Training corporate managers to adopt a more autonomy-supportive motivating style toward employees: an intervention study

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Management style is treated in a variety of ways across the training and development literature. Yet few studies have tested the training-based malleability of management style in a for-profit, authentic work context. The present research tested whether or not training intervention would help managers adopt a more autonomy-supportive motivating style toward employees and whether or not the employees of these managers would, in turn, show greater autonomous motivation and workplace engagement. Using an intervention-based experimental design, 25 managers from a Fortune 500 company received training consistent with self-determination theory on how to support the autonomy of the 169 employees they supervised. Five weeks after the managers in the experimental group participated in the training, they displayed a significantly more autonomy-supportive managerial style than did non-trained managers in a control group. Further, the employees they supervised showed, 5 weeks later, significantly more autonomous motivation and greater workplace engagement than did employees supervised by control-group managers. We discuss the malleability of managers' motivating styles, the

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benefits to employees when managers become more autonomy supportive, and recommendations for future training interventions and research.

The managerial effort to support employees' motivation represents one of the most challenging parts of a manager's job (Bryce, 2000; Lawler & Thye, 1999). A key determinant of how effectively a manager nurtures and supports employees' motivation is the manager's motivating style, because the quality of a manager's style affects employees' work-related motivation (Deci *et al.*, 1989; Richer & Vallerand, 1995). Can management style be meaningfully influenced by a training-based intervention? Recognizing the important relationship between managers' styles and employees' motivation, the present study identified a population of workers at a Fortune 500 corporation that showed relatively low-quality workplace motivation so that we could work collaboratively with management to achieve two purposes. First, we tested whether or not veteran managers could develop a more constructive motivating style toward employees. That is, we sought to test the malleability of managers' motivating styles following participation in a theory-based training intervention on how to become more autonomy supportive toward employees. Second, we tested whether or not employees would recognize and benefit from their managers' training. That is, we sought to test whether or not the employees of the trained managers would show both higher quality workplace motivation and greater workplace engagement. The three pivotal components in this process of management training and employee responses are: (1) the types and nature of employees' motivation; (2) managers' motivating styles; and (3) the training-based malleability of managerial style.

Management

'Management' is sometimes distinguished from 'leadership', with the former focused on task accomplishment or production, and the latter focused on employee needs or performance optimization. However, within the study of management a number of categorizations and classification systems have been developed that address these distinctions of focus, on task versus employee (e.g. Araki, 1993; Goleman, 2000; Likert, 1967; Shea, 1999), or on manager versus employee (e.g. Tannenbaum & Schmidt, 1973). As a result of addressing the task–person focus within subsets of management, it is often used synonymously with leadership.

Management style

In the training and development literature, management *skills* and *strategies* are generally accepted as malleable, as flexible, learned behaviors, and are therefore teachable or trainable (Bryce, 2000; Kouzes & Posner, 2002). However, management *style* has historically been considered a deeply rooted characteristic, a hard-wired brain dominance characteristic, personality trait or individual difference that defines the individual as a manager (Goodacre, 1971; Lewis, 2005). These authors tend to argue that manager style is a matter of selection and fit which is addressed at hiring or assignment, and which is not amenable to sustained change. Some researchers have argued that style is indeed learned, but is deeply embedded and honed over time, through modeling and conditioning (Stimpson & Reuel, 1984), so that short-term, explicit training is often ineffective, while others would argue that management style is taught, and should be shaped to respond adaptively to possible job contingencies (Brody, 2008; Reeve, 1998). Theorists have proposed various models of the internal and external factors that shape and influence management style (e.g. Chitayat & Venezia, 1984; Giritli & Oraz, 2004). Yet few studies have been carried out to test whether or not management style can, indeed, be taught, and whether or not explicit style training transfers effectively, so it is recognized not only by the managers themselves, but also by the employees who work under them.

Management style is distinguished from management skills and strategies in that it is less discrete, more integrated into the interpersonal behaviors of an individual, but also influences how that person communicates about skills and delivers strategies (Gagné & Deci, 2005; Lewis, 2005). It is often difficult to distinguish management style from other similarly integrated, and potentially related, personal characteristics such as personality, but it should be examined and investigated separately because of the influence it can have on work climate and on employee work characteristics and performance (Bass, 1997; Deets & Morano, 1986; Vecchio & Boatright, 2002). Management style can be defined as the characteristic way that a manager interacts with employees in the workplace, and in particular with subordinates (Richer & Vallerand, 1995; Totoki, 1990). A subset of management style is manager *motivating* style, defined as the characteristic way that a manager seeks to motivate employees in the workplace (Bono & Judge, 2003; Deci *et al.*, 1989).

Various classifications of management style have been developed, including: McGregor's (1960) Theory X and Y; Likert's (1967) task or productivity-centered versus employee-centered; Bass's (1990) directive and structuring versus supportive and understanding; and Burns' (1978) transactional versus transformational leadership styles. Similar distinctions are made under many different labels and frameworks (Araki, 1993), and with different subsets and points of discrimination. Important in a global workplace is that some characteristics of management style seem to be culturally defined (Lee *et al.*, 2000; Matsui, 1978), but others are argued to generalize across national and cultural boundaries (Bass, 1997). Although no single management style has been found optimal, the literature is clear on the need for a more flexible, supportive range in management style, to address the demands of rapidly changing work demands in the face of technological change (Deets & Morano, 1986). We set out to test whether or not autonomy-supportive management style could be influenced in a reasonably efficient intervention, and whether or not the changes it produced in managers' behavior would produce consequent change in employees' perception and motivation.

Employees' autonomous motivation

Diagnosing and supporting employees' motivation is complex and challenging (Bono & Judge, 2003; Thomas, 2000), but it is well worth the effort in terms of potential gains in both productivity and workplace climate (Deci *et al.*, 1989; Kouzes & Posner, 2002). One aspect that makes employee motivation complex is that it varies not only in its amount but also, and perhaps more importantly, in its quality (Gagné & Deci, 2005; Gagné *et al.*, 1997; Ryan & Deci, 2000). That is, different types of employee motivations exist (Ryan & Deci, 2000), and some of these types of motivation are associated with positive workplace functioning (e.g. engagement, performance, job satisfaction) while other types are not (Gagné & Deci, 2005; Ryan & Deci, 2000).

