

# Psychological Research on Organisational Democracy: A Meta-Analysis of Individual, Organisational, and Societal Outcomes

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Our meta-analytic review investigates how employee participation in democratic enterprises is related to psychological outcomes. We gathered 60 studies through a systematic literature search of quantitative field studies (published between January 1970 and May 2017) and extracted 138 effect sizes related to three indicators of organisational democracy (OD) and 15 psychological outcomes. The overall findings suggest that employees' individually perceived participation in organisational decision making (IPD) had a stronger relation to job satisfaction ( $\rho = .25$ ), job involvement/work motivation ( $\rho = .36$ ), prosocial work behaviours ( $\rho = .24$ ), civic and democratic behaviours ( $\rho = .21$ ) and perceived supportive climate ( $\rho = .44$ ) than the other two OD indicators: structurally anchored employee participation (SAEP) and employee participation in collective ownership (EO). This was not the case for value-based commitment: the relations of SAEP ( $\rho = .40$ ), EO ( $\rho = .34$ ), and IPD ( $\rho = .46$ ) with commitment were nearly equal. Mediation analyses indicated that IPD partially mediated most of the effects of SAEP and EO on the outcomes mentioned. The cross-sectional database and a small number of studies for some of the outcomes are the main limitations of this study.

## INTRODUCTION

*Organisational democracy* (OD) refers to ongoing, broad-based, and institutionalised employee participation that is not ad hoc or occasional in nature. Written rules, regulations, and boards enable employees to exert substantial influence on tactical and strategic decisions (e.g., supervisor elections, budget planning, and firm restructuring) through direct or

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representative joint consultation, codetermination, or self-determination. Additionally, employees often hold a share of their organisation's equity capital (Weber, Unterrainer, & Schmid, 2009; Wegge et al., 2010; Unterrainer, Palgi, Weber, Iwanowa, & Oesterreich, 2011). Compared to private capitalist corporations, democratic enterprises represent a relatively small minority of organisations. However, they are not as rare as one might think; for example, the European Committee of Worker and Social Cooperatives encompassed approximately 50,000 enterprises with 1.3 million employees in 2017 (<http://www.cecop.coop/>). In the US, the National Center for Employee Ownership (<http://www.nceo.org>) reported 6,669 employee stock ownership plans (ESOPs) with 10.8 million employees in 2015. Additionally, many social enterprises, which have a social mission as their principal objective and which employ core ideas of deliberative democracy, are included in the category of democratic companies (Battilana, Fuerstein, & Lee, 2018; see also the section on practical implications). In recent years, an increase in the number of social enterprises has been observed. Stephan, Braidford, Folmer, Lomax, and Hart (2017) estimated that there were 471,000 social enterprises in the UK employing approximately 1.44 million people in 2017.

Given the number of employees who work in democratic companies, it is surprising that a large majority of the quantitative psychological studies and corresponding research reviews on employee participation in decision making did not include democratic enterprises in their samples (e.g., Miller & Monge, 1986; Spector, 1986; Theorell, 2004; Wagner & Gooding, 1987; Wagner, Leana, Locke, & Schweiger, 1997). A few narrative or meta-analytic reviews have recognised this desideratum, but even those did not include all relevant studies existing at the time those reviews were conducted (cf. Cotton, Vollrath, Froggatt, Lengnick-Hall, & Jennings, 1988; Kruse & Blasi, 1997, slightly extended by Kruse, 2002; Pierce, Rubinfeld, & Morgan, 1991; Wagner, 1994). Therefore, theoretical frameworks, models, or concepts dealing with the psychological aspects of organisational participation have been developed and tested mostly under the specific conditions of conventional organisations, which are hierarchically structured and—at least at higher levels—autocratically managed enterprises.

Many researchers who have adopted the critical management study approach (see Alvesson, Bridgman, & Willmott, 2009) agree with Jürgen Habermas's epistemological concern that descriptive scientific knowledge based only on the particular (though widespread) conditions characteristic of conventional capitalist business organisations will undergo reification, resulting in the gradual disappearance of alternative insights. In other words, prevailing research findings may lead to the development of a “normative

power of the facts” (Habermas, 1970) and prevent future-relevant knowledge. In our view, this problem raises serious doubts regarding the interpretation of previous reviews and meta-analyses on the psychological aspects of employee participation. For example, we must question Wagner et al.’s (1997, p. 50) conclusion that “Despite initial promise [...], U.S. research on participation’s outcome efficacy has yielded results that have proven largely disappointing”.

Our study represents the most comprehensive meta-analytic review on the psychological and societal outcomes of employee participation that includes democratic enterprises. The study aims to update and broaden theoretical and empirical knowledge about the attitudinal, motivational, and behavioural effects of high-level employee participation in under-researched organisational contexts. All considered studies (a) were field studies conducted in Europe or the United States and Canada (or, in a few exceptions, in Australia, the People’s Republic of China, and Israel) from 1970 until 2017; (b) used standardised questionnaires (or structured interviews in a few cases) to measure the outcome variables; and (c) included at least one democratic enterprise.

## THEORY, HYPOTHESES AND RESEARCH QUESTIONS

As briefly mentioned in the introduction, we referred to Wegge et al.’s (2010) definition of OD (p. 162): *OD* refers to broad-based and institutionalised employee influence processes that are *not* ad hoc or occasional in nature and in which the majority of employees generally (a) participate in a form of institutionalised and binding involvement (mandatory joint consultation) or decision making (i.e., codetermination with equal representation or collective self-determination) in (b) tactical decisions (medium-term decisions with high importance for parts of the enterprise)<sup>1</sup> or strategic decisions (long-term decisions with high importance for the whole company)<sup>2</sup> about (c) issues at the organisational level (a large unit, plant, corporation, etc.). In addition, employees (d) participate either directly (within meetings or general assemblies) or indirectly through their representatives who are elected or appointed to a representative board/committee and may (e) (optional criterion) hold a share in their organisation’s equity capital.

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<sup>1</sup> Examples of tactical decisions: supervisor elections, wages differentiation, process improvements, resource purchases, hiring or dismissal procedures, personnel planning.

<sup>2</sup> Examples of strategic decisions: major capital investments, new stockholder admissions, budget planning, firm restructuring, CEO or company board elections, new product or service initiation, quality planning.

We considered the following three indicators of OD as separate predictors to test the magnitude of the relationship between OD and (a) work-related attitudes and experiences (e.g., job satisfaction, work motivation, value-based commitment<sup>3</sup>), (b) perceived supportive climate, (c) prosocial and civic orientations and behaviours, and (d) impaired health and safety outcomes.

Based on the OD definition, our meta-analytic investigation comprised three foci that correspond to three indicators of OD: (1) a focus on the organisational decision structure—*structurally anchored employee participation (SAEP)*, (2) a focus on the property situation—*employee participation in collective ownership (EO)*, and (3) a focus on the actual participation of individual employees—*individually perceived participation in organisational decision making (IPD)*. In the following, we describe the three indicators of OD in detail.<sup>4</sup>

### (1) Structurally anchored employee participation (SAEP) in organisational decisions

This indicator of OD focuses on the organisational level and encompasses democratic enterprises as they have been documented in the empirically proven typology of non-democratic/democratic enterprise structures (Weber, Unterrainer, & Höge, 2008; Unterrainer et al., 2011). This typology distinguishes among several types of democratic enterprises (e.g., collective kibbutz plants, social partnership enterprises, democratic reform enterprises, conventional and democratic worker cooperatives, and self-governed employee-owned enterprises). The empirical studies that came under consideration for our meta-analysis differed in the precision of their descriptions of the features of SAEP. Thus, it was not practicable for each study to determine the specific types of democratic enterprises included. However, it was possible in each case to decide whether the main feature of all types of democratic enterprises was fulfilled, namely, a binding organisational structure that allows employees to participate in decision making on several strategic or tactical issues. This does not always mean that *all* employees are allowed to participate or that *all* will actually participate (see indicator 3).

<sup>3</sup> See Appendix A.

<sup>4</sup> These three indicators of OD differ from Wegge et al.'s (2010) definition of OD in two aspects: (1) Corresponding to previous empirical studies (e.g., Cotton et al., 1988; Kruse & Blasi, 1997; Pierce et al., 1991), we included those cases in which a *substantial minority* of the employees, at least one-third, participated in the manner characterised by the features described in Wegge et al.'s (2010) definition. We broadened this definition because we would otherwise have lost relevant findings from several studies on worker cooperatives and ESOP companies. (2) We considered it necessary to include two indicators of OD at the individual level.

However, a substantial share of them (at least one-third) must be entitled to participate directly or via their elected representatives.

## (2) Employee participation in collective ownership (EO)

This indicator of OD focuses on property and refers to the case in which an enterprise is collectively owned by the entirety or a substantial share of its employees. EO encompasses two variants: (1) whether or not an employee possesses ownership shares of his/her company and (2) the number of his/her ownership shares (cf. Hammer & Stern, 1980; Klein, 1987; Long, 1978a). Most studies that have investigated the psychological effects of EO refer to the individual level as the unit of analysis (for exceptions in the present meta-analytic research, see the studies by Klein, 1987; McHugh, Cutcher-Gershenfeld, & Polzin, 1999; Rooney, 1988). The studies considered for our meta-analysis compared the attitudes or behaviours of employee shareholders and non-shareholders within or between organisations. Corresponding to our research objective, only studies in which a considerable share of the employees (at least one-third) owned a substantial (also at least one-third) portion of their company stock were included. In such cases, EO is usually associated with some rights to participate in direct or representative strategic decision making (Rosen, Klein, & Young, 1986; Kruse, Freeman, & Blasi, 2010; Kim & Patel, 2017).

## (3) Individually perceived employee participation in organisational decision making (IPD)

This individual-level indicator of OD reflects the degree of employees' *actual* and *direct* participation in strategic or tactical decision making as perceived by the employees themselves. This indicator was measured by self-report questionnaires (e.g., measures by Heller, Drenth, Koopman, & Rus, 1988; IDE, 1981; Rubenowitz, Norrgren, & Tannenbaum, 1983; Weber & Unterrainer, 2012). We included only those studies in our meta-analysis that analysed IPD in both conventional hierarchical organisations and democratic enterprises.

The following section elaborates the hypothesised relations between our three indicators of OD (SAEP, EO, and IPD) and psychological outcomes. Figure 1 provides a summary of all the hypotheses.

Note that we are unable to present findings for all three predictors of a respective outcome, as our literature search did not identify enough (i.e., a minimum of three) studies per predictor and outcome. Thus, we did not formulate hypotheses for these cases.

**Summary of the Hypotheses:**

**The three indicators of OD and their relation to each other and to perceived collective forms of participation**

*Hypothesis 1:*

SAEP (H1a) and EO (H1b) will be positively related to employees' IPD, SAEP (H1c) will be positively related to employees' perceived collective participation, and SAEP (H1d) and EO (H1e) will be positively related to collective employee participation as perceived by management.

**Work-related attitudes and experiences**

*Hypothesis 2:*

The indicators of OD will be positively related to job/work satisfaction (SAEP: H2a; EO: H2b; IPD: H2c), satisfaction with participation (IPD: H2d), desire for participation (IPD: H2e), job involvement/work motivation (EO: H2f; IPD: H2g), and value-based commitment (SAEP: H2h; EO: H2i; IPD: H2j). The indicators of OD will be negatively associated with employees' turnover intention (EO: H2k) and perception of alienating work (SAEP: H2l; IPD: H2m).

**Perceived supportive climate**

*Hypothesis 3:*

SAEP (H3a) and IPD (H3b) will be positively related to a supportive climate as perceived by the individual employee.

**Prosocial and civic orientations and behaviours**

*Hypothesis 4:*

SAEP (H4a) and IPD (H4b) will be positively related to employees' prosocial work orientations and behaviours. Furthermore, SAEP (H4c) and IPD (H4d) will be positively related to civic/democratic orientations and behaviours.

**Impaired health and safety**

*Hypothesis 5:*

IPD will be negatively related to indicators of impaired occupational health and safety.

**Mediation hypotheses**

*Hypothesis 6:*

Employees' IPD will mediate the positive associations between SAEP and job/work satisfaction (H6a), value-based commitment (H6b), prosocial work orientations and behaviours (H6c), and civic/democratic orientations and behaviours (H6d).

Employees' IPD will mediate the positive relationship between EO and job/work satisfaction (H6e), job involvement/work motivation (H6f), and value-based commitment (H6g).

**Attitude toward unionisation**

*Research Question 1:*

Is EO associated with a positive or negative attitude toward unionisation?

FIGURE 1. Summary of all meta-analytical hypotheses.

## The Three Indicators of OD and Their Relation to One Another and to Perceived Collective Forms of Participation

SAEP and EO are independent variables, whereas IPD serves a double function. On the one hand, IPD represents a predictor of several psychological outcomes of participation. On the other hand, it can also represent an outcome of SAEP and EO. IPD as an outcome of SAEP indicates to what extent the rights and corresponding opportunities to have a voice or to co-determine within a democratic organisational structure are actually transferred to the individual employee. In determining the rules, procedures, and competences related to employee participation, SAEP represents a necessary condition for IPD (IDE, 1981; Heller, 2003). However, democratic enterprises may also employ workers who are not entitled to participate in organisational decision making (e.g., waged workers who own no capital stocks in a worker cooperative or kibbutz plant; see Rosner & Tannenbaum, 1987). Therefore, the degree of de facto participation of the individual employee will depend on the specific form of the organisational structure (e.g., basic democratic meetings vs. representative boards vs. no democratic bodies) and on the employee's position within this democratic structure (e.g., serving as an active member of a representative board vs. having only voting rights). Thus, we expect the level of SAEP to influence, to a moderate extent, how the employee perceives his/her individual participation and the collective participation of employees.

