

**THE RELATIONSHIP BETWEEN AUTHENTIC LEADERSHIP,
PSYCHOLOGICAL NEED SATISFACTION AND MOTIVATION**

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ABSTRACT

The Relationship between Authentic Leadership, Psychological Need Satisfaction
and Motivation

Mélanie Briand

This study investigated authentic leadership (and its four components: self-awareness, internalized moral perspective, balanced processing of information and relational transparency) as an antecedent of subordinates' satisfaction of their basic psychological needs for autonomy, competence and relatedness, and in turn, subordinates' autonomous and controlled motivation. A web-based questionnaire was completed by managers and employees of the research and department team of a high-tech firm resulting in 24 manager-employee matches.

The findings revealed that authentic leadership, and one of its component, self-awareness, were inversely related with controlled motivation, but contrary to expectations, authentic leadership did not yield any effects on need satisfaction, nor autonomous motivation. Although need satisfaction was found to contribute to autonomous motivation, it was interesting to find that employees had marginal agreement regarding their need satisfaction but in terms of their motivation, their agreement was low. This study's contributions to the extant literature, its implications, limitations, as well as future directions for research are discussed.

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I would also like to express my thanks to my husband Bobby, for his support and patience and my children Avery, Sasha, and Mason for their unconditional love.

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INTRODUCTION

Motivation has to do with energy, direction and persistence (Ryan & Deci, 2000) and employee motivation is thus a crucial aspect of organizational performance.

According to self-determination theory (Ryan & Deci, 2000), managers can create the climate necessary to support employee motivation (Deci, Connell, & Ryan, 1989) by providing meaningful rationales for having to perform the task, acknowledging people's feelings toward the task and instead of controlling everything, allowing employees to make some choices on how they carry out their tasks (Deci, Eghrari, Patrick, & Leone, 1994).

Research on self-determination theory has been done in a wide variety of contexts such as sports psychology and education. However relatively few studies have been done in work organizations (Gagné & Deci, 2005). In fact Gagné and Deci (2005) called for additional research in work organization, including testing managers' support for employees' work motivation. Although research has demonstrated that managers can learn the behaviours necessary to support employees' work motivation (Deci et al., 1989), some managers may have a natural tendency to carry them out. This research proposes that authenticity could very well play a part in a manager's likelihood of supporting employee motivation. As such, a review of motivation from a self-determination theory perspective and authentic leadership is presented, followed by the present study.

SELF-DETERMINATION THEORY

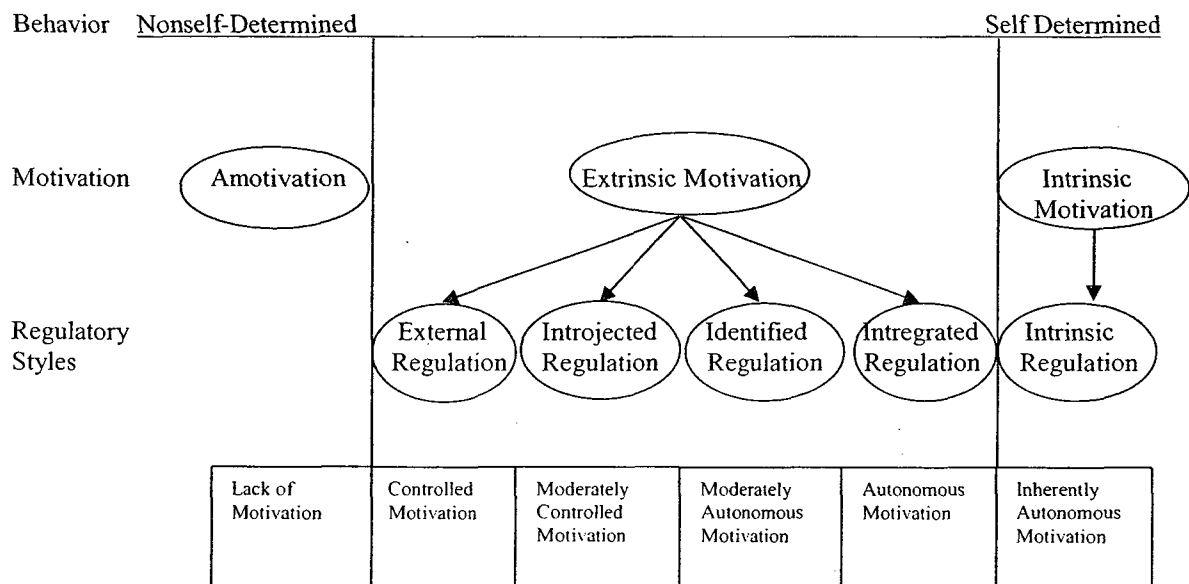
Motivation Continuum

According to Self-determination theory (SDT), there are many types of motivation varying along a continuum of self-determination (Gagné & Deci, 2005; Deci & Ryan, 2000; Ryan & Deci, 2000). On one end, there is intrinsic motivation which is characterized by engagement in an activity for the sole interest, satisfaction and enjoyment that it procures. Intrinsic motivation propels individuals to act for the satisfaction of engaging in the behaviour itself, rather than acting for external or internal reinforcements. Individuals who are intrinsically motivated behave freely and autonomously and are thus self-determined. Let's take the hypothetical employee, Jane, who is working to locate a parcel that a customer should have received yesterday. Investigating lost items is her favourite part of her job. She gets so absorbed that she often forgets to take her break. Jane is intrinsically motivated in that part of her job.

On the opposite side of the continuum is amotivation, which represents the absence of intention to act (refer to Figure 1). When an individual is amotivated he or she may either not act at all or only perform the motions without intent as the person may not find the activity valuable, may not feel competent and/or may not think the task will yield any desirable outcome (Ryan & Deci, 2000). Between the two extremities of the continuum lies extrinsic motivation which requires some form of desired consequences or instrumentality in order for a behaviour to be carried out. Extrinsic motivation is concerned with how individuals are motivated to carry out tasks and activities that they might not find interesting and thus not intrinsically motivating (Ryan & Deci, 2002). Many activities in adulthood would fall within this category (Ryan & Deci, 2000) as

many tasks and activities are carried out for the purpose of attaining a separable outcome other than the pleasure or interest in the activity itself.

Figure 1. The self-determination continuum showing the degree of self-determination of behaviour, type of motivation, nature of regulation and degree of autonomy.



Adapted from Gagné & Deci, 2005; Ryan & Deci, 2000

Four types of extrinsic motivation are proposed, namely external, introjected, identified, and integrated regulation. Each type of extrinsic motivation differs in terms of the degree of internalization of the value associated with the behaviour (Gagné & Deci, 2005). Internalization refers to people taking in some values, attitudes, or behaviours and making them their own (Gagné & Deci, 2005). When internalization for an activity or task is absent, it is represented by the first form of extrinsic motivation called external regulation which requires an element outside of the person to induce action. Specifically externally regulated action is performed either to avoid an undesirable consequence or to

obtain a desirable one (Gagné & Deci, 2005) and as such does not emanate from the person but is totally non-autonomous. As an example of external regulation, consider Moninder who does his job for the sole sake of his pay check and bonuses he receives. Nothing else matters to him.

On the other hand, the other three types of extrinsic motivations proposed each represents varying degrees of internalization. When internalization is partial, introjected motivation occurs followed by identified regulation, and finally, the most internalized regulation is represented by integration. When internalization results in well-integrated value for the activity, the behaviour then no longer requires external contingencies but emanates from the individual's sense of self (reflection of the individual about his or her person and personality; Gagné & Deci, 2005) and is by the same token autonomous.

Introjected regulation describes a value or a behaviour that is enacted out of self-imposed (behaviour imposed by oneself) pressure either to satisfy one's sense of self-esteem (feeling of personal pride), worthiness and pride and/or to avoid guilt, anxiety and shame (Gagné & Deci, 2005; Ryan & Deci, 2000, 2002). At this level, a person behaves a certain way because his or her self-esteem is contingent upon a certain performance (Ryan & Deci, 2002). Raj's parents always pushed him to become a doctor and would hear of nothing else. Raj felt such strong conditional regard from his parents that he went along with their desire. Over time, Raj would come to feel worthy as a person only if he were successful in his career.

With identified regulation, the reasons for enactment are meaningful and consciously valued by the person, thus representing a deeper level of internalization than introjected regulation. The person is consciously endorsing the behaviour (Ryan & Deci,

2002) because it is personally important to the person's goals, values and identities even though the activity may be unpleasant (Gagné & Deci, 2005). As a result the person experiences more personal freedom and autonomy carrying out the behaviour. Rachel is characterized by identified regulation: when she performs a work task, such as cleaning her work areas, she understands that doing so is important for safety reasons and as a result, she tries to perform this work task well.

The last type of extrinsic motivation and also the fullest type of internalized extrinsic motivation is integrated regulation. When regulation of behaviour is integrated, the person acts because the behaviour is not only valued by the person but has become part of the person's identity. Moreover there is harmony between the person's different identifications. Hence the person acts in accordance with who they are, that is, with their sense of self (Gagné & Deci, 2005). When behaviours are integrated, they are fully self-determined; activities and tasks are performed because they are instrumental for personal outcomes (Gagné & Deci, 2005; Ryan & Deci, 2002). Integrated regulation shares many qualities of intrinsic motivation (Ryan & Deci, 2000, 2002) as both are enacted from within the person although integration is still considered extrinsic motivation because the behaviour is performed for an instrumental reason rather than sole interest. Consider Amrita Kaur who not only views teaching as her vocation but as part of who she is, and as such, her career is instrumental to what she believes to be her purpose in life.