Self-determination theory is an approach to motivation that uses traditional empirical methods to investigate how social conditions facilitate versus undermine people's motivation, functioning, and well-being (Deci & Ryan, 1985; Ryan & Deci, 2000). Social conditions, such as the workplace climate or a manager's motivating style, facilitate motivation and functioning when they involve and support autonomous types of motivation, but undermine motivation and functioning when they promote controlled types of motivation (Deci & Ryan, 1985; Gagné & Deci, 2005; Ryan & Deci, 2000). A solid body of empirical work has been done, demonstrating the beneficial effects of autonomy-supportive management style on employees' autonomous and self-determined motivation (e.g. Gagné *et al.*, 1997; Richer & Vallerand, 1995), and of employees' motivation on their subsequent job satisfaction and workplace performance (e.g. Baard *et al.*, 2004; Thomas, 2000). However, little attention to date has been given to actual interventions to promote autonomy-supportive style of managers, using the framework of self-determination theory.

Autonomous versus controlled types of employee motivation

Autonomous motivation is that which is self-authored and personally endorsed as one's own (Ryan & Deci, 2000). The two types of autonomous motivation we focused on in the present study were intrinsic motivation and identified regulation, both of which are associated with employees' positive functioning (Gagné & Deci, 2005). Intrinsic motivation involves employees engaging in an activity because they find it interesting and because they experience spontaneous satisfactions (e.g. enjoyment) within the work itself. Employees express intrinsic motivation through utterances such as, 'I enjoy what I do'. Identified regulation involves identifying with the value or utility of an activity, procedure or job, as time spent on that activity is seen as a something that is useful, personally important, and truly worth one's attention and effort. Employees express identified regulation through utterances such as, 'The work I do is important to me'.

Controlled motivation is that which is pressure-based and imposed by forces (i.e. people, rewards, deadlines) outside the person (Ryan & Deci, 2000). The two types of controlled motivation we focused on were external regulation and amotivation, both of which involve the person acting without task enjoyment or task valuing and are associated with poor employee functioning (Gagné & Deci, 2005). External regulation involves employees doing an activity because they expect to gain an external contingency for doing so. Their motivation is externally controlled because they are energized into action by the presence of environmental incentives and consequences yet remain unenergized to action when incentives and consequences are absent. Employees express their external regulation through utterances such as, 'I work because the boss is watching'. Amotivation, which literally means 'without motivation', is a state of apathy or unwillingness in which the employee is neither intrinsically nor extrinsically motivated. Instead, the employee goes through the motions of work, lacking the intention to act or the valuing of the work and engaging in work-related activities without a motivational basis. Employees express their amotivation through utterances such as, 'I come to work, but I really don't know why I come or what I get out of it'.

Identifying these four types of motivation is important, because how autonomous an employee's motivation is has a substantial effect on what he or she thinks, feels and does during work, including work-related outcomes such as innovation, engagement, job satisfaction, commitment to the company and high performance evaluations (Baard *et al.*, 2004; Gagné & Deci, 2005; Guay *et al.*, 2003; Katz & Kahn, 1966; Ryan & Deci, 2000).

Many managers agree that motivation is important and, further, that the quality of employees' motivation is important, but they are frequently unsure what they should do to motivate employees constructively or how they might interact with employees to promote high-quality work motivation (Hardré, 2003). Further, many managerial strategies and interventions designed to enhance employees' motivation and performance actually undermine these outcomes when introduced into the workplace (Deci & Ryan, 1985; Kohn, 1993; Rummler & Brache, 1995), presumably because they promote in employees controlled rather than autonomous types of motivation. Several empirically validated motivation theories provide insight into how managers' motivating styles potentially affect employees' motivation in a positive way (e.g. goal-setting theory; Locke & Latham, 1990; action regulation theory; Frese & Sabini, 1991). In the present paper, however, we focused specifically on self-determination theory (Deci *et al.*, 1989; Gagné & Deci, 2005; Ryan & Deci, 2000, 2002), as we conceptualize a manager's motivating style toward employees on a continuum that ranges from a highly controlling style to highly autonomy-supportive style, and employees' motivation on a continuum that ranges from not at all autonomous (i.e. controlled) to highly autonomous.

Employees' engagement

Engagement refers to the behavioral intensity and emotional quality of a person's active involvement during a task (Connell & Wellborn, 1990; Fredricks *et al.*, 2004;

Wellborn, 1991). Researchers measure engagement through the extent of a person's active involvement such as effort, and they measure disengagement through indicators such as passivity and distraction (Fredricks *et al.*, 2004; Furrer & Skinner, 2003; Wellborn, 1991). In the present study, we focused on employees' engagement, because it functions as a behavioral pathway by which employees' motivational processes contribute to their subsequent workplace performance and productivity (Wellborn, 1991). That is, engagement publicly and behaviorally expresses employees' underlying motivation, such that engagement is focused and effortful when employees experience relatively autonomous motivation, while it is relatively distracted and listless when employees experience relatively controlled motivation, a motivation-engagement link that has been demonstrated empirically (Fredricks *et al.*, 2004; Furrer & Skinner, 2003; Skinner *et al.*, 1998).

Managers' motivating style

An autonomy-supportive motivating style is one that nurtures employees' inner motivational resources, such as their on-the-job interest, perceived competence, and sense of valuing of the work they are involved in (Deci & Ryan, 1985; Reeve *et al.*, 2004a). The opposite of an autonomy-supportive style is a controlling one, in which managers neglect or frustrate employees' inner motivation and pressure them to behave in a specific and, typically, manager-directed way (Deci & Ryan, 1985; Reeve, 2009). The managerial effort to identify, support and nurture employees' inner motivational resources is a worthwhile endeavor, because employees with autonomy-supportive managers, compared to employees with controlling and pressuring managers, display an impressive range of positive workplace outcomes, including enhanced job performance, skill development, attendance and long-term retention, effort and engagement, and psychological well-being (Baard *et al.*, 2004; Gagné & Deci, 2005; Gagné *et al.*, 2000).

Recognizing these benefits to employees, researchers have worked to identify what managers can say and do to support employees' autonomous motivation (Deci *et al.*, 1989, 1994; Richer & Vallerand, 1995). This theoretical work has identified the importance of four specific autonomy-supportive managerial behaviors: nurture inner motivational resources, rely on noncontrolling language, provide rationales for requests, and acknowledge and accept employees' expressions of negative affect. The managerial effort to *nurture inner motivational resources* involves first gaining an awareness of what inner resources employees possess (e.g. interests, preferences) and then finding ways to coordinate employees' inner resources with their required workplace behavior. The opposite of nurturing inner motivational resources is relying on environmentally manufactured contingencies such as incentives, directives, assignments and compliance requests that are separate from or are only arbitrarily related to the activity. For instance, instead of offering an employee an incentive or bonus if he or she will increase sales, an autonomy-supportive manager would find ways to make the task of increasing sales an inherently more interesting, satisfying or preferred thing to do. Nurturing inner motivational resources is especially important when managers introduce a new workplace activity or seek worker initiative on an activity or project.