Similarly, EO will be related to IPD. Employees who own shares of their employee-owned company will have several owner rights (e.g., voting rights, the right to participate in the company general meeting) to various degrees, depending on the specific form of EO (worker cooperatives, ESOPs, limited liability companies, etc.). Thus, employee-owners will perceive a higher degree of IPD than non-owners from the same company or from conventional organisations. Additionally, we investigate whether top managers from firms that have implemented SAEP or EO will perceive a higher level of employees' collective participation in decision making compared to the employees' own estimation or the estimation of top managers from conventional firms. This may be the case because managers from democratic enterprises may feel responsible for the participative model and want to represent it in public (see studies by Klein, 1987; Long, 1979). Thus, we state the following:

*Hypothesis 1:* SAEP (Hypothesis 1a) and EO (Hypothesis 1b) will be positively related to employees' IPD, SAEP (Hypothesis 1c) will be positively related to employees' perceived collective participation, and SAEP (Hypothesis 1d) and

EO (Hypothesis 1e) will be positively related to collective employee participation as perceived by management.

## Work-Related Attitudes and Experiences

In the following section, we argue that the three indicators of OD are associated with several work-related attitudes and behaviours that are prominent in organisational behaviour research. Our hypotheses are based on corresponding propositions from social cognitive theory, self-determination theory, and psychological ownership theory.

SAEP may influence employees' *job/work satisfaction* and *value-based commitment* because it creates a participative climate that also affects employees who do not or do not frequently participate directly in planning and decision making. The latter group encompasses, for example, employees in a worker cooperative who are not members of the cooperative or workers in an enterprise practising a representative system of democratic decision making. These non-participating workers may benefit indirectly from those who participate in democratic bodies. The participating employees will consider not only their own interests in their decisions but also the needs of the whole workforce. Furthermore, compared to conventional companies, in democratic firms, non-participating employees will have access to more colleagues with decision power to whom they can voice their problems and wishes.

In this specific context, social cognitive theory, especially Bandura's (1977) social learning theory, is of particular importance. Compared to hierarchical enterprises, in democratic enterprises open discourses on challenging decisions, conflicts of interest, and moral dilemmas are more likely to occur during daily work. Employees will be exposed to positive social models, (tacit or formal) organisational standards and linguistic practices offered by knowledgeable coworkers, managers, or other employees who actively participate in democratic organs. These individuals may act as role models concerning organisational commitment, respectful communication and cooperation, or prosocial engagement. Thus, employees who participate infrequently or not at all may perceive an autonomy supportive climate (Gagné & Deci, 2005; Deci & Ryan, 2012) in which their needs are considered and may appreciate the employee-oriented values of their organisation. These positive experiences, which stimulate observational learning, feedback from multiple sources, and self-reflection, can lead to higher job satisfaction and organisational commitment (cf. Pircher-Verdorfer & Weber, 2016; Trevino, Butterfield, & McCabe, 1998; Trevino, Weaver, & Reynolds, 2006).

With respect to EO, Klein's (1987) intrinsic satisfaction model of employee ownership provides an explanation for why EO should be positively related to



*job satisfaction, job involvement/work motivation,*<sup>5</sup> *value-based commitment,*<sup>6</sup> and less *turnover intention*. Based on previous research on employee stock ownership plans (ESOPs) (e.g., French & Rosenstein, 1984; Hammer & Stern, 1980; Long, 1980), Klein (1987) stated that the intrinsic satisfaction model “suggests that the simple fact of ownership (ownership qua ownership) increases employees’ commitment to and satisfaction with the company” (p. 320), that is, “[...] the more ownership, the better. According to this model, then, the more company stock that the ESOP owns, the more satisfied employees should be with the company” (p. 321).

Meanwhile, psychological ownership theory provides a more comprehensive theoretical explanation for why mere ownership may lead employees to demonstrate attitudes and experiences such as those mentioned. Psychological ownership is conceptualised as an affective and cognitive state of mind “in which individuals feel as though the target of ownership (material or immaterial in nature) or a piece of it is ‘theirs’. The core of psychological ownership is the feeling of possessiveness and of being psychologically tied to an object” (Pierce, Kostova, & Dirks, 2001, p. 299) that becomes part of the extended self. Pierce et al. (2001) and Pierce and Jussila (2010) stated that experiencing psychological ownership satisfies four fundamental human needs, three of which are the need for self-identity (i.e., ensuring the continuity of the self and expressing the self to oneself and others), the need for social identity (i.e., belonging to a community that shares a highly valued object) and the need to have a place or a home to dwell (i.e., experiencing psychological security through occupying a material or ideal habitat). In turn, need satisfaction through collective ownership will stimulate employees’ intrinsic work motivation and value-based organisational commitment, which are beneficial for their collective property and will prevent them from developing turnover intentions (cf. frameworks by Klein, 1987; Long, 1978a; Rhodes & Steers, 1981). A recent research review by Dawkins, Tian, Newman, and Martin (2017) indicated that employee-owners indeed demonstrate the mindset of psychological ownership toward their organisation. In turn, psychological ownership is positively related to employees’ affective and overall commitment, job satisfaction, work engagement and (based on mixed results) work-related helping behaviour.

Furthermore, within her instrumental satisfaction model of employee ownership (see also below), Klein (1987) and other researchers (Long, 1978b;

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<sup>5</sup> We integrated job involvement and work motivation into one meta-analytical category. A detailed justification is provided in Appendix A.

<sup>6</sup> We integrated affective and normative commitment into one meta-analytical category encompassing value-based commitment following Meyer, Becker, and Van Dick (2006). A detailed justification is provided in Appendix A.

French & Rosenstein, 1984; Buchko, 1992; Pendleton, Wilson, & Wright, 1998; Gamble, Culpepper, & Blubaugh, 2002) suggested a positive direct effect of employees' IPD on *job satisfaction*, *satisfaction with the system of participation*, *job involvement/work motivation*, and *value-based commitment* independent of the potential effect of ownership.

Basically, experienced feelings of personal efficacy and mastery through influence on business processes are regarded as carriers of those effects. Scholars of humanistic theories of motivation representing social cognitive theory (Bandura, 2001), psychological ownership theory (Pierce et al., 2001), and self-determination theory (Deci & Ryan, 2000) have concordantly proposed that participation in decision making satisfies the basic human need for competence/effectance. Furthermore, self-determination theory (cf. Deci & Ryan, 2012; Lopes, Lagoa, & Calapez, 2014) postulates that participation in decision making satisfies employees' basic needs for autonomy (experiencing the freedom to make a choice) and relatedness (the desire to feel connected to others), and psychological ownership theory implies the satisfaction of the need for self-identity (Pierce & Jussila, 2010). Thus, it seems probable that IPD will contribute to the satisfaction of the described basic needs and will stimulate employees' job satisfaction, satisfaction with the system of participation, and job involvement/work motivation. It is also very likely that employees who are considering, planning, discussing, and deciding on strategic and tactical issues regarding the well-being of their organisation will develop a strong sense of conscientiousness and emotional attachment to their company, resulting in a higher degree of value-based commitment (cf. related theoretical considerations by O'Driscoll, Pierce, & Coghlan, 2006; Pierce, Jussila, & Cummings, 2009).

Additionally, several researchers succeeding the IDE Group (1981) reported a mutually reinforcing effect between participation in decision making and employees' *desire for participation* (Wilpert, 1998; Heller, 2003; Mende, Wegge, Jeppesen, Jønsson, & Unterrainer, 2015; Weber & Jeppesen, 2017). As we delineated above, participation satisfies the basic human needs for competence and autonomy. Both human needs are conceptualised as growth needs whose concrete objects and specific motives develop and unfold across the human life span and are not limited to a homeostatic deficit reduction principle. Thus, receiving continuous opportunities to influence strategic or tactical decisions will not end with a state of satisfaction but instead stimulate the individual's desire for participation by allowing the employee to experience and develop personal and collective efficacy, creating a participation-aspiration spiral (Mende et al., 2015).

Perceived alienating work was another work-related experience considered in our meta-analysis. However, quantitative research about how OD may be associated with work alienation is scarce. Thus, we focused only on

perceived alienating work as it has been conceived by the authors of the studies included. Alienating work experienced by employees represents an important but small extract of the theories of alienation as they have been developed within Marxist political economy or critical social philosophy. Starting from Marx (1844/1959), these frameworks also encompass alienating political, economic, and organisational conditions such as capitalist principles of private propriety, market and commodification mechanisms, and the division of labour. A rigid division of labour in particular provokes experiences described as “alienating work” that can in turn entail subjective states of alienation such as powerlessness, meaninglessness, normlessness, isolation, and self-estrangement (for conceptual reviews, see Fromm, 1961; Israel, 1971; Shantz, Alfes, & Truss, 2014). Many researchers agree with the twofold operationalisation of alienating versus non-alienating work representing two of the four attributes of alienation that Marx (1844/1959) conceptualised: experiencing little or no control in the workplace and performing work activities that prevent one from developing extensive skills, capabilities, or knowledge.

In other words, alienated work hinders employees from expressing their personality and creativity or from satisfying their growth needs within the working process (cf. self-determination theory, psychological ownership theory or further humanistic theories of work motivation by Deci & Ryan, 2000, or Pierce et al., 2001 or Hackman & Oldham, 1980). Working in democratic enterprises should provide employees with more control and better opportunities to express themselves and their interests by influencing strategic or tactical decision making either directly or indirectly (through elected representatives). Therefore, employees should not perceive their work as alienating or should perceive it to a lesser degree compared to employees working in conventional enterprises. Thus, concerning work-related attitudes and experiences, we state the following:

*Hypothesis 2:* The indicators of OD will be positively related to job/work satisfaction (SAEP: Hypothesis 2a; EO: Hypothesis 2b; IPD: Hypothesis 2c), satisfaction with participation (IPD: Hypothesis 2d), desire for participation (IPD: Hypothesis 2e), job involvement/work motivation (EO: Hypothesis 2f; IPD: Hypothesis 2g), and value-based commitment (SAEP: Hypothesis 2h; EO: Hypothesis 2i; IPD: Hypothesis 2j). The indicators of OD will be negatively associated with employees’ turnover intention (EO: Hypothesis 2k) and perception of alienating work (SAEP: Hypothesis 2l; IPD: Hypothesis 2m).

## Perceived Supportive Climate

As mentioned previously, SAEP is presumed to create a *supportive climate* in the organisation that promotes employees’ interests and needs. Democratic

principles potentially contribute to a considerate, respectful, egalitarian, cooperative, and open communication style between and among leaders and coworkers. Thus, employees will perceive as encouraging the organisational events, practices, procedures, and behaviours they experience when communicating with each other about organisational matters and engaging in planning or problem solving (cf. the Human Relations Model according to a brief review by Patterson et al., 2005). However, the question of the causal direction between actual individual participation in organisational decision making and a supportive climate has not been resolved theoretically or empirically. Only a few studies have been conducted considering supportive climate as a predictor, outcome or possible contingency variable influencing the relationships between SAEP and IPD or between IPD and its outcomes (see models by Heller et al., 1988; IDE, 1981; Theorell, 2004; Weber et al., 2009). It is conceivable that SAEP represents a condition that simultaneously stimulates the development of both IPD and a supportive climate, which, in turn, mutually reinforce each other. Thus, we postulate the following:

*Hypothesis 3:* SAEP (Hypothesis 3a) and IPD (Hypothesis 3b) will be positively related to a supportive climate as perceived by the individual employee.

## Civic, Democratic, and Prosocial Work Behaviours and Orientations

The *spillover hypothesis* by Pateman (1970) is a conceptual framework that explains the civic socialisation effects of employee participation. Pateman proposed that several orientations and behaviours developed within the work domain can have a prosocial educative effect and eventually spill over to the societal domain. The spillover hypothesis states that employees who plan and decide collectively on issues concerning their work department or their whole enterprise will feel responsible, will experience political efficacy, and may develop prosocial and civic attitudes or behaviours over time that they will also apply in their everyday life outside the work domain. Political efficacy as “a sense of political competence” means a person’s or group’s feeling that individual action can have an impact on overarching political processes and that it is reasonable to actively perform one’s civic duties (Pateman, 1970, p. 46; cf. Greenberg, Grunberg, & Daniel, 1996). In elaborating Pateman’s (1970) political efficacy concept, social cognitive theory complements the line of mediating motivational processes as they are postulated within psychological ownership theory and self-determination theory. Bandura (2001) stated that sociostructural factors, including

organisational structural factors, operate through psychological mechanisms of the self-system to produce behavioural effects. We consider it likely that the more frequently employees jointly participate and the higher the complexity of decisions (adequate knowledge presumed) is, the stronger the development of collective efficacy. Collective efficacy is defined as a social entity's shared belief in its conjoint capabilities and power to organise and execute the courses of action required to produce given levels of attainment (Bandura, 2001). Collective efficacy seems to satisfy employees' needs for effectance and social identity (Pierce & Jussila, 2010) or, in terms of self-determination theory, their needs for competence and relatedness (Deci & Ryan, 2012). If employees who directly collaborate in strategic and tactical decision making experience enough economic and social success (e.g., job security) from their efforts over time, this may foster their collective efficacy. Thus, they may defer their individual interests in favour of the collective interest. Furthermore, by transferring their sense of responsibility and efficacy, these employees will also tend to advocate services for the public or engage in activities serving the common welfare (cf. Fernández-Ballesteros, Díez-Nicolás, Caprara, Barbaranelli, & Bandura, 2002).