Autonomous versus Controlled Motivation

Ryan and Connell (1989) investigated elementary school children's reasons for acting in two domains: academic achievement and prosocial behaviour. They found that external, introjected, identified, and intrinsic regulation differed in terms of the degree of

autonomy felt by the children. Specifically, the degree of autonomy experienced was found to vary in a quasi-simplex or ordered pattern along a continuum from feelings of control to feelings of autonomy, such that correlations were not only positive but stronger between styles theoretically closer on the continuum. External and introjected regulations were both non-self-determined as they both were motivated by a source of control, external regulation being the most controlled form of motivation and introjected being a moderately controlled form of motivation. Whereas both identified regulation and intrinsic regulation represented self-determination, identification was moderately autonomous while intrinsic motivation was the most autonomous form of motivation. In a nutshell, controlled motivation is composed of external and introjected regulations whereas identified, integrated and intrinsic regulations make up autonomous motivation.

Autonomous and controlled motivations have been associated with different outcomes. Generally speaking, when people are experiencing autonomous motivation they tend to be more interested in the task, more creative, trusting and flexible, feel less pressured, less controlling and less aggressive (Deci & Ryan, 1987). Other outcomes of autonomous motivation that have been investigated include increased effort and goal attainment (Sheldon & Elliot, 1998), organizational commitment and positive attitudes toward a new program (Lynch, Plant & Ryan, 2005), goal acceptance (Gagné, Koestner & Zuckerman, 2000), integration of work values and perceived competence (Williams & Deci, 1996), less absenteeism and better physical well-being (Blais & Brière, 1992), job satisfaction (Blais & Brière, 1992; Lynch et al., 2005), lower turnover intentions and turnover behaviour (Richer, Blanchard & Vallerand, 2002), better psychological well-being (Baard, Deci & Ryan, 2004; Black & Deci, 2000; Blais & Brière, 1992; Deci, Ryan,

Gagné, Leone, Usunov & Kornazheva, 2001; Lynch et al., 2005; Richer et al., 2002) and performance (Baard et al., 2004; Black & Deci, 2000; Blais & Brière, 1992). All these positive outcomes associated with autonomous motivation are beneficial for organizations. Thus the question of interest is how can autonomous motivation be promoted in employees?

Needs

According to SDT, autonomous motivation is prompted by the satisfaction of psychological needs (Gagné & Deci, 2005). In fact basic psychological needs serve as essential nutriments to promote autonomous motivation and, by the same token, psychological well-being (Deci & Ryan, 2000) and optimal functioning of individuals (Gagné & Deci, 2005). When satisfied, a psychological need promotes psychological health whereas when thwarted, psychological health is undermined (Gagné & Deci, 2005). There are three psychological needs that have been shown to support psychological well-being, namely, autonomy, competence and relatedness.

Autonomy. Autonomy refers to the perception of being at the origin of one's own behaviour (deCharms, 1968). deCharms argued that some intentional behaviours are self-initiated (behaviours originating from the person) and others externally controlled. As a result, deCharms proposed the concept of perceived locus of causality which refers to the source of one's actions; in contrast locus of control is concerned with the source of one's outcomes. Actions that are self-initiated are characterized by an internal perceived locus of causality in which the person feels as the origin or causal agent of his or her behaviour. On the other hand, actions that are externally controlled have an external perceived locus of causality where the person, despite behaving intentionally, feels like a pawn to

external pressures. According to deCharms, people are fundamentally motivated to be the origins of their own behaviour. He believed that people are “constantly struggling against being confined and constrained by external forces- against being moved about like a pawn” (deCharms, 1968, p. 273). Exploration, curiosity, interest, creativity are examples of internal perceived locus of causality and characteristics of intrinsic motivation. A source of control would provoke a switch in the perceived locus of causality from internal to external and thus reduce intrinsic motivation or even eradicate it.

Deci and Ryan (1980) linked perceived locus of causality to a need to feel autonomous or self-determined. Unlike deCharms who viewed perceived locus of causality as a dichotomy, self-determination theory views autonomy as a continuum. When autonomous, a person is acting according to personal interests and integrated values (Ryan & Deci, 2002). For a behaviour to be autonomous, it must be endorsed by the individual (Ryan & Deci 2006) as autonomous individuals choose their behaviour in accordance with their core self (who they are as a person). A behaviour could at times be influenced by outside sources but it would still be considered autonomous if the individual consciously approved of the behaviour and fully endorsed it. In a nutshell, autonomy is about volition and initiative (Lynch et al., 2005) and most importantly, endorsement (Ryan & Deci, 2006). An important distinction must be made between autonomy and independence. They are not the same. Independence has to do with not relying on others whereas autonomy relates to volition and endorsement. As such a person can be either dependent or independent and autonomous at the same time, which is to say that a person can choose to rely on others or not.

Autonomy was determined to be a basic need very early on. For instance, in 1971, Deci conducted a lab experiment where introductory psychology students were divided into two groups: experimental and control. Each student attended 3 sessions in which they were asked to solve some puzzles. Students in the experimental group were paid for each puzzle solved during the second session. At the last session the experimenter left the room allowing some free time for the students to either solve extra puzzles if intrinsically motivated to do so or they could read magazines or simply wait. The task engagement of the experimental group increased when the rewards were introduced but decreased considerably when removed indicating a drop in intrinsic motivation, whereas the control group maintained their motivation in the third session. Deci explained these results by saying that the perceived locus of causality changed from internal to external when rewards were introduced. In other words, this experiment indicates that feeling autonomous in initiating an action as opposed to acting for a source of control is central to intrinsic motivation.

Competence. Competence is a feeling of effectance in dealing with the environment (Ryan & Deci, 2002; White, 1959). This propensity can be observed with young infants who explore their surrounding intently with their eyes, grasp and drop objects repeatedly, all of which are done because of an intrinsic need to deal effectively with the environment (White, 1959). When older, the competence need is satisfied when one's abilities are challenged and when one gains knowledge and experience resulting in growth for the person (Baard, 2002). Competence does not mean to have something new and exciting everyday. Rather competence need could be satisfied by growth opportunities over a reasonable period of time (Baard, 2002). The need for competence

explains why people seek optimal challenges and skill enhancements through various activities (Ryan & Deci, 2002); the need for competence is thus satisfied in activities where one feels confident, challenged and effective (Lynch et al., 2005). Within an organization, feedback can be an important aspect of competence when it incorporates both what one is doing right and what could be improved (Lynch et al., 2005).

Vallerand and Reid (1984) conducted an experiment with undergraduate students, in which perceived competence mediated the relations between feedback and intrinsic motivation. Specifically, positive feedback led to increased feelings of competence and in turn increased intrinsic motivation whereas negative feedback led to lower levels of perceived competence and diminished intrinsic motivation. Consequently, competence is an important predictor of autonomous motivation.

Relatedness. Especially important for internalization is people's need to interconnect with other individuals in their social world (Baumeister & Leary, 1995; Ryan & Deci, 2002) which brings the last of the three needs: relatedness, or a sense of belongingness, which stems from personal interactions marked by relative frequency, stability, respect, mutual affection (Baumeister & Leary, 1995), and reliance on one another (Baard, 2002). Baumeister and Leary (1995) argued that the evidence for the need for relatedness as fundamental human motivation lies in the following points: people form relationships readily, even in adverse circumstances; people think regularly about their relationships; a positive change in relationships relates to a positive change in emotions and a negative change in one's relations is linked to negative feelings; people try to preserve their relations and avoid dissolving them; and finally deprivation of quality relationships is linked to negative consequences. An important point worth

mentioning regarding the need for relatedness in a work context is that its satisfaction is essential regardless of the type of work being performed. As a matter of fact its satisfaction could come from either proximal support as in the case of group work or distal support as in the case of an employee performing individual work (Grolnick, Deci & Ryan, 1997).

Ryan, Stiller and Lynch (1994) found that children who perceived both their parents and teachers as caring and felt connected to them, experienced greater internalization of positive school-related behaviour, higher levels of motivation and positive attitudes. Specifically, having an emotionally supportive teacher was associated with greater sense of control, autonomy and engagement. Another research found that students who perceived their teachers as cold and uncaring were found to experience lower intrinsic motivation (Ryan & Grolnick, 1986).

More on needs. As already mentioned, to be classified as a need psychological health or well-being must be promoted. This was investigated by Reis, Sheldon, Gable, Roscoe & Ryan (2000) who measured daily fluctuation of well-being along with fluctuation in need satisfaction of introductory psychology students through a daily log for a period of 14 days. They found that all the three basic psychological needs for autonomy, competence and relatedness were individually predictive of well-being. Need satisfaction also predicted mental health and self-esteem (indicators of well-being) as well as performance in a work sample of a U.S. shoe factory (Ilardi, Leone, Kasser & Ryan, 1993). These results were later replicated in a U.S. bank (Baard et al., 2004).