The managerial effort to *rely on noncontrolling language* involves communicating workplace requirements and performance feedback through messages that are informational and flexible, rather than through controlling messages that are rigid, evaluative and pressuring. For instance, instead of responding to employee' poor performance with pressuring language such as 'You should work harder', an autonomy-supportive manager would use language such as 'I've noticed your work has slipped lately; would you like to talk about what the problem might be?' Noncontrolling language helps the employee diagnose the cause of the motivational problem or poor performance, while informational language helps the employee make progress toward a solution to the problem. Managers frequently converse with employees as they communicate expectations, introduce new procedures, comment on performances, discuss goals and strategies, and ask employees to take on new

responsibilities, but informational and noncontrolling language is especially important when managers respond to employees' behavioral problems and poor performance.

The managerial effort to *provide explanatory rationales* involves explaining the *why* behind managerial requests and communicating the value and usefulness within otherwise uninteresting or unappealing activities or procedures, rather than simply telling employees what to do without any supportive rationale. For instance, when asking employees to clean their workspace before leaving for the day, an autonomy-supportive manager takes the time to explain why the behavior is truly worth the employee's attention, care and best effort (e.g. 'so that the employee on the next shift will have as clean and as organized a workspace as you had when you began today'). Many workplace procedures and activities are not inherently interesting things to do, so providing rationales is especially important when employees face activities and assignments that they perceive to be unappealing or unimportant. By providing explanatory rationales, a manager with an autonomy-supportive style can help raise an employee's awareness of how the requested activity connects to and actually supports the employee's needs, goals, and values (e.g. 'the reason why you are required to wear goggles is to protect your eyes from potentially dangerous and frequent chemical splashes').

The managerial effort to *acknowledge and accept expressions of negative affect* involves first listening to employees' expressions of negative affect (e.g. complaining, disagreeing) and then accepting those sentiments as a potentially valid reaction to being asked to do something difficult or unappealing. For instance, instead of countering an employee's resistance to a work activity with, 'Shape up! If you don't like it, you can quit', an autonomy-supportive manager would acknowledge the employee's points of resistance and solicit and even welcome his or her constructive input with, 'Yes, that project will require more effort than usual. Do you have any suggestions? Will you need extra resources to complete it on time?' This final aspect of an autonomy-supportive style acknowledges that workplace rules, requests and agendas are sometimes at odds with employees' preferences and natural inclinations and, hence, employees sometimes complain and resist. It is based on the premise that acknowledging and accepting employees' expressions of negative affectivity helps in the managerial effort to align, or realign, employees' autonomous motivation with their workplace activity (rather than having to resort to imposing controlled types of motivation) and hence transform a work assignment away from 'something not worth doing' (from the employee's perspective) to 'something worth doing'.

Traditionally, managers have functioned as organizational 'conduits' who are responsible for focusing and controlling the efforts and energies of the employees who report to them (Deci, 1996; Knowles, 1990). This traditional view places managers in a position where they are likely to adopt a controlling motivating style (e.g. reliance on external contingencies, pressuring language, imposed demands; Koestner *et al*., 1992). In contrast, an autonomy-supportive motivating style is characterized by a dialectical relationship between manager and employee that allows managers to identify, nurture and develop constructive inner resources within employees' ongoing motivational development (Deci & Ryan, 1985; Gagné & Deci, 2005). In practice, this means nurturing inner motivational resources, relying on noncontrolling language, providing explanatory rationales, and acknowledging and accepting (and therefore quieting) employees' expressions of negative affect so to both heighten autonomous motivations (i.e. intrinsic motivation, identified regulation) and lessen controlled, nonautonomous motivations (i.e. external regulation, amotivation).

Helping managers adopt a more autonomy-supportive motivating style

Intervention research shows that people can learn how to become more autonomy supportive in their interactions with others, and this has been shown to be true for novice teachers (Reeve, 1998; Reeve & Jang, 2006), experienced teachers (deCharms, 1976; Reeve *et al*., 2004b), medical school interns (Williams & Deci, 1996) and practicing dentists (Halvari & Halvari, 2006). Some of these interventions have been more successful than others, and the two key elements underlying the relatively more successful

training interventions are offering theory-based and practical insights and behaviors that help people (1) become less controlling; and (2) become more autonomy supportive. Becoming less controlling means learning to avoid controlling sentiment, pressuring language and controlling behaviors, while becoming more autonomy supportive means learning to take the other person's perspective, become mindful of the inner motivational resources others possess, and learning the 'how to' of autonomy support: nurturing inner motivational resources, relying on noncontrolling and informational language, providing explanatory rationales, and acknowledging and accepting negative affect.

School-based intervention research shows that teachers who incorporate these particular autonomy-supportive behaviors into their ways of motivating and engaging students *do* adopt a more autonomy-supportive motivating style (Reeve, 1998), and they *do* motivate and engage students in more autonomy-supportive ways during instruction (Reeve *et al.*, 2004b). Despite the burgeoning research on training in autonomy-supportive style for teachers, we found few empirical studies on training in autonomy-supportive style for managers in the corporate workplace. In the present study, we expected that workplace managers could also benefit from autonomy-supportive training and learn how to adopt a more autonomy-supportive motivating style toward their employees.

Hypotheses

Based on a self-determination theory perspective of managers' motivating styles and employees' autonomous motivation, we proposed and tested three hypotheses. The first hypothesis predicted a positive effect on managers from the training experience. The second and third hypotheses predicted a positive effect on employees from having their managers participate in the training experience.

Hypothesis 1: Managers who participate in the training intervention will display a significantly more autonomy-supportive motivating style than will managers who do not participate in the training.

Hypothesis 2: Employees of the managers who participate in the training will display significantly higher intrinsic motivation and identified regulation (i.e. autonomous motivation) and significantly lower external regulation and amotivation (i.e. controlled motivation) than will employees of managers who do not participate in the training.

Hypothesis 3: Employees of the managers who participate in the training will display significantly higher workplace engagement than will employees of managers who do not participate in the training.