Developmental psychologists (e.g., Killen & Smetana, 2014; Lind, 2016), political psychologists (e.g., Feierabend & Klicperova-Baker, 2015), and democratic theorists (e.g., Habermas, 1990) have stated that civic orientations and corresponding behaviours can be seen as conducive for a democratic society. Civic orientations develop throughout the life span, if stimulated by democratic environments. The socialisation potential of OD will increase employees' readiness to act according to general democratic and humanistic core values (e.g., protection of human dignity, tolerance, honesty, non-violent forms of conflict resolution). Therefore, we assume that OD will increase the probability that employees will demonstrate *community-related (civic) behaviours*, for example, engaging in charitable, cultural, or democratic concerns in their society and the world (e.g., supporting suffering people in poor countries).

However, before spilling over to the societal domain, the educative effect of democratic organisational participation may operate first within the work domain itself by increasing *prosocial organisational behaviour* (Brief & Motowidlo, 1986), akin to particular components of organisational citizenship behaviour (OCB; Konovsky & Organ, 1996; Moorman & Blakely, 1995). Employees who have collective planning and decision power and responsibility for influencing the fate of their organisation may acquire thorough knowledge about the functioning of their company. As a consequence, they may recognise that the interdependent efforts of all organisational members serve the benefit of all. Thus, these employees may develop a shared interest in the welfare of their fellows and their company, and they will tend to support

themselves mutually in their everyday work and take care of the production resources of their company (see Bartkus, 1997; McCarthy, Reeves, & Turner, 2010; Weber et al., 2008). We assume that the extent of employees' prosocial work orientations and behaviours will depend not only on the level of IPD but also the level of SAEP. Again, referring to social cognitive theory, we argue that working within a democratic organisational structure will be positively associated with prosocial work attitudes and behaviours even if some employees do not participate in strategic or tactical decisions. As personifications of a democratic organisational structure, elected representatives and participating colleagues will create a participative work climate. By demonstrating mutual support and responsible actions, participating workers may represent social models for non-participating workers.

To the best of our knowledge, no meta-analyses on studies researching the society-related spillover effect with regard to employees in democratic enterprises currently exist. If we were to consider only research reviews on OCB and related concepts, we would completely overlook studies about OD as a potential antecedent (cf. the reviews by Aggarwal & Singh, 2016; Organ, Podsakoff, & MacKenzie, 2006). The narrative research reviews by Carter (2006) and Greenberg (2008) provided limited support for the spillover effect. Greenberg's (2008) review, which focused more on self-managed work groups than on democratic enterprises, revealed that the spillover effect is more likely to occur among employees who *directly* participate in democratic decision making than employees from democratically structured companies who participate only indirectly via elected representatives. More recent studies have supported the spillover hypothesis in conventional firms (Budd, Lamare, & Timming, 2018; Lopes et al., 2014; Timming & Summers, 2018). These studies showed significant associations between employees' individual participation in mainly operative decisions and their civic orientations (political interest, pro-democratic affect) and behaviours (voluntary, charitable activity, or political, including trade union activity). Accordingly, we propose the following hypothesis:

*Hypothesis 4:* SAEP (Hypothesis 4a) and IPD (Hypothesis 4b) will be positively related to employees' prosocial work orientations and behaviours. Furthermore, SAEP (Hypothesis 4c) and IPD (Hypothesis 4d) will be positively related to civic/democratic orientations and behaviours.

## Impaired Health and Safety

With our final hypothesis, we propose that OD also has positive effects on employee health. However, quantitative studies linking work in democratic enterprises to occupational health issues are very scarce and relate mainly

to IPD as a predictor. Thus, to make related studies available for a meta-analytical procedure, the corresponding outcome category is extensive, encompassing both unhealthy and risky behaviours as well as work-related accidents. The rationale behind the proposed link is that IPD can be interpreted as a specific form of employee control over the work environment (Jackson, 1983; Ganster & Fusilier, 1989; Spector, 1998). Since the 1970s, an extensive body of research has stressed the crucial role of control in the prevention of work strain and impaired health (e.g., Jones & Fletcher, 2003; Spector, 1998; Theorell, 2004). Control at work unfolds its positive health effects via several psychological mechanisms (Frese, 1989; Ganster & Fusilier, 1989): increased control enables workers to reduce existing stressors or prevent anticipated stressors by altering their work environment. Moreover, control is associated with improved possibilities to apply individual and collective coping strategies to buffer the detrimental effects of stressors. It can serve as a psychological “safety signal” (Miller, 1979) for the individual capacity to prevent maximum damage when anticipating aversive events, which in turn reduces stress reactions such as anxiety or feelings of helplessness. Furthermore, individual and collective control can affect workers’ mental health and well-being directly. It satisfies a fundamental human need for autonomy and increases experiences of individual and collective agency (Bandura, 2001; Gagné & Deci, 2005). Control prevents feelings of alienation such as powerlessness and associated health-endangering behaviours such as drug abuse (Seeman, Seeman, & Budros, 1988). Finally, some literature has also linked control to reduced accidents and injuries at work (e.g., Vredenburg, 2002). The assumed underlying mechanism is that under conditions of IPD, workers have not only a genuine interest in safe workplaces but also the power to change an unhealthy work environment or dangerous procedures. Thus, we propose:

*Hypothesis 5:* IPD will be negatively related to indicators of impaired occupational health and safety.

## Mediation Hypotheses

Klein’s (1987) *instrumental satisfaction model of employee ownership* suggests an indirect relationship between employee ownership and employees’ work-related attitudes and experiences. She assumes that employee ownership increases employees’ influence on organisational decision making and perceived control, which in turn increases job satisfaction, intrinsic work motivation, and commitment (Bakan, Suseno, Pinnington, & Money, 2004). We claim that not only EO but also SAEP provide employees with opportunities to participate in decision making because formal democratic

structures entitle some or even all employees to exercise binding codetermination rights, which in turn will stimulate actual participation. The active handling of complex decision-making opportunities allows employees to satisfy their needs for autonomy, competence/effectance, and relatedness, which may in turn lead to positive work attitudes (as substantiated in the section on *work-related attitudes and experiences*). Additionally, through democratic structures, employees receive opportunities to assume responsibility for others. Thus, they may (further) develop their readiness to support their intraorganisational community (prosocial work behaviour) and the public good in the form of civic/democratic orientations and behaviours (as substantiated in the section on *civic, democratic, and prosocial work behaviours and orientations*).

Several authors have found empirical support for Klein's (1987) instrumental satisfaction model in which IPD serves as a (at least partial) mediator between SAEP/EO and psychological outcomes (e.g., Klein, 1987; Obradovic, French, & Rodgers, 1970; Rhodes & Steers, 1981; Unterrainer et al., 2011). Thus, we state the following:

*Hypothesis 6:* Employees' IPD will mediate the positive associations between SAEP and job/work satisfaction (Hypothesis 6a), value-based commitment (Hypothesis 6b), prosocial work orientations and behaviours (Hypothesis 6c), and civic/democratic orientations and behaviours (Hypothesis 6d). Employees' IPD will mediate the positive relationship between EO and job/work satisfaction (Hypothesis 6e), job involvement/work motivation (Hypothesis 6f), and value-based commitment (Hypothesis 6g).

## Attitude Toward Unionisation

Due to the spillover hypothesis, we presume that employees' positive attitudes toward democratic values, institutions, procedures, and practices will be fostered through democratic participation in organisational decision making. Thus, the question arises whether this is also valid for a specific area of democratic participation, namely, trade unions and work councils. On the one hand, the spillover hypothesis assumes that democratic participation in the workplace will stimulate employees to develop a positive attitude toward unionisation and related subjects. This should happen because codetermination by the unions (e.g., in work councils or health and safety committees) represents a basic value in republican democracies. Indeed, a study by Pendleton, Robinson, and Wilson (1995) indicated that the extent of employees' direct participation in decision making was positively associated with union consciousness among the participating employee-owners.



Moreover, employee buyouts can prevent takeovers and save workplaces, which is in the joint interest of workers and unions.

On the other hand, in cases in which some employees own their company collectively, their partial interests as owners (e.g., high capital reserves, motivated “self-exploitation”, reductions in employer risk) may counteract the collective interests of unions and of those employees who do not participate in collective ownership (e.g., high salaries, wage agreements, healthy work conditions, reductions in employee risk). This may lead to a polarised orientation toward unionisation between owners and non-owners (McHugh, Cutcher-Gershenfeld, & Polzin, 1999). Against this background, we cannot derive a clear hypothesis regarding whether and how EO will be related to employees’ attitudes toward unionisation. Thus, we formulate the following exploratory research question:

*Research Question 1:* Is EO associated with a positive or negative attitude toward unionisation?

## METHOD

### Literature Search

We considered quantitative empirical studies and quantitative results from qualitative empirical studies. We restricted the search to published literature in journals or books and to unpublished dissertations in English or German. We excluded unpublished working papers or conference papers because they are lower in quality due to the absence of a peer-review process. Moreover, most of the studies in this category that were of good quality resulted in a publication or dissertation that we then included in our meta-analysis. The recent discussion on the file-drawer problem suggests that publication bias in organisational behaviour or human resource research is not as great a threat as originally assumed (Dalton, Aguinis, Dalton, Bosco, & Pierce, 2012; Ferguson & Brannick, 2012). Paterson, Harms, Steel and Credé (2016) empirically confirmed “that the inclusion or exclusion of unpublished studies does not significantly affect the effect size reported in meta-analyses” (p. 78).

Our literature search encompassed the following steps:

- To identify as many potential quantitative studies as possible that met the inclusion criteria, we searched the following databases concerning publications from January 1970 to May 2017: PsycINFO, PSYINDEX, PsycArticles, Business Source Premier, ECONLIT, ERIC, SOCINDEX, Dissertation Abstracts International, and Medline using 51 different

search terms (e.g., organisational democracy, industrial democracy, workers' self-management, democratic firm; all search terms are listed in Appendix B).

- We examined existing research reviews to identify further relevant publications (namely, the reviews by Bartkus, 1997; Carter, 2006; Cotton et al., 1988; Hammer, 1990; Kruse, 2002; Kruse & Blasi, 1997; Pierce et al., 1991; Strauss, 1998; Wagner, 1994).
- We scanned the reference lists of all identified publications meeting the inclusion criteria to find additional studies.
- We hand-searched *Economic and Industrial Democracy*, one of the most relevant journals in the research field, and the *International Journal of Cooperative Studies* as well as all three volumes of the *International Yearbook of Organizational Democracy* (1983, 1984, 1986), all three volumes of the *International Handbook of Participation in Organizations* (1989, 1991, 1993), *The Oxford Handbook of Participation in Organizations* (2010), and *The Oxford Handbook of Mutual, Co-operative, and Co-owned Business* (2016).

This literature search yielded 1,132 abstracts from the database search and 157 full papers stemming from existing research reviews, the reference lists of identified publications, and relevant journals (a total of 1,289 considered publications including duplicates).

## Criteria for Inclusion

Each publication had to meet the following criteria to be included in the meta-analysis:

1. Quantitative empirical study or qualitative empirical study providing quantitative results. Experimental laboratory studies were excluded because the outcomes we were interested in represent employees' attitudes or values and organisational behaviours and because their development requires considerable exposure time to the predictors (cf. Ashforth, 2012).
2. SAEP (the first indicator of OD) was considered applicable if a binding *organisational decision structure* existed that *entitled* a substantial share of the employees (at least one-third) or all employees to participate directly (in general assemblies, meetings or votes) or via their elected representatives (on representative boards) in decisions on several strategic or tactical issues. The unit of analysis is the organisation. Nearly all original studies were based on group comparisons. They compared democratic and conventional enterprises with respect to several employees' perceptions,

attitudes, or behaviours by means of *t*-tests, variance analysis methods, chi-square tests, or regression analyses with dummy coding. Only two included studies used SAEP as a predictor in multilevel analyses (Höckertin & Härenstam, 2006; Unterrainer et al., 2011). We are aware that neglecting the nested data structure in nearly all of the included studies represents a considerable limitation of this meta-analytical investigation. This decision was made because our investigation encompasses studies from nearly five decades with different methodological standards.

3. EO (the second indicator of OD) was considered applicable if at least one-third of the employees owned at least one-third of the company's or ESOP's capital stock (cf. Kim & Patel's 2017 typology of employee ownership levels, which considers 20% to 50% as strategic ownership; see also the introduction section). In studies with EO, the unit of analysis is the individual, with the exception of one outcome, namely, management perceived employee participation, for which the studies referred to the organisational level.
4. Employees' IPD (the third indicator of OD) represents the degree of the individual employee's *actual* participation in *strategic* or *tactical decision making*. Correspondingly, the individual constitutes the unit of analysis. Studies were included if their samples comprised democratic enterprises and they provided information about the extent to which the individual employees perceived themselves as being involved in decisions concerning strategic or tactical decisions.