The universality of need satisfaction as predictor of well-being in a work environment was demonstrated in a few studies. Deci, Ryan, Gagné, Leone, Usunov, and

Kornazheva (2001) found that need satisfaction predicted well-being through increased self-esteem and reduced anxiety in both an American and a Bulgarian sample. Chirkov, Ryan, Kim and Kaplan (2003) examined autonomy as a predictor of well-being in Turkey, Russia, South Korea and the US. In every sample, there was considerable variance in the participants' degree of internalization of their respective cultural practices. The more individuals internalized their cultural practices, irrespective of culture type (collectivism or individualism and vertical or horizontal), the more autonomous they were and the more they experienced well-being. Thus autonomy as a basic need is applicable whether one values individualism or collectivism. In short the three basic psychological needs of autonomy, competence and relatedness are universally essential for human growth and optimal experience.

Needs and motivation. The three basic psychological needs can serve to make predictions about people's behaviour in their social environment. Thus the needs of autonomy, competence and relatedness will not only enhance employees' intrinsic motivation but also promote internalization of extrinsic motivation as the employees will integrate new regulations thus resulting in autonomous motivation. In the event that not all needs are satisfied, regulation would only be partially integrated resulting in a more controlled form of motivation as demonstrated in Deci, Eghrari, Patrick, and Leone's (1994) lab study. However a change in the work environment that would bring about satisfaction of the three basic psychological needs would by the same token promote internalization, resulting in integration of regulation and thus autonomous motivation (Gagné & Deci, 2005).

For instance, for internalization to occur within a work environment, people should have their need for relatedness satisfied, through socializing with significant others who endorse the behaviour to be internalized (Deci & Gagné, 2004; Deci & Ryan, 1991; Grolnick et al., 1997; Ryan & Deci, 2000). But by itself, relatedness is not sufficient as people need to feel competent with the task so its value can be internalized. If only the need for competence and relatedness are satisfied, although internalization can occur, it will remain partial and at best, introjection could take place (Deci & Ryan, 2000). It is the need for autonomy that will promote full internalization (Gagné & Deci, 2005; Deci & Ryan, 2000; Ryan & Deci, 2000). In fact, the more satisfied the need for autonomy, the more autonomous the motivation (Deci & Ryan, 1987). Although 2 out of the 3 needs would still be better than 1 or none (Deci et al., 1994), the three basic psychological needs are equally important and required for optimal internalization (Deci & Ryan, 1987; Deci et al., 1994) of work regulation to occur and by the same token autonomous motivation.

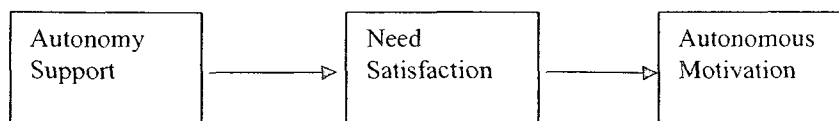
Need thwarting. When an environment does not offer the opportunity for need satisfaction but rather is excessively controlling (thus thwarting the need for autonomy), over challenging (thus thwarting the need for competence), or rejecting (thus thwarting the need for relatedness) (Deci & Ryan, 2000; Koestner & Losier, 1996), that environment is said to be need thwarting. In such cases people would experience controlled motivation (either complying or defying; Deci & Ryan, 2000) that would eventually lead to amotivation (either being out of control or acting helplessly; Deci & Ryan, 2000; Richer & Vallerand, 1995). In addition, in order to compensate for need deprivation people would develop alternative activities such as defensive or self-

protective (activities undertaken to protect one's person) processes, withdraw concern for others and focus on oneself, psychological withdrawal or antisocial activities, or psychopathology (Deci & Ryan, 2000). Individuals would then experience lower vitality, integrity, and health and greater inner conflict, alienation, anxiety, depression and somatization (Deci & Ryan, 2000). Need thwarting also has behavioural consequences as shown by Muraven, Gagné and Rosman (2008) who found that individuals who were pressured (thus having their needs thwarted) to exert self-control (inhibiting automatic behaviour, urges, emotions) on a task, had less self-control than when their needs were supported which then led to lower levels of performance on a second task requiring self-regulation.

Autonomy Support

SDT has shown that work environments affect employee motivation through need satisfaction. Work environment includes managerial styles, reward contingencies, level of challenges and demands (Gagné & Deci, 2005; Lynch et al., 2005), all of which have important ramifications for need satisfaction and ultimately work outcomes such as motivation. In fact management style, operationalized as the manager's behaviour which will be the focus of this research, plays a key role in employees' work environment (Baard, 2002; Baard et al., 2004; Bono & Judge, 2003; Deci et al., 1989; Ilardi et al., 1993).

Figure 2. Model: autonomy support, need satisfaction and motivation.



The interpersonal climate created by the manager is referred to as autonomy support in SDT (Deci et al., 1989; Deci & Gagné, 2004). Autonomy support promotes the satisfaction of autonomy, competence and relatedness (Baard et al., 2004), which promote employees' autonomous motivation and will in turn prompt behaviour change, effective job performance, job satisfaction, positive attitudes at work, organizational citizenship behaviours, psychological adjustment and well-being (Gagné & Deci, 2005).

Hence the most effective manager behaviours are those that support employees' autonomous motivation (Deci & Gagné, 2004). Specifically, those optimal leader behaviours entail understanding the subordinate's perspectives, acknowledging his or her feelings, providing relevant information in a non-controlling way, offering opportunities for choice, encouraging initiative taking, conveying confidence in the employee's ability, minimizing the use of pressure and demands (Black & Deci, 2000; Deci et al., 1989; Lynch et al., 2005), providing a meaningful rationale for doing an uninteresting activity, respecting and showing concern about each employees (Deci et al., 1994), and structuring the work so as to allow interdependence among employees and identification with the groups (Gagné & Deci, 2005).

Being autonomy supportive for a manager does not mean that the manager has to be neglectful or permissive; rather it means that the manager will delegate some control and choices to employees so they can have some lever on how to get their job done (Baard, 2002). As a matter of fact, structure (information, guidelines, expectations, consistency) must also be provided along with autonomy support (Cleveland & Reese, 2005; Cleveland, Reese & Grolnick, 2007; Grolnick et al., 1997). Structure may even

help people feel more competent as it provides for a better understanding of the requirements necessary to succeed (Cleveland et al., 2007; Grolnick & Ryan, 1989).

The findings of many previous studies are consistent with the concept of autonomy support. For instance, Deci, Connell, and Ryan (1989) conducted a field study where they trained managers to be autonomy supportive of their subordinates. Results demonstrated that managers could be trained successfully to be autonomy supportive and when so, their employees had increases in positive work attitudes (Deci et al., 1989). Specifically, employees who perceived their manager to be more autonomy supportive after training, were, as a result, more satisfied with their job and the possibilities for advancement, perceived supervision to be more positive, had higher levels of trust in corporate management, and displayed other positive work-related attitudes.

Autonomy support was also investigated by Deci, Eghrari, Patrick, and Leone (1994). In a lab experiment, psychology students were assigned to a boring computer task in a 2x2x2 factorial design (acknowledging their feelings versus not; providing rationales for the task versus not; giving low versus high pressure). They found that these three factors all led to greater internalization of extrinsic motivation. Moreover participants experiencing either 2 or 3 of the possible 3 factors enjoyed more internalization as opposed to those experiencing none or only one of the factors (Deci et al., 1994).

In brief, autonomy support concerns the interpersonal styles displayed by managers consisting of 3 important factors: 1) Acknowledging the other's feelings and perceptions by taking their perspectives; 2) Providing information in the form of feedback (on both positive and in-need-of-improvement behaviours) and a rationale for doing the activity; 3) Respecting the person's autonomy by encouraging initiative and giving

choices. Autonomy supportive managers not only promote autonomous motivation and maintain their subordinates' motivation level but such leaders can even attenuate and thus improve a relatively controlling work climate (Baard, Deci & Ryan, 2000 in Baard, 2002). Consequently a leader's behaviour and choices affect employees' motivation, and in turn their well-being and even the quantity and quality of their work (Baard, 2002).

Autonomy support and needs. Autonomy support has been shown to provide satisfaction of the three needs, which then leads to positive work outcomes (Baard et al., 2004; Gagné, 2003). When employees experience need satisfaction from their manager, then the extrinsic aspect of their work diminishes while their job experience becomes more meaningful (Lynch et al., 2005). Ilardi, Leone, Kasser and Ryan (1993) found that employees who experienced greater fulfilment of their basic needs exhibited more positive job attitudes, enhanced self-esteem and better well-being. In addition autonomy supportive context was related to intrinsic motivation, improved problem solving and learning, work satisfaction and general mental health. Intrinsic motivation was significantly related to work satisfaction and psychological health and well-being, even after controlling for the extrinsic factors of pay and status.

In yet another study, Baard, Deci and Ryan (2004) conducted a field study with an investment banking firm's managers and their employees. Managers' autonomy support toward their employees led to the satisfaction of the three basic needs of autonomy, competence and relatedness and this satisfaction of needs was associated with job performance and psychological adjustment at work. Finally, Deci, Ryan, Gagné, Leone, Usunov and Kornazheva (2001) found that the basic needs mediated the relations between autonomy-supportive work climate and task motivation and psychological

adjustment on the job; it reduced anxiety and enhanced task engagement and general self-esteem (Deci et al., 2001).