Method

Participants

To recruit managers and employees to participate in the study, the first author contacted the division manager responsible for the regional operations of a large, multinational, Fortune 500 company with operations in both manufacturing and customer service. Twenty-five of the company's 30 site-based managers (83 per cent) agreed to participate in the study, and we also recruited a random sample of 20 per cent of the employees who were supervised by these 25 managers. Of these 241 employees who were contacted and invited to participate, 169 (70 per cent) agreed to participate. The final sample therefore consisted of 25 managers and 169 employees who were supervised by these managers. All participants were given release from their regular duties so that they could participate in the study.

Managers
Most managers were male (17, or 68 per cent) while some (8, or 32 per cent) were female, and most managers were Caucasian (24, 96 per cent), although one declined to

report an ethnicity. On average, the managers were 53.0 years old (range: 31–60 years), had 21.5 years of experience working with the company (range: 1–35 years), 10.2 years of managerial experience within the company (range: 3–30 years), and 6.2 years of managerial experience in their current position (range: 3–23 years). Fifteen (60 per cent) managers worked from the customer service side of the company, while 10 (40 per cent) managers worked from the company's manufacturing side. On average, each manager supervised 55.6 employees (range: 2–400 employees).

Employees
Employees were somewhat more likely to be female (98, or 58 per cent) than male (71, or 42 per cent), and most employees were Caucasian (156, or 92 per cent), although some were African-American (4, or 2 per cent), Hispanic (2, or 1 per cent), of mixed race (2, or 1 per cent) or declined to report an ethnicity (3, or 2 per cent). On average, employees had the following levels of education: 32 (18 per cent) had a high-school diploma; 82 (49 per cent) attended college but did not earn a degree; 52 (31 per cent) had a college degree; one had a graduate degree; and two did not report a level of education. On average, the employees were 33.0 years old (range: 21–65), had 8.1 years of experience working with the company (range, 1–36 years), and 3.6 years of experience working in their current position (range: 0–23 years).

Experimental design

The study took place over a 6-week period and utilized an experimental design in which managers were randomly assigned into either the experimental or a delayed-treatment control group. This experimental design was modeled on a design also used by Deci *et al*. (1989) and Reeve *et al*. (2004a). During week 1, pretests were administered to all managers and employees. These pretests assessed demographic variables for all participants, the managers' prestudy motivating styles, the quality of employees' pre-study motivation, and the extent of employee's prestudy workplace engagement. During week 2, managers were randomly assigned into either the experimental ($n = 12$) or the delayed-treatment control ($n = 13$) condition. In the experimental group, managers participated in an on-site training session conducted by the authors. This opening session lasted 1 h and is described in the next section. During week 3, a second 1-h training session was held.

During week 6, posttests were administered to all managers and employees. Among the original 25 managers, only 20 managers (80 per cent: 10 in the experimental group and 10 in the control group) were able to participate in all aspects of the study, including the completion of the posttest questionnaires that allowed us to assess for any change that might have occurred in their motivating styles over the 5-week period. Among the original 169 employees, only 98 (58 per cent) were able to complete and return the posttest assessments that allowed us to assess the quality of their motivation and extent of engagement to determine if changes in their manager's motivating style had affected their autonomous motivation and extent of engagement. Unfortunately, a surprisingly large number of employees forgot their self-generated code number (created during week 1 to protect their anonymity) over the 6-week period of the study; it is this lack of identifying information that explains why the number of participating employees dropped to 98. Fortunately, the 98 employees were similarly distributed across the 20 participating managers. Finally, 1 week after the data collection phase of the study ended, all 13 managers in the delayed-treatment control group participated in the same workshop experience and face-to-face consultations as the managers in the experimental group.

Training intervention

Exposure to information on and illustrations of how to support employees' workplace autonomy constituted the study's independent variable and consisted of three parts: (1) a group-delivered informational training session on how to support employees'

autonomy; (2) a group-delivered question-and-answer session to refine managers' efforts to support employees' autonomy; and (3) individual study using a study-specific booklet on how to support employees' autonomy. The informational session began with an overview of the motivation theory on which the training was based (i.e. self-determination theory), introduced the different types of employees' work motivation, introduced the concept of the autonomy-supportive motivating style, and outlined the empirical support for the assertion that employees benefit when managers support their autonomy. The four autonomy-supportive motivating strategies were introduced and workplace illustrations of each strategy were provided. Next, managers were divided into small groups to discuss the strategies and their workplace application. In these small-group discussions, which were facilitated by the researchers, managers had opportunities to voice questions about the strategies and their workplace viability, relevance, application, and possible obstacles or limitations. Following this discussion, each manager received a training booklet on how to support employees' autonomy (described in the next paragraph), and the researchers explained how the managers might use the training booklet over the coming 5 weeks of the study. Following the informational session, the researchers remained on-site to respond to individual questions. One week later, all managers participated in a group-based, one-hour question-and-answer follow-up session (with the researcher-trainers) focused on feedback on progress in managers' efforts to support employees' autonomy, and on refining managers' strategies as needed. All 13 managers in the experimental group attended this follow-up session. As before, the group-based question-and-answer hour was followed up by having the researchers remain on-site to respond to individual questions.

The training booklet was developed specifically for the purposes of the present study, and it was designed as a manual to help managers develop strategies to incorporate the different aspects of an autonomy-supportive motivating style into their own managerial practice. In addition to providing concrete examples of how managers might address employees' motivational problems in an autonomy-supportive way, the booklet had sections covering self-determination theory, different types of employee motivation, the autonomy-supportive motivating style, illustrations of an autonomy-supportive motivating style when practiced in the workplace setting, benefits to employees who have their autonomy supported, and research-based information on self-determination theory in the organizational and management literature.

Instruments

All participants completed a questionnaire designed to assess demographic information and personal work history with the company. In addition, managers completed a questionnaire to assess their motivating style toward employees, while employees completed a pair of questionnaires to assess the quality of their workplace motivation and the extent of their workplace engagement. To ensure participants' confidentiality and anonymity, the first author administered all questionnaire assessments on-site and to all three shifts of managers and employees. No materials were handled by company personnel, and managers and employees always completed the assessments in separate, private sessions.

Managers' motivating styles

To assess managers' motivating style toward employees, we adapted the How I Teach and Motivate a Disengaged Student questionnaire (Reeve *et al.*, 1999) to form the How I Motivate a Disengaged Worker questionnaire (HIMDW). The How I Teach and Motivate a Disengaged Student questionnaire had been validated for use in educational settings, so we adapted this instrument for use in the workplace. The HIMDW was a one-page instrument that began with the following instruction:

> Recall an actual workplace experience from this week in which you attempted to motivate a disengaged worker. A disengaged worker is one who is behaviorally passive or who shows negative

emotion such as boredom. Picture in your mind one specific, recent manager-employee interaction, and in a sentence or two please describe the disengaged worker you have in mind.