In the majority of the concerned studies, the degree of IPD was recorded with questionnaires (based on intensity scales) that listed several strategic and tactical (optionally also operational, short-term) decisions resulting in one mean value or one score indicating the average degree of the individual employee's perceived participation. Three studies used two measures built on extensive lists of (23 or 31) possible strategic and tactical decisions, and seven studies included measures based on lists of moderate length (5 to 10 items). Four of those ten studies used the same indicator scale (partly in a shortened form). Items in the remaining six studies considerably overlapped with regard to employee participation in strategic decisions, whereas items addressing specific tactical decisions differed to some extent. Eight studies described rather globally, but relatively consistently, one to four strategic or tactical decision areas in a similar way (e.g., company future, governance, policy, affairs, change). Finally, in six studies, employees were asked whether they were members (or not) of a democratic enterprise board or another organ deciding on strategic issues (characteristically for studies including worker cooperatives or studies on ex-Yugoslav workers' self-management). Accordingly, the varying number (detailedness) of strategic and tactical decisions on which the mean values of IPD were based

represents a methodological limitation of this meta-analytical investigation. However, the differences between those indicator scales seems smaller in terms of the content that the IPD indicators represented.

5. Psychological outcome variables were considered relevant for our meta-analytical review when the studies investigated employee perceptions, attitudes, values, or behaviours. Studies with outcomes of predominantly economic interest (e.g., performance, productivity, product quality, effectivity, efficiency) were not included because this was not the primary scope of our meta-analytical investigation (for reviews on the relation between OD and economic outcomes, see Kramer, 2010; Rosen, 2007).

## Variables Coded

When reviewing the 1,289 abstracts or full papers, we applied the inclusion criteria mentioned above. This screening process yielded 92 publications that were classified by one of the three researchers in terms of the three main predictors (SAEP, EO, and IPD), psychological outcomes as dependent variables, sample sizes (organisations, participants), type of measures used, number of items and reliability estimates, and effect sizes. The respective classification was then discussed and, if uncertainty existed, finally consensually classified by the entire researcher group. Seven studies with insufficient information on effect sizes were excluded. We further excluded 14 studies for which we had fewer than three independent samples testing the relevant relationships (see the decision rule that was used, e.g., in Berry, Carpenter, & Barrat, 2012; Cohen-Charash & Spector, 2001; Kabins, Xu, Bergman, Berry, & Willson, 2016). We omitted another seven studies because of complete or partial sample overlap. When multiple articles were (partially) based on the same sample, we included the publication that provided the larger subsample or reported complete relevant information. Finally, we excluded two studies that measured the change in the dependent variable and as such were not comparable with the cross-sectional data. All excluded studies are listed in Appendix C. Finally, we found 60 independent studies (representing 62 publications) that contained 138 quantifiable estimates (correlations or transformable statistics) concerning the association of SAEP, employees' IPD, or EO with 15 various psychological outcomes. All studies represented empirical field studies. Compared to 55 cross-sectional studies, only five longitudinal studies were found. For these five studies, we used the effect sizes for time 2 because in all cases, organisations changed at time 1 from hierarchical to democratic structures. At time 2, the employees had been exposed to democratic company structures for 6 to

18 months. A list of all studies included in the meta-analysis with the relevant coding information is provided in Appendix D.

## Meta-Analytical Procedures

We computed Pearson's correlation coefficient  $r$  as an effect size for each study (each result). In 69 cases, the correlation coefficient could be obtained from the respective study. In the other 69 cases,  $r$  was not available but could be computed from other reported statistics ( $t$ ,  $chi^2$ ,  $\beta$ , frequencies, or means) with Wilson's meta-analysis effect size calculator (<http://cebcp.org/practical-meta-analysis-effect-size-calculator/correlation-coefficient-r/>). In cases in which multiple measures (indicators) of the same outcome variable were used within the same study, correlations were averaged (Fisher's  $z$ -transformation) and treated as a single sample. We conducted our meta-analysis by using procedures advocated by Hunter and Schmidt (2004). Assuming that population effect sizes would vary across studies, we applied a random-effects approach, computing sample size weighted mean correlations and measurement error corrected correlations. We corrected the observed correlations individually with the help of Field and Gillet's (2010) SPSS syntax adapted by Osolnik (Hunter-Schmidt method). We used Cronbach's alpha coefficient to correct for unreliability in all outcome variables. In cases in which the studies did not report reliability coefficients, we replaced the missing values with the average reliability provided in other studies. For each effect of interest (cf. Table 1), we computed the sample size weighted mean correlation across studies (mean  $r$ ), the estimated true correlation ( $\rho$ ), the standard deviation of the true correlation ( $SD_\rho$ ), the percentage of variance attributable to statistical artifacts (%Var), 80 per cent credibility intervals (CVs), and 95 per cent confidence intervals (CIs) using the methods outlined in Viswesvaran, Schmidt, and Ones (2002). CIs evaluate the presence of sampling error and the accuracy of effect size estimates and can therefore be used for significance testing. CVs reflect the generalisability of results and are used to detect potential moderators. Additionally, the percentage of variance attributable to statistical artifacts is a useful indicator of the presence of possible moderators. If less than 75 per cent of the variance in observed correlations is based on statistical artifacts, existing moderators are very likely (Hunter & Schmidt, 2004). Unfortunately, the small number of studies cumulated per predictor and outcome category did not allow us to perform moderator analyses.

## RESULTS

Table 1 provides the results of our meta-analysis, including 26 meta-analytical correlations. The number of included studies for each relation ranged

TABLE 1  
 Meta-Analytical Results of the Relations Between Indicators of Organisational Democracy and All Outcomes

<i>Outcome</i>	<i>OD (IV)</i>	<i>H</i>	<i>k</i>	<i>N</i>	<i>Mean r</i>	$\rho$	<i>SD<sub><math>\rho</math></sub></i>	<i>% Var</i>	<i>CV<sub>L</sub></i>	<i>CV<sub>U</sub></i>	<i>CI<sub>L</sub></i>	<i>CI<sub>U</sub></i>
Individually perceived participation	SAEP	H1a	8	9,050	.30	.33	.05	33.20	.28	.39	.30	.37
Perceived collective participation	EO	H1b	7	2,457	.24	.27	.09	41.28	.20	.33	.18	.36
	SAEP	H1c	3	65 firms	.41	.47	.26	67.56	.28	.66	.18	.76
	SAEP	H1d	4	1,136 firms	.09	.10	.13	25.65	-.04	.24	-.03	.22
Collective participation perceived by the Management	SAEP	H1e	3	277 firms	.31	.33	.08	100.00	.33	.33	.24	.43
Job/work satisfaction	SAEP	H2a	7	9,080	-.07	-.08	.15	4.44	-.26	.11	-.19	.04
	EO	H2b	9	3,212	.13	.15	.05	100.00	.15	.15	.12	.18
	IPD	H2c	14	14,263	.22	.25	.16	4.50	.05	.46	.17	.34
Satisfaction with participation	IPD	H2d	4	3,820	.05	.05	.26	1.72	-.28	.38	-.21	.31
Desire for participation	IPD	H2e	3	6,241	.61	.68	.17	.80	.46	.90	.49	.88
Job involvement and work motivation	EO	H2f	4	554	.14	.16	.07	100.00	.16	.16	.09	.22
	IPD	H2g	5	899	.33	.36	.10	56.98	.28	.44	.27	.44
Value-based commitment	SAEP	H2h	5	1,475	.37	.40	.09	39.13	.31	.49	.32	.48
	EO	H2i	6	1,472	.30	.34	.11	34.61	.22	.46	.25	.43
Turnover intention	IPD	H2j	14	4,040	.41	.46	.18	9.12	.24	.68	.36	.55
	EO	H2k	3	1,283	-.10	-.11	.03	100.00	-.11	-.11	-.14	.03
Perceived alienating work	SAEP	H2l	3	2,760	-.06	-.07	.03	100.00	-.07	-.07	-.10	-.04

TABLE 1  
Continued

<i>Outcome</i>	<i>OD (IV)</i>	<i>H</i>	<i>k</i>	<i>N</i>	<i>Mean r</i>	$\rho$	<i>SD<sub><math>\rho</math></sub></i>	<i>% Var</i>	<i>CV<sub>L</sub></i>	<i>CV<sub>U</sub></i>	<i>CI<sub>L</sub></i>	<i>CI<sub>U</sub></i>
Perceived supportive climate	IPD	H2m	3	1,922	-.14	-.15	.25	2.89	-.47	.17	-.44	.14
	SAEP	H3a	4	4,172	.15	.16	.14	4.78	-.02	.34	.02	.30
Prosocial work orientations or behaviours/OCB	IPD	H3b	4	8,423	.39	.44	.44	.26	-.12	1.00	.01	.87
	SAEP	H4a	5	1,725	.12	.13	.04	100.00	.13	.13	.10	.17
Civic/democratic orientations or behaviours	IPD	H4b	4	1,173	.22	.24	.10	38.77	.14	.33	.14	.33
	SAEP	H4c	5	2,353	.14	.16	.20	6.33	-.09	.41	-.01	.33
Impaired health and safety	IPD	H4d	4	2,376	.19	.21	.17	6.74	.00	.41	.05	.37
	IPD	H5	3	1,861	.01	.01	.04	100.00	.01	.01	-.03	.05
Attitude toward unionisation	EO	RQ1	4	632	-.15	-.16	.10	69.67	-.23	-.09	-.26	-.06

*Note:* IV = independent variable; H = hypothesis; OD = indicator of organisational democracy; *k* = number of studies cumulated; *N* = cumulative sample size; Mean *r* = sample-size weighted correlation, not corrected for measurement errors;  $\rho$  = sample-size weighted correlation corrected for measurement errors; *SD <sub>$\rho$</sub>*  = standard deviation of  $\rho$ ; % Var = percentage of variance attributable to statistical artifacts; CV = 80% credibility interval of  $\rho$ ; CI = 95% confidence interval of  $\rho$ ; SAEP = structurally anchored employee participation; EO = Employee participation in collective ownership; IPD = Individually perceived employee participation in organisational decision making.

from 3 to 14. Twenty-three of 26 meta-analytical correlations represented associations on the individual level. The sample sizes of these individual-level studies ranged from 554 to 14,263 employees. Three meta-analytical correlations represented associations at the organisational level, and the number of participating firms ranged from 65 to 1,136.

In line with Hypothesis 1, SAEP showed a moderately significant positive correlation with employees' IPD ( $\rho = .33$ , 95% CI [0.30, 0.37]; Hypothesis 1a) and a stronger significant positive correlation with perceived collective participation ( $\rho = .47$ , 95% CI [0.18, 0.76]; Hypothesis 1c) at the organisational level. Contrary to our hypothesis, SAEP was not significantly associated with employees' collective participation at the firm level as perceived by management ( $\rho = .10$ , 95% CI [-0.03, 0.22]; Hypothesis 1d). With respect to EO, Hypothesis 1 was supported. EO showed a moderately significant positive correlation with IPD ( $\rho = .27$ , 95% CI [0.18, 0.36]; Hypothesis 1b) and employees' collective participation as perceived by management ( $\rho = .33$ , 95% CI [0.24, 0.43]; Hypothesis 1e).

Hypothesis 2 proposed a positive relation between the indicators of OD and employees' work-related attitudes and experiences. Most, but not all, of the relations were significant. Thus, this hypothesis was partially supported. SAEP did not correlate significantly with job/work satisfaction ( $\rho = -.08$ , 95% CI [-0.19, 0.04]; Hypothesis 2a). EO showed a slightly significant positive association with job/work satisfaction ( $\rho = .15$ , 95% CI [0.12, 0.18]; Hypothesis 2b) and job involvement/work motivation ( $\rho = .16$ , 95% CI [0.09, 0.22]; Hypothesis 2f). However, in the latter case, the sample size was rather small; thus, conclusions should be drawn with caution. Our third indicator, IPD, achieved the strongest correlations with job/work satisfaction and job involvement/work motivation. It was positively related to job/work satisfaction ( $\rho = .25$ , 95% CI [0.17, 0.34]; Hypothesis 2c) and job involvement/work motivation ( $\rho = .36$ , 95% CI [0.27, 0.44]; Hypothesis 2g) to a moderate extent. Interestingly, high levels of IPD were not significantly associated with high levels of satisfaction with participation ( $\rho = .05$ , 95% CI [-0.21, 0.31]; Hypothesis 2d). However, IPD was strongly positively and significantly related to desire for participation ( $\rho = .68$ , 95% CI [0.49, 0.88]; Hypothesis 2e).