Autonomy support and motivation. Autonomy support provides need satisfaction thereby facilitating internalization (Deci & Ryan, 1987; Deci et al., 1994) for which the first requirement is good manager-subordinate relations (Grolnick et al., 1997; Lynch et al., 2005). As such, the level of autonomy support from a manager will determine whether employees experience controlled versus autonomous motivation. The more autonomy supportive the manager is, the greater need satisfaction employees will experience (Baard et al., 2004) and their motivation will also be positively enhanced (Deci et al., 1989). Indeed autonomy support has been found to be “the most important socio-contextual factor for predicting autonomous behaviour” (Gagné & Deci, 2005, p. 338).

Several studies investigated autonomy support as a predictor of autonomous motivation and positive work outcomes (Black & Deci, 2000; Blais & Brière, 1992; Lynch et al., 2005; Williams & Deci, 1996). Autonomous motivation was shown to lead to positive outcomes in the subordinates such as quality performance, job satisfaction, less absenteeism, better physical and psychological well-being (Blais & Brière, 1992). In a chemistry class, students improved their performance (better grades), even when accounting for students’ abilities, and had better psychological adjustment when they had an autonomy supportive instructor (Black & Deci, 2000). Interestingly the effect of autonomy support was stronger on students who were originally low in autonomous motivation; they benefited more from having an autonomy supportive instructor and improved their performance compared to students high in initial autonomous motivation.

In a psychiatric facility the staff experienced greater persistence, effective performance, organizational commitment, greater well-being, intrinsic job satisfaction, and more positive attitudes toward a new treatment program when they experienced need satisfaction (Lynch et al., 2005). In addition, staff members displayed less controlling attitudes toward their patients. The effects of autonomy support and autonomous motivation was demonstrated to be long lasting by Williams and Deci (1996) in a study with medical students taking an interviewing class. They concluded that autonomy supportive instructors predicted students' autonomous motivation about the course which in turn related to increases in perceived competence and the integration of psychosocial values in medicine, reflected up to 6 months after the course had ended when the medical students demonstrated autonomy support in their interviewing style with patients.

Controlling manager. We also have to address what it means for a manager to be controlling. A controlling manager pressures others to behave or think in certain ways (Assor, Kaplan, Kanat-Maymon, & Roth, 2005; Deci, Schwartz, Sheinman, & Ryan, 1981; Lynch et al., 2005). Attempts to control can be done through the use of implicit or explicit rewards and punishments (Lynch et al., 2005), threats, deadline, evaluation and surveillance (Deci & Ryan, 1987), making comparisons among the subordinates (Deci, Schwartz et al., 1981; Grolnick et al., 1997), pressuring to work at a faster pace, giving directives frequently, not allowing divergent opinions to be expressed, and suppressing criticisms (Assor et al., 2005). Controlling leaders hinder internalization and undermine intrinsic motivation (Deci & Ryan, 1987; Deci, Schwartz et al., 1981; Grolnick et al., 1997) and are less trusted by their employees (Deci et al., 1989).

Assor, Roth and Deci (2004) investigated conditional regard as a source of parental control. Parents' conditional regard was associated with introjection in children and not with identified nor integrated regulation. Although the children behaved the way parents wanted, it was at the expense of their well-being (feeling low self-worth) and poor parent-child relationship. Controlling teachers were studied by Assor and colleagues (2005) and were associated with student amotivation, anger and anxiety, and low academic engagement. Because of the negative emotions, the children could not learn more adaptive ways to deal with the effects of the controlling teachers and as a result the development of amotivation was almost impossible to suppress.

Richer and Vallerand (1995) compared autonomous style of supervision with control-non-punitive and control-punitive styles in a work environment. Although both punitive and non-punitive controlling styles affected the employees negatively, in terms of decreasing both intrinsic and extrinsic motivation, punitive style was seen as the most controlling and had the worst effects as the decrease in motivation led to amotivation or learned helplessness, whereas autonomy supportive leaders maintained their subordinates' intrinsic motivation. As for non-punitive controlling, subordinates felt more self-determined than punitive controlling but still less than autonomy supportive style. It must be specified that under a controlling interpersonal climate, not only will an employee's behaviour persist so long as the source of controlled motivation is present; if removed the behaviour has no reason to persist and therefore should cease (Deci & Ryan, 1987). In addition, controlling climate can lead to compliance or defiance (Deci & Ryan, 1987; Koestner & Losier, 1996) and all the negative consequences associated with need thwarting discussed earlier.

Gap in SDT

Although what constitutes autonomy support (choice, information and perspective taking) and its consequences (need satisfaction, autonomous motivation and positive work outcomes) have been investigated, we still know very little about the antecedents of autonomy support. Thus the following question arises: are certain types of leaders more prone to provide autonomy support? Two types of factors may affect leaders' disposition to be autonomy supportive, the first one being the environment.

To reiterate, when people have their needs fulfilled, they experience "greater intrinsic motivation, have greater cognitive flexibility, are more trusting, have more positive emotional tone, are healthier, have higher self-esteem and perceived competence, have less aggressive behaviour and are less controlling" (Deci & Ryan, 1987, p.1030). If people experiencing need satisfaction are less controlling, this could presuppose that they would be autonomy supportive. According to Deci and Ryan (1987), when people experience sources of pressure to make their subordinates perform according to a certain standard, they become more controlling which then leads to negative outcomes.

Deci, Spiegel, Ryan, Koestner and Kauffman (1982) conducted a lab experiment in which they assessed the conditions that led teachers to be autonomy supportive or controlling. The results indicated that when teachers felt pressured to have their students perform, they tended to be more controlling and teachers that were not induced to be controlled were more autonomy supportive of their students. Recall that similar results were shown by Lynch et al. (2005) when employees of autonomy supportive leaders exhibited less controlling attitudes toward their patients. In the same vein, the study by Williams and Deci (1996) also provides additional evidence: autonomy supportive

instructors predicted students' autonomous motivation and this in turn was associated with the use of autonomy-supportive interviewing style by students.

A second factor that could affect a manager's likelihood of being autonomy supportive would be his or her personal disposition. In that regard, two studies indicated that the autonomy orientation of teachers was related to intrinsic motivation of students. Autonomy orientation is the tendency to perceive the environment as autonomy supportive (Gagné & Deci, 2005) and thus to regulate one's behaviour according to one's values and interests and as such be generally autonomously motivated (Deci & Ryan, 2000; Ryan & Deci, 2002). The first study done by Deci, Schwartz, Sheinman, and Ryan (1981) concluded that autonomy orientation was related to supporting autonomy in children. Similarly Deci, Nezlek and Sheinman (1981) also found that teacher's orientation toward autonomy led students to be more intrinsically motivated, and this relation was established within the first few weeks of the school year and remained constant onward.

These studies indicate that a manager should be autonomously functional in order to provide autonomy support and by the same token, in order to be autonomy supportive, managers should have their own basic psychological needs met. Interestingly some people have a tendency to experience autonomy within their social environment more so than others and thus are more autonomously regulated (Gagné & Deci, 2005). What characterizes these people? How could they be differentiated? In order to answer these questions, authenticity is proposed through authentic leadership to promote autonomous regulation and consequently autonomy supportive leadership behaviour.

AUTHENTIC LEADERSHIP

Before introducing authentic leadership, a brief discussion of authenticity is first presented. Authenticity as a construct has been around for a while within psychological spheres. Rogers (1961) alluded to authenticity when discussing the congruence between one's self-concept (perception of one's person) and experience. Congruence refers to the match between experience, awareness, and communication of a person. Conversely, an example of a mismatch between experience, awareness and communication can be illustrated by a person experiencing anger, not realizing it (incongruent awareness) and saying: "I'm not angry!" (incongruent communication). Another person can be incongruent between communication and awareness if attending a party, finding it boring, yawning, and realising how bored she was but still telling the hostess: "It was a lovely evening". According to SDT, the motivation to learn, change, expand, develop, grow, and eventually achieve congruence is innate in everyone (Ryan & Deci, 2000). This self-actualization tendency leads one to become a fully functioning person. Maslow (1968) also referred to authenticity in terms of an individual's satisfying his/her growth needs leading to the discovery of the inner self, acceptance of one's true or intrinsic nature, giving way to self-actualization.

Deci and Ryan (1991) also assume that people have innate processes and motivations that lead them to self-regulation (ability to auto-regulate) and to be coherent with the environment. Self-regulation emanating from the fulfillment of the three basic psychological needs is posited to promote authentic functioning (Deci & Ryan, 2000). In other words, being self-determined should make people authentic (Deci & Ryan, 1991; Ryan & Deci, 2000). Authenticity refers to "owning one's personal experiences, be they

thoughts, emotions, needs, preferences, or beliefs, processes captured by the injunction to know oneself' (Harter, 2002, p.382). Authenticity leads one to behave and communicate according to one's true self (Harter, 2002). Kernis and Goldman (2005b, 2006) took the concept of authenticity further theoretically and empirically by establishing that authenticity involves four separate but interrelated components: self-awareness (knowledge of all aspects of one's self and a desire to improve that knowledge), unbiased processing (objectivity in both positive and negative self-aspects; self-acceptance), behaviours (autonomous behaviour), and relational orientation (being genuine and truthful in one's relationship) (Kernis & Goldman, 2006). These components make up an integral part of the "true self".