The manager briefly described the disengaged employee he or she had in mind, and then the instructions continued:

> In a couple of paragraphs, outline the approach you took. In doing so, include answers to the following four questions: How did you approach and interact with the employee? What did you do? What did you say? What did you try to accomplish?

As a point of illustration, one of the briefer responses written by a manager was the following:

> This employee spent too much time wandering around, and when he is at his desk his mind seems to wander. He also has low productivity and is not accepted well by co-workers.
> Met with the employee for performance review. Communicated expectations and wanted an improvement plan from employee. Went over all job requirements and discussed how well he was performing under each factor. I advised that he could meet our expectations if he avoided non-work-related activities and concentrated more on his productivity.

Two trained raters independently scored the 25 essays from the pretest assessment and also the 20 essays from the posttest assessment for the extent to which they represented a reliance on the four aspects of an autonomy-supportive style. Raters used a separate 1–5 Likert scale to rate each aspect of an autonomy-supportive style ('not at all present' to 'fully present'). Interrater reliabilities were high for all four aspects, and this was true for both the pretest and posttest assessments: nurtures inner motivational resources (for pretest and posttest, respectively) (rs = 0.83 and 0.91); relies on noncontrolling language (rs = 0.95 and 0.84); provides rationales (rs = 0.88 and 0.93); and acknowledges and accepts negative affect (rs = 0.97 and 0.93). Given the high interrater reliabilities, we averaged the scores from the two raters into a single score for each aspect of the autonomy-supportive style. Further, to create a single overall autonomy-supportive motivating style score for each individual manager, we averaged each of the four aspects into one larger composite score. We were able to calculate this overall autonomy-supportive score because all four aspects of the autonomy-supportive motivating style were positively and highly intercorrelated (four-item *alpha* for the pretest assessment = 0.75; four-item *alpha* for the posttest assessment = 0.87).

Employees' types of motivation

To assess the extent to which employees embraced the four different types of workplace motivation, we modified the Academic Self-Regulation Questionnaire (ASRQ; Ryan & Connell, 1989) to form the Workplace Self-Regulation Questionnaire (WSRQ). The ASRQ is a reliable, valid and widely used measure (e.g. Grolnick *et al.*, 1991) that can be adapted to fit specific populations (in our case by changing the words 'student' and 'class work' to 'employee' and 'work') (e.g. Deci *et al.*, 1992). Our WSRQ was a 16-item instrument designed to assess why employees do their work. The WSRQ used a 1–7 response scale ('strongly disagree' to 'strongly agree'), and it included four items for each of its four subscales. The name of each subscale, its four-item alpha coefficient in the present study (for both the pretest and posttest assessments), and a sample item for each scale are as follows: intrinsic motivation (0.90 and 0.91), 'I do my work because it is so interesting'; identified regulation (0.89 and 0.91), 'I do my work because I see the value and importance in it'; external regulation (0.67 and 0.63), 'I do my work just to get money'; and amotivation (0.73 and 0.86), 'I do my work but I really don't know why – I just do'. These reliability scores are consistent with scores found in previous work using this scale (e.g. Ryan & Connell, 1989). In addition to generating scores for each type of employee motivation, we also reverse scored the participants' scores on the external regulation and amotivation scales so that we could average each of the four types of motivation into a single overall quality of motivation score in which high scores reflect relatively autonomous motivation while low scores reflect relatively controlled motivation. We were able to calculate a single overall quality of motivation score for each employee because all four types of motivation were sufficiently positively

intercorrelated following the two scales' reverse scoring (four-item *alpha* for the pretest assessment = 0.71; four-item *alpha* for the posttest assessment = 0.75).

Employees' workplace engagement
To assess the extent of employees' workplace engagement, we created a 4-item scale based on Miserandino's (1996) widely used Student Engagement Questionnaire. Our workplace adaptation of this engagement scale used a 1–7 response scale ('strongly disagree' to 'strongly agree') and featured the following stem used for all four items, 'When I am on the job'. The four individual items within the engagement questionnaire were as follows: 'I try very hard'; 'I put forth high effort on work-related tasks'; 'I participate a lot – get involved – in work-related activities'; and 'I just act as if I'm working' (reverse scored). The workplace engagement scale had adequate reliability in the present study (pretest *alpha* = 0.67 and posttest *alpha* = 0.67), reliability estimates that were somewhat below those reported with students in school settings (Miserandino, 1996).

Results

Managers' and employees' initial motivational variables

Descriptive statistics for managers' and employees' scores on the dependent measures assessed from pretest instruments appear in Table 1. Overall, as shown in the upper portion of Table 1, managers scored rather low on their pretest autonomy-supportive motivating style (i.e. $M = 2.71$ on a 1–7 scale), and they scored rather low across all four aspects of an autonomy-supportive style (Ms ranged from 2.21 to 3.19). As shown in the lower portion of Table 1, employees displayed overall low-quality motivation (i.e. $M = 3.08$ on a 1–7 scale), as they scored very high on external regulation ($M = 5.96$), moderately high on amotivation ($M = 4.46$), relatively low on identified regulation ($M = 3.58$), and low on intrinsic motivation ($M = 3.18$). In terms of workplace engagement, employees scored slightly above the midpoint on the seven-point scale ($M = 4.65$). What the data in Table 1 communicate is that, at the beginning of the study, managers did not generally embrace an autonomy-supportive motivating style and employees did not generally embrace autonomous workplace motivation.

Table 1: Descriptive statistics for managers' and employees' prestudy dependent measures

Managers' ($n = 25$) prestudy motivating styles	M	(SD)
Overall autonomy-supportive style	2.71	(0.99)
Nurtures inner motivational resources	2.92	(1.22)
Relies on noncontrolling language	3.19	(1.45)
Provides explanatory rationales	2.21	(1.22)
Acknowledges and accepts negative affect	2.54	(1.31)
Employees' ($n = 169$) pre-study motivations and extent of engagement	**M**	**(SD)**
Overall autonomous motivation	3.08	(0.95)
Intrinsic motivation	3.18	(1.25)
Identified regulation	3.58	(1.38)
Extrinsic regulation	5.96	(1.09)
Amotivation	4.46	(1.44)
Workplace engagement	4.65	(0.66)

Possible range for all dependent measures, 1–7.