Value-based commitment was significantly associated with SAEP ( $\rho = .40$ , 95% CI [0.32, 0.48]; Hypothesis 2h), EO ( $\rho = .34$ , 95% CI [0.25, 0.43]; Hypothesis 2i), and IPD ( $\rho = .46$ , 95% CI [0.36, 0.55]; Hypothesis 2j) with medium size effects. However, EO showed a slight negative correlation ( $\rho = -.11$ , 95% CI [-0.14, 0.03]; Hypothesis 2k) with turnover intention that was not significant. Perceived alienating work was slightly negatively and significantly associated with SAEP ( $\rho = -.07$ , 95% CI [-0.10, -0.04]; Hypothesis 2l). IPD was also negatively correlated with perceived alienating work, but the weak effect was not significant ( $\rho = -.15$ , 95% CI [-0.44, 0.14];



Hypothesis 2m). The studies that used SAEP as a predictor were much more homogeneous than the studies using IPD, explaining why the larger effect of IPD on perceived alienating work was not significant. Additionally, for both categories, we found only three studies. Therefore, the results must be interpreted cautiously.

Hypothesis 3, which stated that SAEP and IPD are positively related to a perceived supportive climate, was supported. SAEP showed a slightly positive and significant correlation with the perceived supportive climate ( $\rho = .16$ , 95% CI [0.02, 0.30]; Hypothesis 3a). IPD was also positively and significantly related to the perceived supportive climate but to a much stronger degree ( $\rho = .44$ , 95% CI [0.01, 0.87]; Hypothesis 3b). However, the 95% CIs of these two correlations overlapped, suggesting that the correlations were not significantly different.

Hypothesis 4 predicted that high levels of SAEP and IPD are associated with high levels of employees' prosocial work orientations and behaviours/OCB and their civic and democratic orientations. Supporting Hypothesis 4, we found significant positive associations between SAEP ( $\rho = .13$ , 95% CI [0.10, 0.17]; Hypothesis 4a) and IPD ( $\rho = .24$ , 95% CI [0.14, 0.33]; Hypothesis 4b) and employees' prosocial work orientations/behaviours. The effects were of small size. Regarding the relations between SAEP and IPD and employees' civic and democratic orientations/behaviours, our results showed that SAEP ( $\rho = 0.16$ , 95% CI [-0.01, 0.33]; Hypothesis 4c) was positively but not significantly related to non-work-related civic/democratic orientations or behaviours. IPD ( $\rho = 0.21$ , 95% CI [0.05, 0.37]; Hypothesis 4d) correlated positively and significantly with employees' civic and democratic orientations/behaviours. Both effect sizes were small and did not significantly differ from each other.

We did not find support for Hypothesis 5, which stated that IPD is negatively related to employees' impaired health and safety ( $\rho = .01$ , 95% CI [-0.03, 0.05]; Hypothesis 5).

Hypotheses 6a–6g proposed a mediating role of IPD in the relationships of SAEP and EO with job/work satisfaction, job involvement/work motivation, value-based commitment, prosocial work orientations/behaviours and civic/democratic orientations/behaviours. To test Hypotheses 6a–6g, we conducted mediation analyses following the approaches described by Viswesvaran and Ones (1995) and Baron and Kenny (1986). In the first step, we generated a correlation matrix that consisted of the meta-analytic estimates for the relationships among SAEP (predictor), EO (predictor), and IPD (mediator) and the outcome variables (taken from Table 1). Next, for regression analyses involving the predictor and the mediator as independent variables, we calculated harmonic means for the sample sizes in each cell to obtain a conservative sample size for the matrix. A partial mediation effect must meet the

following conditions (Baron & Kenny, 1986): (1) the predictor is significantly related to the criterion; (2) the predictor is significantly related to the mediator; (3) the mediator is significantly related to the criterion; and (4) the effect of the predictor variable on the criterion variable is reduced when controlling for the mediator. Table 1 shows that the correlations of SAEP with job/work satisfaction and civic/democratic orientations/behaviours were not significant. Thus, condition 1 was not fulfilled, and consequently, IPD cannot mediate the relationships between SAEP and job/work satisfaction (Hypothesis 6a) and civic/democratic orientations/behaviours (Hypothesis 6d). However, condition 1 was fulfilled regarding the relations between SAEP/EO and value-based commitment, SAEP and prosocial work orientations/behaviours, EO and job/work satisfaction and EO and job involvement/work motivation (Table 1). The second condition was also met since SAEP and EO correlated significantly with IPD (Table 1). Table 2 shows the results concerning conditions 3 and 4 for the first predictor (SAEP). Controlling for SAEP, IPD (mediator) correlated significantly with value-based commitment and prosocial work orientations/behaviours (condition 3). The beta weights for SAEP decreased considerably from Regression # 1 to Regression # 2 when IPD was entered as a mediator (condition 4). Finally, the computed Sobel tests (Sobel, 1982) confirmed significant reductions. Thus, IPD partially mediated

TABLE 2  
Mediation Analysis: The Effect of Structurally Anchored Employee Participation (SAEP) on Value-Based Commitment (H6b) and on Prosocial Work Orientations or Behaviours/OCB (H6c) Mediated by Individually Perceived Employee Participation in Organisational Decision Making (IPD)

	<i>Value-based commitment (H6b)</i>		<i>Prosocial work orientations or behaviours/OCB (H6c)</i>	
	$\Delta R^2$		$\Delta R^2$	$\beta$
Regression # 1				
<i>N</i>		1,475		1,725
SAEP	.160**		.017**	.130**
Regression # 2				
Harmonic <i>N</i>		2,896		1,945
Block 1	.212**		.058**	
IPD		.368**		.221**
Block 2	.069**		.002*	
SAEP		.279**		.057**
<i>R</i> <sup>2</sup> total	.281**		.060**	
Sobel test ( <i>SE</i> )		18.10* (.007)		9.23* (.008)

\* $p < .05$ , \*\* $p < .01$ .

the relations between SAEP and value-based commitment (Hypothesis 6b) and prosocial work orientations/behaviours (Hypothesis 6c).

Table 3 shows the results concerning conditions 3 and 4 for the second predictor (EO). Controlling for EO, IPD (mediator) correlated significantly with job/work satisfaction, job involvement/work motivation, and value-based commitment (condition 3). The beta weights for EO decreased considerably from Regression # 1 to Regression # 2 when IPD was entered as a mediator (condition 4). Sobel tests (Sobel, 1982) confirmed significant reductions. Thus, IPD partially mediated the relations between EO and job/work satisfaction (Hypothesis 6e), job involvement/work motivation (Hypothesis 6f), and value-based commitment (Hypothesis 6g). As a consequence, Hypothesis 6a and d were not supported, whereas all the other mediation hypotheses were fully supported.

Research Question 1 asked how EO is related to employees' attitude toward unionisation. We found a small but significant negative effect ( $\rho = -.16$ , 95% CI [-0.26, -0.06]; RQ1), indicating that with increasing EO, employees' attitude toward unionisation becomes more sceptical. However, the small

TABLE 3  
Mediation Analysis: The Effect of Employee Participation in Collective Ownership (EO) on Job/Work Satisfaction (H6e), Job Involvement/ Work Motivation (H6f), and Value-Based Commitment (H6g) Mediated by Individually Perceived Employee Participation in Organisational Decision Making (IPD).

	<i>Job/work satisfaction (H6e)</i>		<i>Job involvement/ work motivation (H6f)</i>		<i>Value-based commitment (H6g)</i>	
	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$
Regression # 1						
<i>N</i>		3,212		554		1,472
EO	.023**	.150**	.026**	.160**	.116**	.340**
Regression # 2						
Harmonic <i>N</i>		3,805		902		2,249
Block 1	.063**		.130**		.212**	
IPD		.226**		.342**		.397**
Block 2	.007**		.004*		.050**	
EO		.089**		.068*		.233**
<i>R</i> <sup>2</sup> total	.070**		.134**		.262**	
Sobel test ( <i>SE</i> )		10.02* (.006)		4.74* (.019)		11.75* (.009)

\* $p < .05$ , \*\* $p < .01$ .

correlation and sample size included in the meta-analysis (four studies, 632 participants) do not allow us to draw a definitive conclusion.

For a better overview, in Figures 2–4 we provide all the hypothesised relations and the corresponding correlations.

## DISCUSSION

### Theoretical Implications

An approximate overall pattern characterises the main results of our present meta-analysis: with the exception of value-based commitment, the effects of SAEP or EO on job satisfaction, job involvement, perceived supportive climate, prosocial work orientations, and civic orientations or behaviours tend to be weaker than the effects of IPD, even if not all differences are significant.

Our findings indicate that not every employee who works in a democratically structured organisation or who holds shares in his/her collectively owned enterprise necessarily perceives that he/she is *directly participating* in strategic and tactical decisions. The moderate associations of SAEP ( $\rho = .33$ ) and EO ( $\rho = .27$ ) with IPD and the associations of these three indicators of OD with several outcomes suggest that it is not sufficient to establish a representative organisational democracy (e.g., work councils, worker representatives in the company board) or to entitle employees to become employee shareholders in

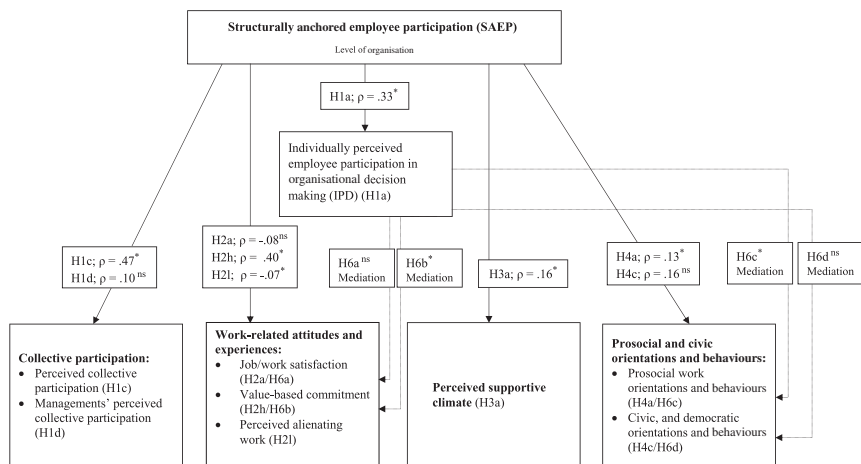


FIGURE 2. Structurally anchored employee participation (SAEP) and its psychological outcomes. *Note:* Hypothesis 6a, Hypothesis 6b, Hypothesis 6c, Hypothesis 6d are mediation hypotheses.

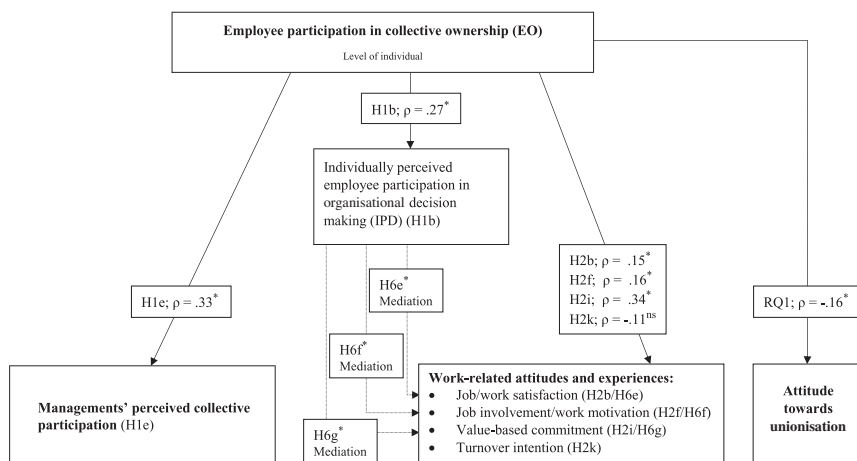


FIGURE 3. Employee participation in collective ownership (EO) and its psychological outcomes. *Note:* Hypothesis 6e, Hypothesis 6f, Hypothesis 6g are mediation hypotheses.

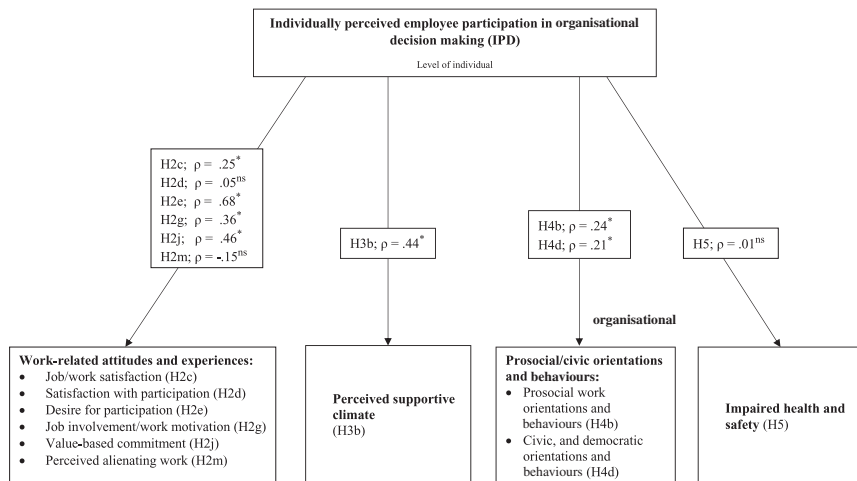


FIGURE 4. Individually perceived employee participation in organisational decision making (IPD) and its psychological outcomes.

order to foster employees’ positive work attitudes and behaviour. In the case of firms practising only representative democracy, the majority of employees are still excluded from frequent direct participation and corresponding learning opportunities. In a different case, while direct participation in strategic decision making is structurally anchored in worker cooperatives, some worker

cooperatives employ a smaller or larger number of employees who do not possess capital shares and corresponding decision rights. In both of the cases mentioned above, the structural effects of OD on psychological outcomes may be limited because employees' opportunities to participate democratically are too rare or because several employees are not entitled to participate at all. Only observing the democratic participation of other employees does not seem to be sufficient for establishing job satisfaction, prosocial and civic orientations and behaviours or for perceiving a supportive climate as social cognitive theory suggests. Our results show that the effects of SAEP on employees' job satisfaction, their prosocial/civic orientations and behaviours, and their perception of a supportive climate are weak or non-existent.