The self in SDT represents who we are in the process of personal regulation and integration with respect to the social environment (Deci & Ryan, 1991). It is constantly developing and changing with new experiences (Kernis & Goldman, 2005b). Certain events, such as traumatic ones, may prompt more rapid modifications in one's core self (Kernis & Goldman, 2005b). Nonetheless, authenticity is posited to be relatively stable over time though the only evidence so far is a test-retest reliability administered over a four weeks period (Kernis & Goldman, 2006).

Authentic Leadership Defined

In the wake of recent corporate scandals, a more positive form of leadership in order to restore people's confidence in leadership was articulated (Brown, Treviño & Harrison, 2005; George, 2003; Luthans & Avolio, 2003). Moreover, Simons (2002) advanced that leaders whose words and behaviours are incongruent, would, as a result, have followers with lower levels of trust, suggesting that authenticity is an important

element of effective leadership. Authentic leadership theory (Gardner, Avolio, Luthans, May & Walumbwa, 2005; Ilies, Morgeson & Nahrgang, 2005; Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008) thus emerged from Kernis & Goldman's (2006) conceptualization of authenticity, self-determination theory, leadership theories such as transformational and ethical leadership (Avolio, Gardner, Walumbwa, Luthans & May, 2004; Luthans & Avolio, 2003), and research on integrity (Avolio et al., 2004; Eigel & Kuhnert, 2005; George, 2003; May, Chan, Hodges & Avolio, 2003).

Each component of Kernis and Goldman's (2006) authenticity concept (awareness, unbiased processing, behaviour, and relational orientation) were incorporated in the authentic leadership model: As a result of greater self-awareness (awareness of one's person) and self-acceptance of the leader, the leader and his or her employees are posited to achieve positive self-development (development of one's person), self-regulated behaviours and positive relationship with each other (Gardner, Avolio, Luthans et al., 2005; Ilies et al., 2005). In light of these theories, authentic leadership is thus defined as:

A pattern of leader behaviour that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development. (Walumbwa et al., 2008, p. 94)

Authentic Leadership Components

In order to clarify the concept of authentic leadership, a definition of each of the four components is now offered. Firstly, self-awareness refers to having knowledge of

one's strengths and weaknesses, values, and personality characteristics (Goldman & Kernis, 2002). Furthermore awareness involves not only knowledge of, but trust in, one's emotions, feelings, needs and self-relevant (relevant to the person) cognitions (Kernis & Goldman, 2006), and knowledge of one's likes and dislikes, interests and aspirations (Kernis & Goldman, 2005b). This personal evaluative information can be derived from one's environment or self, with minimum reality distortion (Kernis, 2003), leading to an objective assessment of one's positive and negative personal attributes (Goldman & Kernis, 2002). Just as self-awareness is the most fundamental component of authenticity as it leads to an understanding necessary for self-acceptance, behavioural authenticity and relational orientation (Kernis & Goldman, 2005a), the self-awareness component of authentic leadership is also crucial to relational transparency, balanced processing of information and the internalized moral perspective (Walumbwa et al., 2008).

Whereas Kernis & Goldman (2006) separate awareness and unbiased processing (self-acceptance) into two components, Walumbwa et al. (2008) merged them together simply as self-awareness. In fact not only does self-awareness contribute to an accurate sense of self (Kernis & Goldman, 2006), but in turn, it leads to self-understanding and self-acceptance (Ilies et al., 2005). This self-acceptance is then responsible for the leader's integrity and high moral character which will then affect the leader's decision making, behavioural regulation, and his or her well-being (Gavin, Quick, Cooper, & Quick, 2003).

Relational Transparency, called relational orientation by Kernis & Goldman (2006), is about being real and genuine rather than fake so that close ones are able to see one's self "both good and bad" (Goldman & Kernis, 2002, p.19). In so doing, the

authentic self is being exposed. Relational transparency also involves self-disclosure (revealing information about one's person such as thoughts, opinions and feelings to others), openness, transparency, loyalty and trust in one's close relationships (Gardner, Avolio, Luthans et al., 2005; Kernis, 2003; Kernis & Goldman, 2006). Rather than being controlled by their emotions, authentic individuals aim to express them objectively (Kernis, 2003; Kernis & Goldman, 2006). Relational transparency contributes to building mutual intimacy and trust, which promote more satisfying relationships (Kernis & Goldman, 2006). The third component of authentic leadership, balanced processing of information, refers to leaders who seek different viewpoints in order to challenge their own views and in the process objectively analyze all the information before reaching a decision (Gardner, Avolio, Luthans et al., 2005). This component is unique to the authentic leadership construct.

Lastly, internalized moral perspective refers to two aspects (Walumbwa et al., 2008). First, an authentic leader possesses high levels of internalization regarding strong personal values and morals. Second the leader will act according to his or her true self, and achieve congruence between his or her values and behaviours. In other words, the leader will behave authentically (Kernis, 2003; Kernis & Goldman, 2005b, 2006). This second aspect is equivalent to the behaviour component of Kernis & Goldman (2006). Thus the leader is self-regulated to behave according to high standards and values as opposed to behaving out of controlled motivation (e.g. out of group pressure, guilt, to please others, or to obtain a reward or avoid a punishment) (Goldman & Kernis, 2002). Hence the internalized moral perspective reflects high levels of autonomous motivation to behave with integrity (Walumbwa et al., 2008). These values and morals will be

reflected in the leaders' behaviours such as decision making (Avolio & Gardner, 2005; Gardner, Avolio, Luthans et al., 2005). Walumbwa and colleagues (2008) merged the internalized regulation processes and congruent behaviour into one component because they viewed them as equivalent concepts.

The four components of authentic leadership are related. Gardner, Avolio, Luthans et al. (2005) argued that a leader's behaviour must be concordant with his or her values in order to foster the followers' trust. Moreover a leader's high levels of integrity would enable him or her to be open and genuine in his or her social interactions and relationships (Ilies et al., 2005). In the end, "It is ultimately about the leader him- or herself, and being transparent in linking inner desires, expectations, and values to the way the leader behaves every day, in each and every interaction" (May et al., 2003, p. 248). Nonetheless a leader may, at times, be called to carry out conflicting goals. A leader high in authenticity would acknowledge these intricacies between his or her own needs and values and those of the larger group and use his or her core sense of self as the lever for decision making (Goldman & Kernis, 2002).

In another word, authentic leadership is about behaviours: behaviours that are divided into four different components. Authentic behaviours stem from self-awareness, since they must be congruent with the self to be deemed authentic, and are evident in relationships and decision making. Consequently authentic leaders could have different personalities; as long as they understand who they are and behave authentically, they would be true to themselves. Authentic leaders do not need to be charismatic to exert influence (Gardner & Avolio, 1998) although they could be, rather their behaviours speak for themselves (George, 2003). These leaders are authentic because of what they do.

Authentic leadership integrity debate. Ethics has been deemed an integral part of leadership (Ciulla, 2004), however not everyone concurs with that notion. Kegan (1982) and Kohlberg (1984) for instance argued that a leader could be true to himself or herself without necessarily having high levels of morals and ethics. Sparrowe (2005) for his part wondered if it was a good thing for leaders with dysfunctional personalities to be authentic. Despite these views, the current concept of authentic leadership used in this study requires high levels of moral development (Avolio et al., 2004; Gardner, Avolio & Walumbwa, 2005; Eigel & Kuhnert, 2005; Luthans & Avolio, 2003, May et al., 2003). In fact, Gardner, Avolio and Walumbwa (2005) argued that authentic leadership cannot be neutral in terms of ethics because high authenticity is associated with higher levels of cognitive, emotional, and moral development (Deci & Ryan, 2000; Kernis & Goldman, 2006; Ryan & Deci, 2003). People with lower levels of moral development “are unlikely to possess the capacity for self-reflection and introspection required for a true understanding of the self or others” (Walumbwa et al., 2008, p. 94). According to this requirement, a narcissistic leader would qualify as neither transformational nor authentic (Gardner, Avolio and Walumbwa, 2005).

Authentic Leadership and Other Constructs

As authentic leadership includes elements of both transformational and ethical leadership (Avolio et al., 2004; Walumbwa et al., 2008), it is necessary to explore how these constructs relate to authentic leadership, starting with ethical leadership. Ethical leaders consistently demonstrate appropriate conduct in their actions and interpersonal relationships (Brown et al., 2005) and they care about people and society in general (Brown & Treviño, 2006). There are some similarities between ethical and authentic

leadership. Both refer to leaders with “honesty, integrity, and openness, and desire to do the right thing” (Walumbwa et al., 2008, p. 103) and ethical role modeling (Walumbwa et al., 2008), yet the two concepts are different. For instance ethical leadership uses a more transactional manner to promote integrity through the use of rewards (Brown & Treviño, 2006). In addition authentic leadership incorporates components not included in ethical leadership such as self-awareness, relational transparency and balanced processing.

Links to transformational leadership. The authentic leadership construct is conceptually related to transformational leadership’s four behavioural components (idealized influence, inspirational motivation, intellectual stimulation and individual consideration) yet both leadership theories are distinct. Authentic leaders benefit from high levels of self-awareness, transparent relationship and self-regulation based on ethical principles and values (Ilies et al., 2005). Transformational leaders may also be highly ethical (Avolio, 1999), but in order to make the distinction between ethical and non-ethical transformational leaders, Bass and Steidlmeier (1999) introduced the term authentic leadership. They believed, however, that authentic leaders may use manipulation when necessary, which is not the view of the current authentic leadership theory (Gardner, Avolio, Luthans et al., 2005; Ilies et al., 2005; Walumbwa et al., 2008).