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Test of hypotheses

We tested three hypotheses. First, we tested the effectiveness of the training program on managers' motivating styles and predicted that managers who participated in the informational sessions and who engaged in self-study with the training booklet would show, 5 weeks later, a significantly more autonomy-supportive motivating style than would managers who did not participate in the training program (Hypothesis 1). Second, we tested the effectiveness of the managerial training program on the quality of employees' motivation and predicted that the employees of the managers who participated in the training program would report, 5 weeks later, significantly higher intrinsic motivation and identified regulation and significantly lower external regulation and amotivation than would employees of the managers who did not participate in the training program (Hypothesis 2). Third, we tested the effectiveness of the managerial training program on the extent of employees' workplace engagement and predicted that the employees of the managers who participated in the training program would report, 5 weeks later, significantly greater on-the-job engagement than would employees of the managers who did not participate in the training program (Hypothesis 3). To conduct these tests, we used a series of one-tailed t-tests. We used one-tailed tests to increase each test's statistical power (because of the small sample size of managers), and because all previous training intervention studies (in the school setting) have shown this same directional effect.

Effects of the training on managers' motivating style (Hypothesis 1)

The descriptive statistics for managers' overall autonomy-supportive style scores and for each separate aspect of an autonomy-supportive style (scored from the HIMDW) appear in Table 2, broken down by experimental condition. As hypothesized, managers in the experimental group scored higher on overall autonomy-supportive motivating style than did managers in the control group ($d = 1.55$). To clarify the effects of the training on managers' motivating style, we tested for the effect of the experimental manipulation on each individual aspect of managers' autonomy-supportive style. Managers in the experimental group scored significantly higher than managers in the control group on three of the four aspects of an autonomy-supportive style: relies on noncontrolling language ($d = 1.16$); provides explanatory rationales ($d = 2.13$); and acknowledges and accepts expressions of negative affect ($d = 0.98$); although not on the fourth, nurtures inner motivational resources ($d = 0.71$). Overall, these data show that, given an appropriate training experience, managers were able to adopt a significantly more autonomy-supportive motivating style toward their employees.

Table 2: Managers' autonomy-supportive scores broken down by experimental condition

Dependent measure	Experimental group (n = 10)		Control group (n = 10)		t (18)
	M	(SD)	M	(SD)	
Overall autonomy-supportive style	3.83	(0.57)	2.56	(1.07)	3.30**
Nurtures inner motivational resources	3.50	(0.71)	2.75	(1.40)	1.51
Relies on informational language	4.30	(0.63)	3.20	(1.27)	2.45**
Provides rationales for request	4.25	(1.21)	2.10	(0.81)	4.68**
Acknowledges and accepts negative affect	3.25	(0.89)	2.20	(1.25)	2.15*

Note: Possible range for each dependent measure, 1–7.
* $p < 0.05$, one-tailed; ** $p < 0.01$, one-tailed.

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Table 3: Employees' motivation and engagement scores broken down by experimental condition

Type of motivation	Experimental group ($n = 53$)		Control group ($n = 45$)		t (96)
	M	(SD)	M	(SD)	
Overall autonomous motivation	3.35	(0.97)	2.97	(0.95)	1.98*
Intrinsic motivation	3.50	(1.27)	3.28	(1.23)	0.86
Identified regulation	3.87	(1.22)	3.55	(1.41)	1.22
External regulation	5.66	(1.07)	6.10	(0.95)	2.14*
Amotivation	4.29	(1.38)	4.86	(1.56)	1.90*
Extent of engagement	4.88	(0.68)	4.65	(0.56)	1.81*

Note: Possible range for each dependent measure, 1–7.
* $p < 0.05$, one-tailed; ** $p < 0.01$, one-tailed.

Effects of the training on the quality of employees' motivation (Hypothesis 2)

The descriptive statistics for employees' overall quality of motivation scores and for each of the four types of motivation (scored from the WSRQ) appear in Table 3, broken down by experimental condition. As hypothesized, employees supervised by managers in the experimental group scored higher on overall autonomous motivation than did employees supervised by managers in the control group ($d = 0.40$). To clarify the effects of the managerial training on the quality of employees' motivation, we tested for the effect of the experimental manipulation on each separate aspect of employees' motivation. As hypothesized, employees of managers in the experimental group reported significantly lower external regulation ($d = 0.44$) and significantly lower amotivation ($d = 0.39$) than did the employees of managers in the control group, although employees of managers in the experimental group did not report significantly higher levels of either intrinsic motivation ($d = 0.18$) or identified regulation ($d = 0.24$). Overall, these data show that, when their managers receive an appropriate training experience in how to support their workplace autonomy, employees benefit in terms of lesser controlled motivation, but not necessarily in terms of higher autonomous motivation.

Effects of the training on the extent of employees' engagement (Hypothesis 3)

The descriptive statistics for employees' workplace engagement appear in the lower part of Table 3, broken down by experimental condition. As hypothesized, employees supervised by managers in the experimental group reported a significantly greater extent of engagement than did employees supervised by managers in the control group ($d = 0.37$). These data show that, when their managers receive an appropriate training experience in how to support their workplace autonomy, employees benefit in terms of greater workplace engagement.

Discussion

This research was undertaken for two reasons. First, we sought to explore the malleability of veteran workplace managers' motivating styles toward their employees to test whether or not participation in a training intervention could help these managers expand their motivating style to include a greater use of autonomy-supportive strategies. Second, we sought to explore the potential benefits to employees' autonomous motivation and workplace engagement when managers expanded their motivating styles toward an increased autonomy-supportive style. We tested these ideas with a

group of managers who, prior to the study, collectively relied on a relatively controlling motivating style (see the upper portion of Table 1) and with a company of employees who displayed relatively low-quality (i.e. controlled) workplace motivation and moderate workplace engagement (see the lower portion of Table 1).

Malleability of managers' motivating styles

We found that when highly experienced managers received a theory-based training program on how to support employees' autonomy rather than control and pressure their behavior, these veteran managers were able to expand their otherwise entrenched styles toward employees to incorporate a significantly greater use of autonomy-supportive strategies (see Table 2). These managers expanded their motivating style overall toward greater autonomy support, and they specifically learned to rely more on noncontrolling language, explanatory rationales and acknowledgements of employees' negative affectivity. We did not find evidence, however, that these managers learned how to better nurture employees' inner motivational resources.

