work in health care: A review of issues discussed in recent research literature. *Health Care Analysis, 5*, 62–73.
- Outhwaite, S. (2003). The importance of leadership in the development of an integrated team. *Journal of Nursing Management, 11*, 371–376.
- Reid, W. M., Pease, J., & Taylor, R. G. (1990). The Delphi Technique as an aid to organization development activities. *Organization Development Journal, 8*, 37–42.
- Rogelberg, S. G., & Stanton, J. M. (2007). Introduction: Understanding and dealing with organizational survey nonresponse. *Organizational Research Methods, 10*, 195–209.
- Rosen, M. A., Salas, E., Wilson, K. A., King, H. B., Salisbury, M., Augenstein, J. S., ... Birnbach, D. J. (2008). Measuring team performance in simulation-based training: Adopting best practices for healthcare. *Simulation in Healthcare, 3*, 33–41.
- Rousseau, V., Aubé, C., & Savoie, A. (2006). Teamwork behaviors. *Small Group Research, 37*, 540.
- Rowe, G., & Wright, G. (1999). The Delphi Technique as a forecasting tool: Issues and analysis. *International Journal of Forecasting, 15*, 353–375.
- Rowe, G., & Wright, G. (2001). Expert opinions in forecasting: The role of the Delphi Technique. In J. Armstrong (Ed.), *Principles of forecasting: A handbook for researchers and practitioners* (pp. 125–144). Boston, MA: Kluwer Academic.
- Rudy, S. (1996). A review of Delphi surveys conducted to establish research priorities by specialty nursing organizations from 1985 to 1995. *ORL-Head and Neck Nursing: Official Journal of the Society of Otorhinolaryngology and Head-Neck Nurses, 14*, 16–24.
- Salas, E., Stagl, K. C., Burke, C. S., & Goodwin, G. F. (2007). Fostering team effectiveness in organizations: Toward an integrative theoretical framework. In B. Shuart, W. Spaulding & J. Poland (Eds.), *Modeling complex systems: Motivation, cognition and social processes: Nebraska Symposium on motivation*, vol. 51 (pp. 185–243). Lincoln, NE: University of Nebraska Press.

- Sundstrom, E., McIntyre, M., Halfhill, T., & Richards, H. (2000). Work groups: From the Hawthorne studies to work teams of the 1990s and beyond. *Group Dynamics*, 4, 44–67.
- Tekleab, A. G., Quigley, N. R., & Tesluk, P. E. (2009). A longitudinal study of team conflict, conflict management, cohesion, and team effectiveness. *Group & Organization Management*, 34, 170–205.
- Vliet Vlieland, T. P. M., & Hazes, J. M. W. (1997). Efficacy of multidisciplinary team care programs in rheumatoid arthritis. *Seminars in Arthritis and Rheumatism*, 27, 110–122.
- Wageman, R., Hackman, J. R., & Lehman, E. (2005). Team diagnostic survey: Development of an instrument. *Journal of Applied Behavioral Science*, 41, 373–398.
- Walker, A., & Selfe, J. (1996). The Delphi method: A useful tool for the allied health researcher. *British Journal of Therapy and Rehabilitation*, 3, 677–680.
- Whitman, N. I. (1990). The committee meeting alternative: Using the Delphi Technique. *Journal of Nursing Administration*, 20, 30–36.
- Wiener, B., Chacko, S., Brown, T. R., Cron, S. G., & Cohen, M. Z. (2009). Delphi survey of research priorities. *Journal of Nursing Management*, 17, 532–538.
- Williams, P. L., & Webb, C. (1994). The Delphi Technique: A methodological discussion. *Journal of Advanced Nursing*, 19, 180–186.