The relationships between EO and job satisfaction and job involvement/work motivation are also smaller than the relationships between IPD and these outcomes. The simple fact of owning shares in a company seems to have a smaller effect on work-related attitudes than directly and frequently participating in organisational decision making. The moderate correlation between EO and IPD ( $\rho = .27$ ) indicates that several shareholders do not engage in frequent organisational decision making. Such employees may have voting rights only once a year in the general assembly. These infrequent voting rights may be insufficient for establishing psychological ownership feelings that could satisfy the four fundamental human needs (cf. Pierce et al., 2001; Pierce & Jussila, 2010). These results limit the support for Klein's (1987) intrinsic satisfaction model.

In contrast, frequent direct participation (IPD) shows the proposed effect on work-related attitudes and experiences, prosocial/civic orientations and behaviours, and perception of a supportive climate. These results confirm the proposition that ongoing IPD satisfies basic human needs, which in turn induces positive psychological and organisational outcomes as deduced from self-determination theory and psychological ownership theory. Concurrently, IPD seems to support employees in developing individual and collective efficacy and experiences of mastery, which in turn enhances their job satisfaction, job involvement/work motivation, and perception of a supportive climate, respectively, as social cognitive theory states. Experiencing direct participation together with other employees may satisfy the needs for competence/effectance, autonomy, and relatedness and represent an important mechanism in stimulating prosocialness and citizenship, as stated in Pateman's spill-over hypothesis and self-determination theory.

Interestingly, value-based commitment does not fit into the approximate overall pattern of our results, namely, the stronger effects of IPD compared to those of SAEP and EO. The relations of SAEP, EO, and IPD with commitment are nearly equally medium sized. We can only speculate about the reasons. The mere existence of democratic structures or mere ownership seems

to be more important for fostering commitment than for fostering outcomes such as job satisfaction and motivational outcomes. One reason could be that commitment is strongly affected by the perceived *social exchange* between the individual and the organisation (e.g., van Knippenberg & Sleebos, 2006), whereas outcomes such as job satisfaction and job involvement/motivation are influenced to a greater extent by concrete work design characteristics and work activities (e.g., Hackman & Oldham, 1980). The mere perception among employees that the organisational structure is democratic or that EO exists may serve as an informational cue for an exceptionally strong employee orientation of the organisation, which may in turn affect social exchange, resulting in a higher level of employee commitment.

Our findings support that employees' frequent participation (IPD) represents one of the psychological mechanisms through which SAEP or EO affects employees' positive work attitudes and experiences and their prosocial orientations and behaviours. This result is in line with most of our mediation hypotheses based on Klein's (1987) *instrumental model* and psychological ownership theory (Pierce et al., 1991, 2001).

The positive effect of SAEP on employees' value-based commitment and prosocial orientations or behaviours is partly mediated by IPD. Because SAEP fails to significantly correlate with job satisfaction and civic orientations or behaviours, IPD does not mediate this relationship. With respect to EO, IPD partially mediates the positive effects of EO on job/work satisfaction, job involvement/work motivation, and value-based commitment. Although the available studies suitable for a meta-analysis did not allow us to include employees' sense of psychological ownership, the findings correspond with the weight of IPD, job complexity, or decision autonomy within the psychological ownership framework (see O'Driscoll et al., 2006; Pierce et al., 1991, 2009). The significant mediator effects mentioned all represent partial and not full mediations. At first sight, our findings also support Klein's (1987) *intrinsic model* of employee ownership and are compatible with the direct psychological effects of EO on their owners (Pierce et al., 2001). However, a closer look indicates that the direct effects of SAEP and EO are substantial only on value-based commitment (SAEP:  $\beta = .279^{**}$ ; EO:  $\beta = .233^{**}$ ). The direct effects of SAEP on prosocial orientations or behaviours and of EO on job satisfaction and job involvement/work motivation are very weak ( $\beta = .057^{**}$  to  $\beta = .089^{**}$ ). Accordingly, we conclude that the effects of SAEP and EO on those three outcomes are mainly indirect. This result fits with our overall result pattern, indicating that the effects of SAEP and EO on work-related and prosocial outcomes are predominantly transferred by direct participation (IPD) and that social modelling (Bandura, 1977) and the intrinsic model of employee ownership (Klein, 1987) play a minor role in this context.

Hypothesis 5, which stated that IPD is negatively associated with impaired occupational health and safety, could not be confirmed. This may lead to the conclusion that our results contradict the findings of the early meta-analysis by Spector (1986) on the consequences of participative decision making (PDM), which was negatively associated with physical symptoms ( $\rho = -.34$ ) and distress ( $\rho = -.18$ ). However, such an interpretation would be misleading because our meta-analysis included only studies on participation in *democratic* enterprises which allow workers not only to influence operational but also strategic and tactical decisions. Such research is still scarce: we found only three studies focusing on a variety of very specific health-related aspects (alcoholism, workaholism, and accidents). Thus, our meta-analytical outcome differs from Spector's (1986) outcomes. Moreover, future research may investigate whether health and safety at work are predominantly affected by participation in operational aspects on the shop floor—as studied by Spector (1986) and Theorell (2004)—whereas participation at the tactical/strategic level may usually not lead to an additional benefit or may have *ambivalent* effects. Under specific context conditions, democratic practices may increase employees' work intensification and extensification, outweighing the positive effects of participation (cf. Carter, 2006; Greenberg, 2008).

Further, IPD was not associated with employees' satisfaction with their participatory system. Organisational context factors may have influenced this surprising finding: two studies represent long existing and large regional or national systems of OD, namely the ex-Yugoslav workers' self-management (Kavcic, Rus, & Tannenbaum, 1971) and the Mondragon Cooperative Corporation (Freundlich, 2009). Frequent interventions of communistic state agencies in the local self-management systems, on the one hand (cf., Singh, Bartkiw, & Suster, 2007) and tensions between founding values and requirements of globalisation in Mondragon, on the other hand (cf., Cheney, 2006), may have counteracted the hypothesised positive influence of IPD.

However, IPD was strongly related to employees' desire for participation. Interestingly, two of the studies also included enterprises from the ex-Yugoslav workers' self-management (Obradovic et al., 1970; IDE, 1981). Maybe the individual desire for participation and satisfaction with the participatory system develop relatively independently from each other? We cannot draw a definitive conclusion, because we did not find quantitative studies that investigated the relation between both outcomes.

Moreover, we can only speculate about the reason that the observed effect of IPD on civic orientations or behaviours was not stronger and that the effect of SAEP on civic orientations or behaviours was even non-significant. These results only partly support the spillover hypothesis. Considering the four studies on this topic, it is noteworthy that the largest study (Arrighi & Maume, 1994) revealed only a marginal spillover effect, whereas the other



three studies indicated an effect of medium size ( $\rho = .37$ ). Interestingly, in the largest study, civic and political activities were measured with only one (complex) item, whereas the other three studies used more comprehensive measures. It is possible that poor validity of the measure in the largest study may have caused an underestimation of the true population effect. Further, because of the broad credibility intervals of both correlations, it can be assumed that several mediators or moderators representing psychological processes and situational factors influenced the effects of SAEP and IPD on civic/democratic behavioural orientations. In his narrative review on participative work environments, Carter (2006) discussed the degree to which informal power relations, interpersonal conflicts, expectations stemming from previous experiences with participation, organisational size, and the economic situation of the company may influence whether the spillover effect is likely to occur.

## Practical Implications

First, a consideration of the differences in effect sizes of the associations between our three indicators of OD and several outcomes suggests that, in general, employees' direct involvement in strategic and tactical decisions influences their individual work orientations more strongly than merely establishing democratic representative boards. For that reason, organisations that want to utilise democratisation to enhance a supportive climate, work motivation, job satisfaction, value-based commitment, or prosocial work behaviours should primarily implement forms of direct participation. Regarding value-based commitment, the same approach is advisable for enterprises that plan to or have institutionalised substantial forms of EO. Direct forms of participation are practised, for example, in the form of frequent quality circles, occupational health and safety committees, department meetings, dialogue conferences, and general assemblies. Furthermore, several decades of continental European sociotechnical research on semi-autonomous work groups (see Ulich & Weber, 1996) has led to the accumulation of a treasure trove of experience that can be utilised to enrich direct participation in the workplace. Further, working in democratic companies seems to happen within a field of socialisation that helps employees satisfy their higher-order needs and (further) develop joint value orientations that correspond to humanistic ethics. The latter represents the core of democratic republican constitutions. Political scientists have analysed the global threat to democratic systems through "postdemocratic" economic and populist erosion (Crouch, 2004). This erosion affects not only legislative institutions but also citizens' humanistic and democratic orientations. Thus, it makes sense to assume that business organisations can also contribute to the prevention of such destructive tendencies through the democratic

organisational socialisation of their members. This perspective matches well with the broader perspective that organisational change drives positive social change (Stephan, Patterson, Kelly, & Mair, 2016). Together with a variety of additional practices identified in social change research, democratic enterprises, particularly democratic social enterprises, may represent significant drivers of social change and may advance societal well-being by developing employees' understanding of societal issues and their civic engagement. OD may also help social enterprises overcome the tension between their social and financial missions. The distribution of decision power and a deliberative organisational culture, which includes discursive discussions and respectful negotiations of different value orientations for a common goal, fosters the integration of diverse and competing values (Battilana et al., 2018).

## Limitations

With only a few exceptions (Long, 1978c, 1982; Nurick, 1982; Tucker, Nock, & Toscano, 1989, whose designs were far below the standards of today's longitudinal methodology), the findings of the present meta-analytical study are based on cross-sectional research. This can be considered its main limitation because the design of most studies included in our meta-analysis does not allow us to test a causal relationship. Self-selection effects (e.g., tracing back to personality traits or individual preferences) and organisational selection may also play a role. Substantial preoccupational socialisation effects of family and school education on prosocial and civic/democratic orientations or behaviours have been sufficiently empirically proven (see Brown, Corrigan, & Higgins-D'Allessandro, 2012; Killen & Smetana, 2014, for comprehensive overviews). As a further limitation, the majority of the included studies on the outcomes of EO or employees' IPD represent single-source studies (in contrast to the included multisource studies on the outcomes of SAEP). Additionally, in the included studies on the spillover effect, behavioural outcomes such as OCB or civic and democratic behaviours were only indirectly assessed via self-ratings of the participants. Thus, the extent to which these data correspond with real behaviour remains uncertain.

## Future Research

First, a serious lack of longitudinal studies exists. Thorough longitudinal research designs and methods of data analysis (e.g., Meyer & Morin, 2016; Ployhart & Vandenberg, 2010) should play a major role in future studies to establish causality and disentangle socialisation from selection effects. Moreover, more studies are needed that measure the hypothesised

behavioural outcomes of OD via not only self-reports but also other data sources (e.g., observations, peer reports). Future research should also focus on further potential outcomes of OD already theoretically addressed in the participation literature (cf. Heller, Pusic, Strauss, & Wilpert, 1998), such as cognitive moral competencies or employees' innovativeness, and the potential mediator functions of collective psychological ownership, collective efficacy, and the satisfaction of basic needs. These potential outcomes and mediators are still under-addressed in participation research, especially in research on democratic enterprises.

## CONCLUSIONS

In sum, the present meta-analysis encompassing 60 studies, whose samples included workers in democratic enterprises, indicates that the more employees participate directly in strategic and tactical organisational decisions, the more they individually exhibit value-based commitment, job involvement, and job satisfaction and the more they experience a supportive climate. Further, IPD partially mediates the effects of EO on several of the aforementioned psychological outcomes. Participating in strategic and tactical decision making requires higher levels of cognitive and social knowledge and skills from involved employees in democratic enterprises compared to participation in operational decisions in conventional firms. Nevertheless, the effect sizes of extensive democratic participation are nearly as strong as those of limited participation in operative decisions according to research reviews by Cotton et al. (1988), Miller and Monge (1986), Spector (1986), Wagner (1994) and Wagner et al. (1997). Moreover, the present meta-analysis included additional outcomes that were not considered by the earlier research reviews. In contrast to the sceptical qualitative research reviews by Carter (2006) and Greenberg (2008), the findings of our meta-analytical study confirm the existence of moderate but substantial associations between employees' IPD and prosocial and civic behavioural orientations.