This pattern of findings suggests two possible interpretations concerning the validity and applicability of the training intervention for this group of managers. On the one hand, the findings may suggest that these managers would benefit from more or better training. From the training they received, they showed evidence of changing their approach from a pressure-based one to a more supportive style (i.e. acknowledge and accept negative affect), and they adjusted the content and tone of the conversations and communications to be more noncontrolling (relied on informational language) and information-rich (provided explanatory rationales). To gain a greater capacity to identify and nurture workers' inner motivational resources, however, may require greater or more extensive tutelage, modeling, examples and practice opportunities. On the other hand, however, the findings may suggest that the process of becoming more autonomy supportive may itself be multilayered. That is, the pattern of findings (Table 2) showed that managers generally succeeded in their efforts to become less controlling, although it is not clear that they succeeded in becoming highly autonomy supportive. This interpretation is supported by the post-training reports of employee motivation that showed that employees reported significantly less controlled motivation (i.e. external regulation, amotivation) but not necessarily significantly more autonomous motivation (i.e. identified regulation, intrinsic motivation). Interestingly, this pattern of findings with managers' post-training motivating styles did not completely mirror previous findings with teachers (e.g. see Reeve *et al.*, 2004b, Table 1, p. 160), as high school teachers (receiving similar training for motivating students) showed evidence of greater use of the full range of autonomy-supportive behaviors. This difference may indicate that during the training intervention, managers focused on improving the most salient and pressing problems they faced in motivating and engaging their employees, which was employees' high levels of external regulation and amotivation. What the three autonomy-supportive motivating style behaviors (using noncontrolling language, providing rationales, and acknowledging negative affect) have in common is coping with employees' low-quality motivation and workplace disengagement. That is, in cases such as when employees are late for work and not especially bothered by their tardiness (i.e. when employees show amotivation), the managers in our study learned how to communicate with employees in a noncontrolling way, with rationales to explain the value of punctuality, and by acknowledging and accepting difficulties in employees' lives (e.g. daycare troubles, inadequate access to reliable transportation). Having been most concerned with their most salient, performance-relevant problems, managers apparently did not work as actively or consistently on the next-level goal of enhancing employees' inner motivational resources to enhance autonomous motivation. This contrast in focus on layers or levels of motivation may also, to some degree, reflect the different goals and cultures of K-12 education and the corporate workplace. Even with these differences, the present study demonstrated the malleability of managers' motivating style, an important contribution to a literature

that previously accepted style as a deeply embedded and fairly stable individual characteristic, in contrast to more applied skills and strategies.

We believe that our findings offer a unique contribution to the larger literature on autonomous motivation and autonomy-supportive training in illuminating a distinction that previous successful training interventions (deCharms, 1976; Halvari & Halvari, 2006; Reeve *et al.*, 2004b; Williams & Deci, 1996) may be limited to a high degree of effectiveness when working to motivate and engage people with relatively *autonomous* motivation. Future studies with people working to motivate and engage those with relatively *controlled* motivation may show that autonomy-supportive training interventions need to be expanded and redesigned with explicit attention to their more controlled motivational profile.

Based on our findings, we conclude that managers' motivating styles toward employees are malleable, that managers can learn to expand their initial controlling styles to become increasingly autonomy supportive, and that fully expanding one's motivating style probably requires more extensive training (information, modeling, practice, feedback) that supports managers' ongoing and multilayered effort to include a comprehensive range of autonomy-supportive behaviors. For the managers in the present study, a multilayered intervention effort means early sessions to address employees' external regulation and amotivation and subsequent sessions to address increasing employees' identified regulation and intrinsic motivation. For managers supervising employees with relatively low-quality motivation (as in the present study), it would seem that early sessions in an autonomy-supportive training intervention might best focus on understanding, addressing and solving problems with employees' relatively controlled and low-quality motivation. Such a first phase in the training would highlight employee motivation states such as amotivation and external regulation and managerial autonomy-supportive strategies such as relying on noncontrolling language, providing rationales and acknowledging and accepting expressions of negative affect. The second phase would focus on understanding, addressing and nurturing employees' relatively autonomous and high-quality motivation. Such a second phase in training would highlight employee motivational states such as identified regulation and intrinsic motivation and managerial autonomy-supportive strategies such as nurturing inner motivational resources. An enhanced training and development opportunity would also include an extended period of support for transfer of the full range of training-based strategies.

Benefits to employees' motivation and engagement

We found that when largely amotivated and externally regulated employees related on a daily basis to managers who were trying to find ways to support their autonomy, these employees were more likely to experience less controlled types of motivation (i.e. external regulation, amotivation) than were comparable employees with managers who did not receive such training (see Table 3). We conclude that employees benefited when the managers who supervised them expanded their managerial motivating styles to adopt a significantly greater reliance on and use of autonomy-supportive strategies. This general conclusion is limited, however, by the finding that the managers were able to help employees lessen their controlled types of motivation while they were not necessarily able to help employees heighten their autonomous types of motivation. That said, these gains in the quality of employees' workplace motivation were sufficient to support a significant increase in workplace engagement (or perhaps a decrease in workplace disengagement). Such a change can contribute in important ways to employee satisfaction, performance, retention and other valued outcomes for companies.

It is noteworthy that the findings with employees' motivation and engagement closely tracked and paralleled the findings with the managers. That is, it is likely that because the managers significantly increased their use of autonomy-supportive strategies to understand, address, and cope with employees' controlled types of motivation, employees' motivational benefits were limited to lessening their controlled types of

motivation. Before managers can be expected to help employees heighten their autonomous types of motivation – their intrinsic motivation and identified regulation – managers will need to expand their capacities to nurture employees' inner motivational resources, which are the underlying sources of both intrinsic motivation (e.g. perceived autonomy, perceived competence; Deci & Ryan, 1985) and identified regulation (e.g. valuing and perceived importance, internalization; Ryan & Deci, 2002).