Transformational leaders inspire followers to achieve more than they expected and help their subordinates develop into leaders (Avolio, 1999; Bass & Riggio, 2006). Transformational leaders look after the needs of their subordinates, share the risks with them, act as role-models and display high levels of moral development through ethical behaviours (Avolio, 1999). Authentic leaders do not rely on charisma, inspirational appeal or impression management the way transformational leaders do to exert influence

(Gardner & Avolio, 1998) but rather on their transparent nature, leadership based on purpose, meaning, and values and finally, high quality relationships with their followers (George, 2003).

Links to emotional intelligence. A discussion of the distinction between authenticity and emotional intelligence is warranted. Emotional intelligence is about processing emotions accurately and regulating them in oneself (just like authenticity) and in others as well (Mayer & Salovey, 1995). Gardner, Avolio, Luthans et al. (2005) posited that being authentic would have an impact on processing one's own and others' emotions. In fact, the self-awareness component of authentic leadership includes emotional awareness and Ashkanasy and Daus (2002) suggested that emotional awareness allows leaders to understand their own feelings, their emotions and the effects they have on others and enable them to take others' emotions into account as well.

Emotional awareness being a basic component of emotional intelligence and authentic leadership being related to transformational leadership (Walumbwa et al., 2008), which relates to higher levels of emotional intelligence (Ashkanasy & Daus, 2002), suggest that authentic leaders must possess high levels of emotional intelligence (Gardner, Avolio, Luthans et al., 2005). George (2000) proposed that emotional intelligence contributes to effective leadership. She linked emotional intelligence to essential elements of effective leadership (developing collective goals and objectives, instilling in others knowledge and appreciation of work activities and generating and maintaining excitement, confidence, cooperation and trust).

Although the self-awareness component of authentic leadership includes being aware of one's emotions and accepting one's emotions good or bad, and the behavioural

and relationship components are about acting accordingly, authenticity is about more than that. Indeed, recall that the awareness component, for instance, is about awareness not only of one's emotions but personality traits, values, likes and dislikes and so on. As such, the authenticity construct, compared to emotional intelligence, brings a much broader understanding of a person's intrapersonal regulations affecting both behaviours and relationships. Further research would have to examine empirically the similarities and differences between authenticity and emotional intelligence.

Research on Authentic Leadership

Due to the recent development of the authentic leadership scale (Walumbwa et al., 2008), a limited number of empirical studies are available as of yet. These are discussed next.

Authentic leadership scale validation. In order to measure authentic leadership, Walumbwa and colleagues (2008) developed the Authentic Leadership Questionnaire (ALQ). They tested the authentic leadership construct and its four components and after confirmatory factor analysis, a hierarchical model (second order factor) was determined to be the best fitting model. The data were from different samples (Kenya, China and USA) which increase the generalizability of the ALQ scale and the authentic leadership construct. The four components were also found to be related and yet complementary and distinct from each other. For instance the four components had an average correlation of .67 in one US sample and .69 in the sample from China.

Correlates of authentic leadership. Gardner, Avolio, Luthans et al. (2005) proposed that authentic leaders seek out feedback to satisfy their drive for self-verification (verification of one as a person) and self-improvement (improvement of an

individual as a person) whereas less authentic leaders are mainly motivated by the pursuit of self-enhancement (enhancement of one's person) and self-protection (protection of one's person, i.e., ego defence motives). Authenticity correlates significantly and positively with active coping, greater use of planning, suppression of competing activities, and greater use of both emotional and instrumental support (Goldman & Kernis, 2005 in Kernis & Goldman, 2006). Conversely, dysfunctional strategies such as mental and behaviour disengagement, emotional venting, denial, and substance use were all negatively correlated with authenticity (Goldman & Kernis, 2005 in Kernis & Goldman, 2006). Authentic leaders thus make constructive and active efforts to deal with problems and stressors. Furthermore, authentic leaders are posited to demonstrate self-transcendence (universalism, benevolence; Ros, Schwartz, & Surkiss, 1999) by emphasizing integrity, trust, transparency, openness, respect for others, and fairness (Gardner, Avolio, Luthans et al., 2005) in their behaviours and communications.

Outcomes of authentic leadership. Authentic leadership is posited to lead to various positive outcomes for the followers (Avolio et al., 2004; Gardner, Avolio, Luthans et al., 2005; Ilies et al., 2005). As a result Walumbwa and colleagues (2008) looked into the similarities and differences between authentic, ethical and transformational leadership as well as their consequences on some positive work outcomes, in order to provide additional evidence of the authentic leadership questionnaire's (ALQ) construct validity. Participants were American MBA and evening adult students that were working full time (about half of them were females). They were asked to rate their immediate supervisor. Data was collected on three different occasions: they completed the ALQ and demographics the first week, ethical leadership the second

week and scales of organizational citizenship behaviour, commitment and satisfaction with supervisor the third week. Although the four components of authentic leadership were positively and significantly related to ethical leadership (self-awareness = .58; relational transparency = .53; internalized moral perspective = .55; balanced processing = .52) and the four components of transformational leadership (correlations ranging from .51 to .59 for self-awareness; .42 to .56 for relational transparency; .49 to .58 for internalized moral perspective; .47 to .55 for balanced processing), authentic leadership was also found to be significantly different from them after a confirmatory factor analysis compared the correlations and demonstrated discriminant validity.

In addition, authentic leadership was found to predict follower organizational citizenship behaviour, organizational commitment, and follower satisfaction with the supervisor, while controlling for ethical and transformational leadership. In other words authentic leadership was found to have incremental predictive power above ethical and transformational leadership. However this does not mean that authentic leadership will have better predictive power for other organizational outcomes. Further research is warranted to establish when and where authentic leadership is a worthwhile predictor (Walumbwa et al., 2008). Another study looked into a sample of Kenyan adult workers who had a college education, where participants rated their supervisors on authentic leadership while their immediate supervisor rated their performance. Walumbwa et al. (2008) found that perceptions of high authentic leadership in managers were positively correlated to followers' job satisfaction and job performance, while controlling for organizational climate. The authors suggested that the correlations between the leaders' authenticity and the followers' job satisfaction and job performance could be moderated

by other factors such as the followers' trust in the leaders for example, but this remains to be tested.

Authenticity and Self-Determination

Gardner, Avolio, Luthans et al. (2005) suggested that authentic leaders are motivated by curiosity, a thirst for learning, and the satisfaction that comes from accomplishing a valued task/objective. Authentic leaders know what they can accomplish, and they seek out experience that will give them opportunities for growth and development (Gardner, Avolio, Luthans et al., 2005; Ilies et al., 2005). People with high levels of authenticity tend to be self-determined (Kernis, 2003; Kernis & Goldman, 2006) and by the same token have their three basic needs of autonomy, competence and relatedness met. Indeed the behavioural component of authenticity implies that behaviours are self-endorsed. Kernis and Goldman (2006) explained that self-endorsed autonomous behaviours are more likely because authentic people have more self-understanding (understanding of one's person).

This greater self-understanding is behind the authentic leaders' ability to better select appropriate interpersonal environment and experience that will fulfill and sustain their basic psychological needs (Brown & Ryan, 2003; Deci & Ryan, 2000; Kernis & Goldman, 2006) and by the same token, provide them with both psychological and interpersonal adjustment (Deci & Ryan, 2000; Kernis & Goldman, 2005a, 2005b, 2006), among which, flow, which is a "subjective experience of full involvement with life" (Csikszentmihalyi, 2003, p.18) and autonomous motivation (Ilies et al. 2005). In not so many words the authentic self is motivated through the experience of autonomy, competence, and relatedness (Deci & Ryan, 1995; 2000).

In the same vein, self-awareness is also responsible to make authentic individuals more likely to opt for goals that are self-concordant (Goldman, Kernis, Foster, Hermann, and Piasecki, 2005 in Kernis & Goldman, 2006). Self-concordant goals are goals that are congruent with one's personal values, beliefs, and interests (Sheldon & Elliot, 1999) leading to congruence between internal states and actions. This supports Gardner, Avolio, Luthans et al.'s (2005) assertion that authentic leaders are autonomously motivated to reach their goals. As a result of having self-concordant goals, authentic leaders are likely to experience greater psychological health and well-being, as authentic people have been shown to experience greater efficacy, intrinsic motivation, and lower feelings of pressure (Goldman et al., 2005 in Kernis & Goldman, 2006; Kernis, Paradise, Whitaker, Wheatman, and Goldman, 2000) and stress (Goldman et al., 2005 in Kernis & Goldman, 2006; Kernis et al., 2000). What follows is that authentic people, because they experience lower levels of pressure, would be not only less controlling but more autonomy supportive as well (Deci et al., 1982).

Gardner, Avolio, Luthans and colleagues (2005) theorized that authentic leaders would have their basic psychological needs for autonomy, competence and relatedness satisfied thus they should be in a better position to provide need satisfaction to their employees as compared to an unauthentic leader. Indeed, as a result of having their basic needs fulfilled, authentic leaders would be autonomously motivated, and if authentic leaders feel more autonomous, they will be less controlling toward others (Deci et al., 1982; Deci & Ryan, 1987) and in turn more autonomy supportive (Deci et al., 1982; Lynch et al., 2005; Williams & Deci, 1996). Likewise Pelletier, Séguin-Lévesque and Legault (2002) found that when elementary and high school teachers were autonomously

motivated in their work, they were also more autonomy supportive toward their students. Recall that autonomy support consist of an authority figure providing satisfaction of the three basic psychological needs of autonomy, competence and relatedness to his or her subordinates (Baard et al., 2004; Deci et al., 1989).