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## APPENDIX A

*Justification for Collapsing Job Involvement and Work Motivation into One Meta-Analytical Category*

An analytical differentiation between the semantic contents of job involvement and intrinsic work motivation makes sense. Job involvement can be defined as psychological identification with the satisfying potentialities of one's job, according to Kanungo (1982), or being engaged in the specific tasks that compose one's job and finding that performing those tasks in the present job environment is engaging, according to Paullay, Alliger, and Stone-Romero (1994). Intrinsic work motivation can be defined as perceptions of the need-satisfying potentialities of a concrete job, according to Kanungo (1982), or active engagement with tasks that people find interesting, according to Deci and Ryan (2000). The concept of job involvement strongly accentuates employees' attachment to and identification with one's concrete job, whereas the concept of intrinsic motivation focuses more on the positive, self-rewarding feelings, such as mastery and joy, that one experiences when performing interesting work tasks (cf. Hackman & Oldham, 1980).

Notwithstanding the above, we consider it acceptable to integrate both constructs into the same meta-analytical category encompassing the motivational effects of concrete job activities. Representative conceptual explications of both constructs contain enough similarities to combine them with the aim of gaining a larger meta-analytical sample size (cf. Sharma, Srivastava, Ningthoujam, & Arora, 2012). For example, Kanungo's (1982) and Paullay et al.'s (1994) definitions of job involvement and Deci and Ryan's (2000) definition of intrinsic motivation show strong content-related overlaps. They all emphasise involvement, identification, and engagement concerning one's job and its potential to fulfil higher-order needs. It seems likely that an employee's attachment to and identification with his/her job are closely connected to experiencing the job activities (e.g., the employee's opportunities to plan and decide collectively on organisational issues) as interesting and self-enhancing.

*Justification for Collapsing Affective and Normative Commitment into One Meta-Analytical Category*

Notwithstanding that affective and normative commitment represent conceptually different, though overlapping with regard to content, facets (cf. Bergman, 2006), we integrated them into the same meta-analytical category.

We followed this procedure for three OD studies (see Appendix D) that referred to Mowday, Steers, and Porter's (1979) conceptualisation of attitudinal organisational commitment, encompassing an employee's strong belief in and acceptance of the organisation's goals and values, the willingness to exert considerable effort on behalf of the organisation, and the strong desire to maintain membership in the organisation. While being aware of some conceptual differences (regarding the effort component in particular), we found this meta-analytical integration acceptable considering the content-related affinities between several items of the affective and normative commitment measures (Allen & Meyer, 1990) and the Organizational Commitment Questionnaire (Mowday et al., 1979) on the one hand and the strong to very strong correlations between these measures found by Meyer et al. (2002) on the other hand. Finally, we considered the extent of overlap in concept and operationalisation concerning the organisational identification items stemming from the Michigan Organizational Assessment Package (MOAP, 1975) with both Allen and Meyer's (1990) and Mowday et al.'s (1979) concepts of commitment to be sufficient to warrant the inclusion of four additional studies in that meta-analytical category.

## APPENDIX B

### *Applied Search Terms*

(organizational W0 democracy) OR (industrial W0 democracy) OR (workplace W0 democracy) OR (worker\* W0 democracy) OR (worker\* W0 self-management) OR (employee\* W0 self-management) OR (employee\* W0 ownership) OR (employee\* W0 stock W0 ownership) OR (worker\* W0 ownership) OR (worker W0 owned W0 organization\*) OR (worker W0 owned W0 firm\*) OR (worker W0 owned W0 enterprise\*) OR (worker W0 owned W0 corporation\*) OR (employee\* W0 owned W0 organization\*) OR (employee\* W0 owned W0 firm\*) OR (employee\* W0 owned W0 enterprise\*) OR (employee\* W0 owned W0 corporation\*) OR (democratic W0 firm\*) OR (democratic W0 compan\*) OR (democratic W0 corporation\*) OR (democratic W0 organization\*) OR (worker\* W0 cooperative\*) OR (producer\* W0 cooperative\*) OR (cooperative W0 enterprise\*) OR (worker\* W0 co-operative\*) OR (producer\* W0 co-operative\*) OR (co-operative W0 enterprise\*) OR (self-governed W0 enterprise\*) OR (self-governed W0 firm\*) OR (self-governed W0 corporation\*) OR (self-governed W0 organization\*) OR (labor W0 managed W0 enterprise\*) OR (labor W0 managed W0 firm\*) OR (labor W0 managed W0 corporation\*) OR (labor W0 managed W0 organization\*)

OR (collectivist W0 organization\*) OR (collective W0 organization\*) OR (collectivist W0 enterprise\*) or (collective W0 enterprise\*) OR (collectivist W0 firm\*) or (collective W0 firm\*) OR (collectivist W0 corporation\*) or (collective W0 corporation\*) OR (employee\* W0 buyout) OR (employee\* W0 buy-out) OR (democratic W0 management).

## APPENDIX C

### *Studies Considered but Excluded from the Meta-Analyses*

#### **Excluded Because Less than 3 Studies for Dependent Variable**

- Ali, S. (2017). A quantitative study of the impact of an employee ownership culture on conflict management styles in Colorado's most productive companies (Unpublished doctoral dissertation thesis). Technical University, Colorado.
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- Hallock, D.E., Salazar, R.J., & Venneman, S. (2004). Demographic and attitudinal correlates of employee satisfaction with an ESOP. *British Journal of Management*, 15, 321–33.
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- Heller, F.A., Drenth, P., Koopman, P., & Rus, V. (1988). *Decisions in organizations: A three country comparative study*. London: Sage.
- Knudsen, H., Busck, O., & Lind, J. (2011). Work environment quality: The role of workplace participation and democracy. *Work, Employment and Society*, 25(3), 379–396.
- Kruse, D.L., Freeman, R.B., & Blasi, J.R. (Eds.). (2010). *Shared capitalism at work. Employee ownership, profit and gain sharing, and broad-based stock options*. Chicago and London: University of Chicago Press.
- Obradovic, J. (1978). Effects of technology and participation on attitudes toward work. In J. Obradovic & W.N. Dunn (Eds.). (1978). *Workers self-management and organizational power in Yugoslavia* (pp. 297–310). Pittsburgh: University Center for International Studies.
- Rooney, P.M. (1992a). Employee ownership and worker participation. Effects on health and safety. *Economics Letters*, 39, 323–328.
- Rooney, P.M. (1993). Effects of worker participation in the USA: Managers' perceptions vs. empirical measures. In W. Lafferty & E. Rosenstein (Eds.), *International*



*handbook of participation in organizations, Vol. 3* (pp. 134–152). Oxford: Oxford University Press.

- Rosner, M., & Tannenbaum, A. (1987). Ownership and alienation in Kibbutz factories. *Work and Occupations, 14*(2), 165–189.
- Rosen, C.M., Klein, K.J., & Young, K.M. (1986). *Employee ownership in America. The equity solution*. Lexington: Lexington Books.
- Spencer, L. (2011). A correlation analysis between employee theft and employee ownership (Unpublished doctoral dissertation thesis). University of Phoenix.

#### **Excluded Because of Insufficient Information on Effect Sizes**

- Bartölke, K., Eschweiler, W., Flechsenberger, D., & Tannenbaum A.S. (1982). Workers' participation and the distribution of control as perceived by members of ten German companies. *Administrative Science Quarterly, 27*, 380–397.
- Jones, D.C., & Goic, S. (2010). Do innovative workplace practices foster mutual gains? Evidence from Croatia. *Advances in the Economic Analysis of Participatory and labor-Managed Firms, 11*, 23–68.
- Logue, J., & Yates, J.S. (1999). Worker ownership American style: Pluralism, participation and performance. *Economic and Industrial Democracy, 20*, 225–252.
- Long, R.J. (1979). Desires for and patterns of worker participation in decision making after conversion to employee ownership. *Academy of Management Journal, 22*(3), 611–617.
- Sengupta, S., Whitfield, K., & McNabb, B. (2007). Employee share ownership and performance: Golden path or golden handcuffs? *International Journal of Human Resource Management, 18*, 1507–1538.
- Tannenbaum, A.S., Kavčič, B., Rosner, M., Vianello, M., & Wieser, G. (1974). *Hierarchy in organizations*. San Francisco: Jossey-Bass.
- Whitehorn, A. (1974). Alienation and workers' self-management. *Canadian Slavonic Papers / Revue Canadienne des Slavistes, 16*, 160–186.

#### **Excluded Because of Measuring the Change in DV**

- McCarthy, D., Reeves, E., & Turner, T. (2010). Can employee share-ownership improve employee attitudes and behavior? *Employee Relations, 32*(4), 382–395.
- Steinheider, B., & Wuestewald, T. (2008). From the bottom-up: Sharing leadership in a police agency. *Police Practice and Research, 9*(2), 145–162.

#### **Excluded Because of Complete or Partial Sample Overlap**

- Buchko, A.A. (1993). The effects of employee ownership on employee attitudes: An integrated causal model and path analysis. *Journal of Management Studies, 30*(4), 633–657.
- Greenberg, E.S., Grundberg, L., & Daniel, K. (1996). Industrial work and political participation: Beyond “simple spillover”. *Political Research Quarterly, 49*(2), 305–330.
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APPENDIX D  
TABLE D1  
Coding Information for Samples Included in the Meta-Analyses

Study	N Individuals	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$
1 Arando et al. (2015)	4328	80	SAEP	Job/work satisfaction	Employee Attitude Index (=Overall Worker Satisfaction)	68	–	–.17
2 Arrighi and Maume (1994)	1165	n.a.	IPD	Civic/democratic orientations or behaviours	Active political participation (self-developed)	1	–	.04
3 Bayo-Moriones et al. (2003)	–	965	SAEP	Managements' perceived collective participation	Participation index (tactical and operational decisions) (self-developed)	9	–	.05
4 Borzaga and Tortia (2006)	1580	228	SAEP	Organisational climate, cooperation, communication	Satisfaction with relations to superiors, colleagues and volunteers	3	–	.06
	2022			Job/work satisfaction	Satisfaction with the job as a whole	1	–	.05
5 Bradley and Gelb (1981)	1262	17	SAEP	IPD	Individually perceived degree of participation in important decisions	1	–	.29

TABLE D1  
Continued

<i>Study</i>	<i>N</i>	<i>N Organizations</i>	<i>OD (IV)</i>	<i>Outcome category</i>	<i>Outcome measure</i>	<i># Items</i>	<i>α</i>	<i>r</i>
6	Brown (1985)	–	18	SAEP	Perceived collective participation	Cooperative participation score (self-developed)	–	.21
7	Buchko (1992)	218	1	EO	IPD	Influence subscale (Rosen et al., 1986)	.87	.19
					Job/work satisfaction	Job Descriptive Index (Smith et al., 1969)	.95	.14
					Value-based commitment	OCQ (Mowday et al., 1979)	.93	.22
					Job involvement and work motivation	Job Involvement Scale (Kanungo, 1982)	.89	.11
					Turnover intention	MOAQ (Cammann et al., 1983)	.88	–.10
					Job/work satisfaction	(see above)	.95	.57
					Value-based commitment		.93	.65
					Job involvement and work motivation		.89	.39
8	Chiu et al. (2007)	511	10	EO	Satisfaction with participation	ESOP-Satisfaction (Rosen et al., 1986)	.86	.61
					Job/work satisfaction	Extrinsic job satisfaction (Lai et al., 1998)	.77	.09
9	Culpepper et al. (2004)	511	10	SAEP	Job/work satisfaction	(see above)	.77	.03
					Value-based commitment	Affective and normative commitment (Allen & Meyer, 1990)	.86	.42

TABLE D1  
Continued

Study	N	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$
10	Dong et al. (2002)	882	EO	IPD;	Employee influence (self-developed)	9	-	.19
				Job/work satisfaction	Job satisfaction (self-developed)	10	-	.17
				Turnover intention	Turnover intention (self-developed)	1	-	-.09
11	French and Rosenstein (1984)	520	EO	IPD	Perceived influence	5	.73	.31
				Job/work satisfaction	General job satisfaction (GM Faces Scale; Hammer & Stern, 1980)	2	.60	.14
				Value-based commitment	Org. commitment (Steers, 1979)	9	.78	.39
				Job/work satisfaction	(see above)	2	.60	.38
				Value-based commitment	(see above)	9	.78	.53
				Desire for participation	Desire for influence (self-developed)	n.a.	.80	.47
12	Freundlich (2009)	2692	IPD	Organisational climate, cooperation, communication	Work climate and collaborative relationships (self-developed)	2	-	-.09
				Satisfaction with participation	Satisfaction with the company as a cooperative firm	1	-	-.08

TABLE D1  
Continued

Study	N	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$	
13	Gamble et al. (2002)	321	3	IPD	Job/work satisfaction	Job satisfaction (self-developed)	1	–	.53
					Job involvement and work motivation	Job involvement (Kanungo, 1982)	10	.88	.35
					Satisfaction with participation	ESOP-satisfaction (Rosen et al., 1986)	4	.91	.67
14	Goldstein (1978)	183	1	EO	IPD	Involvement in decision making (self-developed)	1	–	.23
					Job/work satisfaction	Overall satisfaction (self-developed)	1	–	.06
					Job involvement and work motivation	Application/effort (self-developed)	1	–	.23
15	Goletz (2001)	205	31	IPD	Turnover intention	Need to stay (self-developed)	1	–	–.17
					Organisational climate, cooperation, communication	Perceived organisational support (Eisenberger et al., 1986)	16	.91	.13
					Job/work satisfaction	JDS (Hackman & Oldham)	5	.76	.13
					Value-based commitment	Affective commitment (Allen & Meyer, 1990/O'Reilly & Chatman, 1986)	13	.83	.34
16	Greenberg (1980)	377	5	SAEP	Prosocial work orientations or behaviours/OCB	OCB (Staufienbiel & Hartz, 2000)	20	.80	.22
					Job/work satisfaction	Overall work satisfaction (self-developed)	4	Yes, <sup>a</sup>	.20