The intervention in the present study was generally effective, demonstrating significant change in both the learning and performance of managers and the consequent effects on their employees' work motivation. These notable and measurable effects, from a fairly modest intervention, are unusual, given the historic challenges of facilitating initial change and transfer from workplace interventions (e.g. Knowles, 1990; Rummler & Brache, 1995). We attribute the effectiveness of the intervention to its design and implementation features, based on the theoretical framework of self-determination theory. For example, the training design included attention to group and individual components, addressing the shared interests of the whole group of managers, and also providing for individual questions and problem solving, one-on-one with the researcher-trainers. The training and development materials and implementation delivery were designed explicitly to include embedded elements of autonomy-supportive instruction: (1) key information addressing the needs and interests of the managers (e.g. types of motivation with examples relevant to their work contexts); (2) explanatory rationales with emphasis on benefits to managers of adopting the training style (nurturing managers' interests in using the training content); (3) use of autonomy-supportive language throughout the manual, presentation and individual coaching and support (modeling the style, implicitly giving the managers an experience in supportive management, and promoting managers' personal choice to adopt and utilize the training-based style and strategies); and (4) acknowledging and accepting managers' affect, listening carefully to managers' concerns and complaints (e.g. admitting that motivating employees can be difficult, that autonomy-supportive management involves an investment of time and energy and may sometimes seem thankless but is worth it in long-term gains). In other words, the researcher-trainers practiced what they taught, with continuous modeling of autonomy-supportive style in their interactions with the managers. Thus, we assert that the training intervention was effective *with* managers for the same reasons that adopting an autonomy-supportive style was effective *for* managers, because using the framework of self-determination theory in training and development to meet people's needs works. In addition, it was effective because modeling training-based strategies so that learners see their nature and benefits also promotes adoption and transfer to application (Knowles, 1990; Kouzes & Posner, 2002).

Recommendations for autonomy-supportive training interventions

Intervention research shows that people can learn how to become more autonomy supportive toward others, though practically all of this intervention research has been conducted in educational rather than workplace settings (deCharms, 1976; Reeve, 1998; Reeve *et al.*, 2004b; Williams & Deci, 1996). What is important about these past intervention studies for the present discussion is that some of these interventions have been more successful than others, and also that a close inspection of these programs can help identify the conditions under which people can best learn how to adopt a more autonomy-supportive style. From our data and from a review of these other intervention studies, learning how to become more autonomy supportive seems to revolve around accomplishing the following three tasks (see Reeve, 2009).

Task 1: become less controlling
The first task in trying to become more autonomy supportive is to become less controlling – to avoid controlling sentiment, controlling language, and controlling behaviors. Before managers can be expected to become less controlling, they need to be aware of the situational and cultural forces that push and pull them toward a controlling

managerial style (such as feeling pressured by the company culture to motivate employees in controlling ways). For example, prior to and during the study, the company had in place a token economy in which employees' desired behaviors (e.g. meeting a sales quota) earned points that could be exchanged for prizes (e.g. a gift certificate to a local restaurant), demonstrating its pattern of using controlling contingencies in motivating employees. Similarly, managers need to be aware of the inimical effects that their controlling motivating styles are having on their employees. As managers become more mindful of the causes and consequences of their controlling motivating style, they gain a greater capacity to manage employees in a flexible and autonomy-supportive way, rather than in a habitual, impulsive or situationally reactive way. Our findings show that the present intervention was largely successful in accomplishing this first task.

Task 2: wanting to support autonomy

The second task in trying to become more autonomy supportive is to fulfill a set of prerequisite conditions that enable a manager to volitionally endorse the practice of an autonomy-supportive style. One prerequisite is to deeply appreciate the benefits of such action. Empirical research conducted on a self-determination theory framework makes it clear that employees with managers who support their autonomy benefit in terms of motivation and performance compared to employees with managers who control their behavior (Gagné & Deci, 2005; Ryan & Deci, 2000). A second prerequisite is to gain the willingness and capacity to take the perspective of one's employees. It can be difficult to truly take the perspective of one's employees, so a successful training intervention needs to incorporate perspective-taking activities that facilitate managers' reflection on questions such as, 'If I were the employee, how would I like a manager to treat me?'

Task 3: learn the 'how-to' of autonomy support

The third task in trying to become more autonomy supportive is to become aware of, develop and, ultimately, refine the interpersonal skills and acts of management that actualize an autonomy-supportive style. Autonomy support is not merely a technique, or a predetermined formulaic list of skills or behaviors, but a shift in interpersonal style. Even so, beyond achieving buy-in to the benefits of such a shift, training interventions need to equip managers with concrete answers to the commonly asked question, 'But what specifically do I do?' The four autonomy-supportive managerial behaviors featured in our training intervention provide a reasonably comprehensive answer to this question: nurture workers' inner motivational resources, rely on non-controlling language, provide explanatory rationales for requests, and acknowledge and accept employees' expressions of negative affect. Yet they guide and enable individual translation and application to each managers' unique work situation, and to each employees' unique needs. Thus, they are clear enough to support reasoned action, but flexible enough to promote autonomous application.

Limitations and future directions

One limitation of the present study was its relatively small sample size of managers and employees drawn from a single company. To increase the study's external validity and to strengthen the potential generalizability of the present findings to other companies, a larger sample size and a range of different types of companies would be desirable. A second limitation was that the implemented training program was effective in helping managers expand their autonomy-supportive strategies to cope only with employees' controlled types of motivation (and not necessarily to identify, nurture and develop employees' autonomous types of motivation). To address this limitation, a more comprehensive training intervention is needed, as discussed earlier. A third limitation was that we did not continue to assess the durability of changes in managers' autonomy-supportive motivating style or of changes in employees' autonomous motivation and engagement beyond 5 weeks. The effects of the intervention on motivation,

engagement, or both may be temporary, although similar education-based interventions suggest that the benefits of autonomy-supportive training, once attained, endure (deCharms, 1976; Reeve *et al.*, 2004b). A fourth limitation that pertained to the study's methodology was that our employee-engagement measure displayed relatively low interrater reliability. Future research will need to better address the issue of how to assess employees' workplace engagement in a reliable and valid way. Recognizing these limitations, we nevertheless find that the present study did succeed in its primary purpose of demonstrating the benefits of an intervention-based treatment for managers and their employees alike. It further demonstrates that a meaningful, theory-based intervention that is also sensitive to organizational culture can be developed and implemented to help managers expand their motivating styles, enabling them to incorporate more autonomy-supportive strategies that subsequently benefit their employees' workplace motivation and engagement.

Building on this work, additional research could extend the range of application contexts for research on training and developing the style of managers in for-profit and service organizations. Given the demonstrated importance of autonomy support on employee motivation, and given this demonstration of its malleability, additional training and development may be implemented for deeper-level style change beyond surface-level implementation of skills and strategies, as well as for the duration of that change. Sustained change may require a larger scope of training and support investment, to demonstrate long-term effects on employees' internalized motivation, including longer-term assessment of managers' style and strategy use. Finally, larger scope research implementation (more sites, different work contexts, diverse groups of managers) will help to assess the range and applicability of this type of training and development effort.

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