Authentic Leadership and Autonomy Support

Rogers (1961) believed that the success of a helping relationship lay in the psychological maturity of the helping person. In fact, Rogers argued that in order for someone to help others, that person should work on developing himself or herself as a person. If a person wants to facilitate growth in others, they must experience it themselves. This could be applied to the concept of authentic leadership and autonomy support as well: in order to promote autonomous motivation in others a leader must be autonomously motivated. Importantly Rogers believed that for any change to occur in others, the leader should be authentic or in his own words: a “unified, integrated, congruent person” (p.282).

Authenticity and relationships. Relevant to the study of authentic leadership is Kernis and Goldman’s (2006) study of authenticity in relationship functioning. They demonstrated that authenticity correlates positively with open and honest self-disclosure, objective processing of evaluative information and intrinsic relationship motives. Authenticity was also found to relate to more understanding, more minimizing, less personalizing and less reciprocating in addition to greater constructive reactions (constructive attempts to improve the situations and waiting for improvements) and less destructive reactions (destroying, abusing, threatening, criticising, ignoring) to relationship problems.

Ego defence mechanisms (strategies used to maintain self-image) have been shown to lead not only to psychological difficulties but to interpersonal difficulties as well (Gardner, Avolio, Luthans et al., 2005). Because authentic people are much less ego-involved, they are better able to objectively evaluate and accept both positive and negative feedback (Kernis, 2003), to deal with self-threatening information in a positive way and to possess better conflict resolution skills (Kernis & Goldman, 2006). As such low ego defence should create more harmonious relationships between leaders and subordinates. In addition, positive functioning is said to promote quality relations with others (Rogers, 1961; Ryff & Keyes, 1995; Ilies et al., 2005) and as previously stated, authenticity relates to psychological and interpersonal adjustment (Kernis & Goldman, 2004 in Kernis & Goldman, 2006). Another crucial reason behind authentic people having better relationships with others is their self-acceptance which is essential for a leader in order to accept his or her employees (Rogers, 1961). The authentic leader's low ego defences, positive psychological functioning and self-acceptance suggest that the employees' need for relatedness would likely be satisfied. These studies therefore provide a good rationale to the hypothesis that followers might prefer an authentic leader.

Likewise Ilies et al. (2005) proposed that authentic leaders achieve positive relationships with their employees because they are striving to achieve openness and truthfulness (Kernis & Goldman, 2006; Ilies et al., 2005) by actively self-disclosing characterized by having open communication, sharing their thoughts, emotions, values, weaknesses and other critical information and encouraging their followers to do the same (Avolio et al., 2004). As a result of self-awareness, self-acceptance, congruent behaviours, transparency, openness and truthfulness in relational orientation, cooperative

relationships develop (Avolio et al., 2004; Ilies et al., 2005) where information is exchanged between the leader and the followers freely (Ilies et al., 2005), accurately and without delay (Walumbwa et al., 2008).

Besides interacting transparently with others, authentic leaders focus on building followers' strengths, and create a positive and engaging organizational context (Gardner, Avolio, Luthans et al., 2005; Ilies et al. 2005). Additionally, authentic leaders are considered fair; they respect others and act as positive role models for their subordinates (Gardner, Avolio, Luthans et al., 2005). From a social exchange perspective, authentic leaders will utilize high-quality relationships to empower their followers (Ilies et al, 2005; Walumbwa et al., 2008). The positive quality relationships between the leaders and their followers will help both the leaders' and followers' growth and development through openness to feedback, and also contribute to their well-being (Ilies et al., 2005) by satisfying their need for relatedness. This is congruent with recent research by Deci, La Guardia, Moller, Scheiner and Ryan (2006) showing that giving autonomy support to others promotes one's own well-being. They investigated the benefits of giving and receiving autonomy support in friendships and interestingly, giving autonomy support was found to provide more need satisfaction to the giver than being the recipient of autonomy support. Consequently authentic leadership is beneficial to the leaders and the followers as well (George, 2003).

Authenticity and autonomy support. SDT can explain the process by which leaders' authenticity will promote leadership success. Ilies et al. (2005) proposed that the employees' self-determination will be supported by authentic leaders, which was echoed by Gardner, Avolio, Luthans et al. (2005) who proposed that authentic leaders will

provide autonomy support by giving them opportunities for empowerment fulfilling their needs of competence and autonomy (Liden, Wayne & Sparrowe, 2000), talent and skill development and providing optimally challenging experiences meeting the need for competence (Bandura, 1997) and having quality relationships with them as well as boosting followers' identification with the collective by emphasizing common mission and goals satisfying their need for relatedness (Dutton & Heaphy, 2003), all of which will contribute to the employees' self-determination.

The need for competence can also be met through feedback and since authentic leaders are looking for feedback in order to improve themselves, they might likewise be more likely to provide feedback to their employees which would satisfy another aspect of their needs for competence. The balanced processing of information component of authentic leadership entails considering different opinions before reaching a decision and allowing people to voice divergent opinions, which is also important to the satisfaction of the need for autonomy (Assor et al., 2005). Furthermore, authentic leaders being honest, true and real with others should thus provide sincere support for the relatedness need. It would be difficult to imagine an employee being autonomously motivated by a manager who pretends to acknowledge his or her feeling but is not genuine in doing so. Another indication of the authentic leaders' ability to provide autonomy support was provided by Walumbwa et al. (2008) who suggested that since authentic leadership is related to the followers' job satisfaction and job performance, and so does autonomy support, then authentic leaders must be autonomy supportive.

Indeed, recall that in the motivation continuum, competence and relatedness must be satisfied to have partial internalization but it is the need for autonomy that prompts full

internalization. As such, the relationship between a manager and his or her employees is crucial for internalization (Grolnick et al., 1997; Ryan & Deci, 2000). In addition, since authentic leaders seek out self-improvement through feedback among others, it is very likely that because they value self-improvement for themselves, they will also encourage it among their subordinates (Ilies et al., 2005), and as such provide them with constructive feedback, which in turn, would satisfy the need for competence. Finally, authentic leaders seek to empower their employees which would satisfy the need for autonomy required for optimal internalization. As a result of having their three basic psychological needs met, followers of authentic leaders will experience autonomous motivation. Consequently the employees' autonomous motivation stem from the authentic leader's autonomy support and the employees' desire to emulate their leader.

Impact on subordinates. Because authentic leadership should lead to higher subordinate need satisfaction, authentic leadership should lead to higher subordinate autonomous motivation. There are two important aspects of autonomous motivation, the first one being internalization. Identification with a significant other (in this case the manager) is required for internalization to occur (Grolnick et al., 1997; Ilies et al., 2005). It was stated before that authentic leaders make positive role models (Gardner, Avolio, Luthans et al., 2005). From the followers' perspective, three factors must be involved to bring forth the desire to emulate the leader's behaviour (Gardner, Avolio, Luthans et al., 2005). First the authentic leaders' genuineness, congruency, and integrity contribute to the employees viewing their leader in a positive light and, in turn, as a role model for positive values, positive psychological states, self-regulated behaviours and self-development. Next emotional contagion from the leader will contribute to the employees'

positive affect (Ilies et al, 2005). Lastly, according to social learning theory (Bandura, 1977), followers seeing their leader behaving authentically will want to emulate that behaviour for themselves (Ilies et al., 2005). Thus through social exchange, followers will be elevated by their leader (Ilies et al., 2005). As an example authentic leaders favouring self-development send a message to the followers (Ilies et al., 2005), which is posited to propel them on the process of self-discovery, development and internalization of some of the leader's values and thus become themselves more authentic over time (Gardner, Avolio, Luthans et al., 2005).

In sum, authentic leaders not only model authenticity but promote and nurture it in others. Followers should become more authentic themselves over time in part because they emulate their leaders and because their basic psychological needs are satisfied by their leader, which contribute to their motivation, well-being, as well as all the other outcomes associated with autonomous motivation that were previously discussed. These in turn will promote sustainable follower performance (Avolio & Luthans, 2006; Gardner, Avolio & Walumbwa, 2005).

Gap in Authenticity

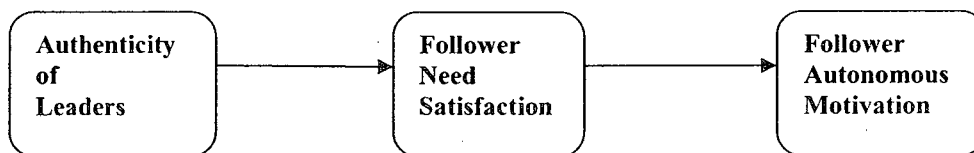
Due to the recent development of the authentic leadership questionnaire, very few outcomes of authentic leadership have been investigated. Gardner, Avolio, Luthans et al. (2005) and Ilies et al. (2005) suggested that authentic leaders in a position of authority would be autonomy supportive toward their subordinates. As autonomy support provides satisfaction of the needs for autonomy, competence and relatedness, it would in turn promote autonomous motivation in the subordinates. In addition, authentic leaders were proposed to be role models that subordinates would want to emulate, and as such come to

internalize their leader's values, and by the same token self-regulate their behaviours autonomously. These have not yet been empirically tested.