TABLE D1  
Continued

Study	N	N Individuals	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$
17 Greenberg (1981a)	379		5	SAEP	Civic/democratic orientations or behaviours	Sociopolitical orientations (div. subscales, self-developed)	17	-	-.11 <sup>b</sup>
18 Greenberg (1981b)	379		5	SAEP	Civic/democratic orientations or behaviours	Index of community politic. participation (self-developed)	5	-	-.11 <sup>b</sup>
19 Greenberg (1984)	414		5	IPD	Civic/democratic orientations or behaviours	Index of community politic. participation (self-developed)	5	-	.41
			5	SAEP	Prosocial work orientations or behaviours/OCB	Contextual performance and responsibility (self-developed)	3	-	.14
20 Greenberg and Grunberg (1995)	1225		15	SAEP	IPD	Participation index (self-developed)	6	.62	.29
			15		Job/work satisfaction	Job satisfaction (self-developed)	1	-	-.15
			15		Perceived alienating work	Use of capacities + job autonomy (negative indicator)	15	.82	-.05
			15	IPD	Job/work satisfaction	(see above)	1	-	.14
			15		Stress, mental loads, strain, health	Heavy drinking/Negative consequences of drinking	10	.75	.01 <sup>a</sup>
			15		Perceived alienating work	Use of capacities + job autonomy (negative indicator)	15	.82	-.28
21 Grunberg et al. (1996)	952		15	IPD	Stress, mental loads, strain, health	(see above)	2	-	.01 <sup>a</sup>

TABLE D1  
Continued

<i>Study</i>	<i>N</i>	<i>N Organisations</i>	<i>OD (IV)</i>	<i>Outcome category</i>	<i>Outcome measure</i>	<i># Items</i>	$\alpha$	<i>r</i>
22 Höckertin and Härenstam (2006)	1352	60	SAEP	Organisational climate, cooperation, communication	Psychosocial climate	6	.86	.12
23 Hoffmann (2006)	1372	60	SAEP	Perceived alienating work	Control (Karasek & Theorell, 1990) (negative indicator)	6	.61	-.06
24 IDE (1981)	166	6	SAEP	Value-based commitment	(interview, self-developed)	n.a.	–	.37
	5201	134	SAEP	IPD	Individual involvement in org. decisions (self-developed)	16	–	.32
	5201	134	IPD	Organisational climate, cooperation, communication	Climate – Relations (self-developed)	3	.60	.64
	7832	134	IPD	Job/work satisfaction	Satisfaction with work (Vervinck, 1975)	4	.76	.15
	5201	134		Desire for participation	Workers' desired involvement (self-developed)	16	–	.67
25 IDE (1993)	–	66	SAEP	Managements' perceived collective participation	Key-persons perceived worker influence	18	–	.50
26 Kaarsemaker (2008)	542	11	EO	IPD	Self-constructed	–	.83	.33
				Value-based commitment	Affective commitment (Meyer & Allen, 1991)	–	–	.29
	542	11	IPD	Value-based commitment	Affective commitment (Meyer & Allen, 1991)	–	–	.58



TABLE DI  
Continued

Study	N	N Individuals	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	r
27	589	4	4	IPD	Value-based commitment Prosocial work orientations or behaviours/ OCB	Bowers (1969); Patchen (1963) Bowers (1969); Patchen (1963)	1 3	- -	.10 .18
					Satisfaction with participation	Satisfaction with workers' council effectiveness (self-developed)	1	-	.06
28	-	37	37	SAEP	Perceived collective participation	Employee perceived worker influence (adapted from Kwoka, 1976)	7	.77	.38
29	708	1	1	IPD	Managements' perceived collective participation	Management perceived worker influence (adapted from Kwoka, 1976)	7	.86	.37
30	325	2	2	SAEP	Managements' perceived collective participation Stress, mental loads, strain, health Job/work satisfaction Prosocial work orientations or behaviours/ OCB	(see above) Workholism (Schaufeli et al., 2006) Self-constructed Self-constructed	7 10 1 1	.86 Yes, $r^2$ - -	.23 - .25 .07

TABLE D1  
Continued

Study	N	N Individuals	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$
31	Long (1978b)	60	1	EO	Job/work satisfaction Value-based commitment Job involvement and work motivation	All scales were obtained or adapted from the Michigan Organizational Assessment Package (1975)	n.a. n.a. n.a.	.66 .61 .72	.25 .36 .05
		640	1	IPD	Job/work satisfaction Value-based commitment Job involvement and work motivation	All scales were obtained or adapted from the Michigan Organizational Assessment Package (1975)	n.a. n.a. n.a.	.66 .61 .72	.49 .35 .42
32	Long (1978c)	64	1	EO	Attitude towards unionisation	Self-constructed	4	-	-.19
33	Long (1980)	93	1	EO	Job/work satisfaction Value-based commitment Job involvement and work motivation	All scales were obtained or adapted from the Michigan Organizational Assessment Package (1975)	n.a. n.a. n.a.	.66 .61 .72	.19 .10 .10
34	Long (1982)	61	1	IPD	Job/work satisfaction Value-based commitment Job involvement and work motivation	All scales were obtained or adapted from the Michigan Organizational Assessment Package (1975)	n.a. n.a. n.a.	.66 .61 .72	.26 .40 .45

TABLE D1  
Continued

Study	N	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$
35 McHugh et al. (1999)	-	68	SAEP	Managements' perceived collective participation	Adapted from Klein (1987) and Kwoka (1976);	13	.86	.13
36 Nightingale (1979)	640	68	EO	Managements' perceived collective participation	Adapted from Klein (1987) and Kwoka (1976);	13	.86	.20
37 Nurick (1982)	240	1	IPD	Civic/democratic orientations or behaviours	Self-constructed	2	-	-.02
	241	1	SAEP	Job/work satisfaction	Michigan Organizational Assessment Questionnaire (MOAQ) (1975)	3	Yes, <sup>pc</sup>	.21
	239	1	IPD	Value-based commitment	MOAQ (1975)	2	Yes, <sup>pc</sup>	.24
	537	20	IPD	Job involvement and work motivation	MOAQ (1975)	3	Yes, <sup>pc</sup>	.19
38 Obradovic (1970)	520	20	IPD	Perceived alienating work	Self-constructed	2	-	.23
39 Obradovic et al. (1970)	284	n.a.	SAEP	Job/work satisfaction	n.a.	40	-	.15
40 Oliver (1984)	179	13	SAEP	Desire for participation	Self-developed	-	-	.13
41 Onaran (1992)	182	5	EO	Value-based commitment	Cook and Wall (1980)	9	.87	.29
42 Pendleton, Robinson, and Wilson (1995)				IPD	Self-constructed	1	-	.09
				Attitude towards unionisation	Adapted from Long, Toscano (1984) and Poole and Jenkins (1990)	4	-	-.02

TABLE D1  
Continued

Study	N	N Individuals	N Organizations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$
43 Pendleton, Wilson, and Wright (1998)	234	4	4	IPD	Job/work satisfaction Value-based commitment	n.a. Integration & involvement (Long, 1978; derived from MAOP); quit-dimension (Mowday et al., 1979; Cook & Wall, 1980)	1 7	– .84	.23 .34
44 Pircher-Verdorfer and Weber (2016)	285	10	10	SAEP	Organisational climate, cooperation, communication	Pircher Verdorfer et al. (2008)	42	.97	.47
45 Pircher-Verdorfer et al. (2013)	285	10	10	SAEP	Value-based commitment Prosocial work orientations or behaviours/OCB	AC & NC (Allen & Meyer, 1990; Felfe et al., 2004) Prosocial work behaviour from Staufenbiel and Hartz (2000); Solidarity at work from Flodell (1989)	10 23	.86 .85	.31 .12
46 Rhoades and Steers (1981)	136	2	2	SAEP	Civic/democratic orientations or behaviours IPD	Bibouche & Held (2002) Lawler et al. (1975); Alutto and Belasco (1972); Hrebiniak (1974); Lischeron and Wall (1975)	10 15	.76 .90	.19 .27
	134	2	2		Value-based commitment	Mowday et al. (1979)	15	.85	.26
	64	1	1	IPD	Value-based commitment Stress, mental loads, strain, health	Mowday et al. (1979) Reported accidents by the companies	15 –	.81 –	.40 .17

TABLE DI  
Continued

Study	N	Individuals	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$
47 Rooney (1988)	-	-	172	EO	Managements' perceived collective participation	n.a.	12	-	.37
48 Ros (2003)	238	239	7	SAEP	IPD	Self-constructed	1	-	.30
49 Rosenstein and French (1985)	326	-	7	EO	Prosocial work orientations or behaviours/OCB	Self-constructed	1	-	.08
50 Rosner (1980)	-	-	10	SAEP	Perceived collective participation	Self-constructed	2	-	.91
51 Rubenowitz et al. (1983)	1550	-	10	IPD	Job/work satisfaction	n.a.	-	-	.53
52 Russell et al. (1979)	706	-	17	EO	Job/work satisfaction	Self-constructed	2	-	.12
53 Sockell (1985)	60	-	3	EO	Attitude toward unionisation	Self-constructed	23	.82	-.04
54 Taylor et al. (1987)	1223	-	n.a.	IPD	Job/work satisfaction	Self-constructed	1	-	.18
55 Trehitt (2000)	90	-	1	EO	IPD	Poole and Jenkins (1990); Pendleton et al. (1995a, b); Walley and Wilson (1992)	11	-	.07
56 Tucker et al. (1989)	22	39	1	EO	IPD	n.a.	7	.80	-.04
					Job/work satisfaction	n.a.	7	.91	.04
					Value-based commitment	n.a.	9	.84	-.02

TABLE D1  
Continued

Study	N	N Individuals	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$
57	Unterrainer et al. (2011)	606	33	SAEP	IPD	Weber et al. (2009) based on IDE (1981)	39	.98	.41
					Value-based commitment	Meyer and Allen (1997); Felfe et al. (2008)	4	.85	.46
					Civic/democratic orientations or behaviours	Katz and Hass (1988); Doll and Dick (2000)	8	.84	.33
		606	33	IPD	Value-based commitment	Meyer and Allen (1997); Felfe et al. (2008)	4	.85	.50
					Civic/democratic orientations or behaviours	Katz and Hass (1988); Doll and Dick (2000)	8	.84	.29
58	Weber (2004)	54	4	IPD	Job/work satisfaction	Udris and Rimann (1995)	3	–	.39
					Value-based commitment	AC (Allen & Meyer, 1990)	8	–	.62
					Prosocial work orientations or behaviours/OCB	Weber (1997)	8	–	.62
59	Weber et al. (2008)	542	30	SEAP	Organisational climate, cooperation, communication	Weber et al. (2008)	14	.90	.40
		500	30		Prosocial work orientations or behaviours/OCB	Staufenbiel and Hartz (2000); Holz-Ebeling and Steinmetz (1995); Flodell (1989)	33	.89	.17
		443	30		Civic/democratic orientations or behaviours	Bibouche (2003); Mohiyeddini and Montada (1998)	15	.85	.32

TABLE D1  
Continued

Study	N	N Organisations	OD (IV)	Outcome category	Outcome measure	# Items	$\alpha$	$r$
60 Weber et al. (2009)	325	20	IPD	Organisational climate, cooperation, communication	Weber et al. (2009)	14	.89	.47
				Value-based commitment	Meyer and Allen (1997); Felfe et al. (2008)	4	.83	.34
				Prosocial work orientations or behaviours/OCB	Holz-Ebeling and Steinmetz (1995); Flodell (1989); Staufenbiel and Hartz (2000); Bibouche (2003); Mohiyeddini and Montada (1998)	33	.89	.21
				Civic/democratic orientations or behaviours		15	.86	.36
61 Whitehorn (1979)	270	4	SAEP	Job/work satisfaction	n.a.	1	-	.14
				Perceived alienating work	Work alienation (based on Seeman, 1976)	6	-	-.24
62 Whitehorn (1983)	203	n.a.	SAEP	IPD	Self-constructed	1	-	.26
				Perceived alienating work	Work alienation (based on Seeman, 1976)	6	-	-.13

<sup>a</sup>The correlation for health indicator is composed out of Greenberg & Grunberg (1995) and Grunberg et al. (1996) because it is the same sample but are different indicators of health. In the meta-analysis the correlation is only used once!

<sup>b</sup>The correlation for civic/democratic orientations or behaviors is composed out of Greenberg (1981a) and Greenberg (1981b) because it is the same sample but are different indicators of civic/democratic orientations or behaviors. In the meta-analysis the correlation is only used once!

<sup>c</sup>Authors used a reliable and validated measurement but did not provide Cronbach alphas.

*Note:* n. a. = not applicable; OD = Indicators of organisational democracy; SAEP = Structurally anchored employee participation; IPD = Individually perceived participation in organisational decision making; EO = Employee (participation in collective) ownership.