HYPOTHESES

From the literature reviewed, the following model and hypotheses are posited.

Figure 3. Proposed model linking authentic leadership and employee motivation.



H1: Leader authenticity will be positively related to follower need satisfaction.

H2: Leader authenticity will be positively related to follower autonomous work motivation.

H3: Follower need satisfaction will be positively related to follower autonomous work motivation.

H4: Follower need satisfaction will mediate the link between leader authenticity and follower autonomous work motivation.

METHODOLOGY

Procedures

In order to obtain an organization within which to do the research project, pamphlets were made to advertise it. About 150 pamphlets were mailed to potential companies. One technological organization located in Montreal responded and agreed to the project in exchange for a free report. Once all the details of the research project were

defined with the CEO and the Human Resources Director, the survey was then prepared and mounted as a web-based format. Participants' email addresses were provided from the organization's human resources department, thus allowing a personal code to be established. The links were thus pre-coded for each participant facilitating the employee-leader match. Personalized email invitations were sent out to all the participants with a link to the survey. A brief overview of the research project was provided, along with instructions on the first page. Participants were also informed on the same page that their participation was voluntary, and that they could withdraw at any time without any consequences to them. The confidentiality of their responses was also assured. Participants were provided a contact email and phone number for inquiries and were informed that completing the survey indicated their agreement.

In terms of internet security, only participants, my supervisor, the information technology specialist and myself had access to the website. It required an identification number as well as a password, except for participants who were pre-registered and provided with their own personal link. The names with the corresponding code were kept separately from the actual data. The organization also designated four employees, to be champions and encourage their co-workers to participate in the survey. A week after the invitation was sent out, a reminder email was sent to the employees who had not yet responded. Another seven days passed before a final reminder email was sent to those who had not completed the survey. A week later, the responses were collected from the web-survey and transferred to a database.

Participants

The survey was sent to 169 people of the research and development department, of which 34 received a leader questionnaire and 168 were sent the employee survey. All the managers were invited to respond to both surveys, except the Chief Executive Officer who only responded to the leader survey, one as a leader and one as an employee regarding their immediate leader giving a hierarchical data structure. Thus one manager received only the leader survey, 33 managers were sent both leader and employee surveys and 135 people received only the employee survey. In total, 105 employee surveys were completed, for a response rate of 62.5%. As for the leader survey, 27 were completed, for a response rate of 79.4%. There were 13 managers who completed both employee and leader survey. Once the surveys for which there were data missing for either the employees or the leader were discarded, the final sample to test the hypotheses consisted of 24 manager-employee match (with between 2 to 6 employees per manager) and a total of 88 employees.

The leader sample was composed of males exclusively, the age of the respondents ranged from 33 to 54 years ($M = 42.4$, $SD = 5.51$). Their education ranged from college certificate to masters degree with 65% holding a bachelor degree mostly in engineering. The managers joined the company from 1 to 18 years ago ($M = 7.23$, $SD = 4.53$). As for the employee sample, there were 97 males and 8 females, the range of age varied from 25 to 61 years ($M = 37.87$, $SD = 8.06$). Finally, their education ranged from college certificate to PhD, with 58.9 % having completed a bachelor degree and 26.3% a college degree. The employees had been with the company from just a couple of months to 18 years ($M = 4.57$, $SD = 3.89$). The survey was offered in two languages: French and

English and 59% of respondents chose to respond in English while 41% chose to do so in French.

Instruments

Authentic leadership. Authentic leadership was self-assessed by the managers using the Authentic leadership questionnaire (ALQ; Walumbwa et al., 2008; see Appendix A for sample items). The ALQ is composed of 16 items ($\alpha = .76$) that participants used to answer the question “As a leader, I...” using a 1 (*not at all*) to 5 (*frequently if not always*) Likert-type scale. The ALQ is composed of 4 subscales and each of them was aggregated by adding the scores of its respective items and then dividing that score by the total number of items for that subscale. The reliabilities found for the subscales were as follow: awareness (4 items, e.g., “seek feedback to improve my interactions with others”; $\alpha = .81$); relational transparency (5 items, e.g., “admit mistakes when they are made”; $\alpha = .75$); balanced processing (3 items, e.g., “solicit views that challenge my deeply held position”; $\alpha = .60$) and finally internalized moral perspective (4 items, e.g., “make decisions based on my core values”; $\alpha = .74$). Although the reliability of the balanced processing subscale was lower than the conventionally accepted minimum of .70, one item could have been removed in order to increase the alpha to an acceptable level. It was however decided to keep the subscale as is, as a two items scale was not deemed sufficient to reliably measure the construct. The reliability of the balanced processing component appears to be lower than what was obtained in other studies in which the lowest alpha obtained for this component was .70 (Walumbwa et al., 2008). The lower alpha of this subscale could potentially make the results of the analyses less reliable.

Need satisfaction. The need satisfaction scale was created by Van den Broeck, Vansteenkiste, Lens, Soenens & De Witte (2008; see Appendix B), and is currently under validation. The scale, completed by the subordinates, is composed of 18 items, and the subscales were aggregated using the same method as above resulting in the following: autonomy (6 items, e.g., “In my job, I feel forced to do things I do not want to do”; $\alpha = .78$), competence (6 items, e.g., “I really master my tasks at my job”; $\alpha = .68$) and relatedness (6 items, e.g., “At work, I can talk with people about things that really matter to me”; $\alpha = .78$). Participants used a Likert-type scale ranging from 1 (*totally disagree*) to 5 (*totally agree*).

Work motivation. Work motivation was assessed using the Motivation at Work Scale (MAWS; Gagné, Vansteenkiste, Van den Broeck & Roussel, 2009; see Appendix C) and was completed by the subordinates. This scale assesses the quality of subordinates’ work motivation by asking participants why they do or would put efforts into their job for 37 items, measured on a Likert-type scale of 1 (*not at all*) to 7 (*exactly*). The subscales include external motivation (11 items, e.g., “To avoid negative feedback from others (e.g., supervisor, colleagues, family, clients...)”; $\alpha = .88$), introjection (7 items, e.g., “Because otherwise I will feel guilty”; $\alpha = .80$), identification (5 items, e.g., “Because putting efforts in this job has personal significance to me”; $\alpha = .85$) and intrinsic motivation (5 items, e.g., “For the moments of pleasure that this job brings me”; $\alpha = .95$).

Amotivation and integration were not included as their reliabilities were low. Since it was decided to test the hypotheses with autonomous motivation, identification and intrinsic ($r = .62$) were averaged to provide a measure of autonomous motivation whereas external and introjections ($r = .35$) made up controlled motivation. Additional information were

courteously provided by the human resources department such as the number of years working for the organization, age, gender, education level, and salary.

Analysis

The survey used a cross-sectional design. The data were first downloaded into an excel file from the web-based survey, and then transferred to the Statistical Package for the Social Sciences (SPSS) 15.0 file. The data were examined for possible mistakes in data entry. Afterwards missing data were filled in by using the scale's middle value (for instance for a scale of 1 to 5, 3 was used, and for a scale of 1 to 7, 4 was used). There was no missing value for the authentic leadership scale and the need satisfaction scale. As for the motivation scale, amotivation had one item with four missing values, external regulation had one item with two missing values, introjection had three items with three, two and two missing values respectively, integration had one item with three missing values and intrinsic motivation had one item with two missing values. For introjection, the missing values in each three items did not correspond to the same participants.

Kurtosis and skewness were also verified to ensure the normality of the data distribution using the mark up of -2 and $+2$ (Tabachnik & Fidell, 2006). All the variables met these criteria. Then statistical analyses were conducted, including means, frequencies as well as correlations in order to gain a greater understanding of the sample and variables at play. Furthermore, hierarchical linear modeling was used to assess the proposed hypothesis for all managers and their subordinates, as it allows regression between two levels of analysis. The following section describes the results obtained.

RESULTS

Descriptive Statistics and Correlations

The overall mean for authentic leadership for all managers was 3.96 ($SD = .48$) (see Table 1). Each component had the following means: awareness 3.72 ($SD = .63$); transparent relationship 4.0 ($SD = .56$); balanced processing of information 4.06 ($SD = .59$); and lastly moral perspective 4.06 ($SD = .72$). Some positive correlations between the components of the scale were significant (see Table 1), for instance, awareness and transparent relationship, awareness and balance processing, transparent relationship and moral perspective, transparent relationship and balanced processing, and finally balanced processing and moral perspective, all of which provide a good indication of the ALQ's convergent validity (see Table 1). The demographic variables that were available for the managers, such as level of education, age and seniority, were examined along authentic leadership and its components. Two significant correlations were uncovered: age related negatively with both balanced processing of information and overall authentic leadership.

Table 1
Means, Standard Deviation and Correlations for Managers

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Awareness	3.72	.63	1				
2. Transparent Relationship	4.00	.56	.40*	1			
3. Balance Processing	4.06	.59	.46*	.43*	1		
4. Moral Perspective	4.06	.72	.33	.63**	.45*	1	
5. Authentic Leadership	3.96	.48	.70**	.83**	.71**	.82**	1

Note. $n = 27$.

* $p < .05$ (2-tailed). ** $p < .01$ (2-tailed).

The subordinates, for their part, responded to a need satisfaction and a motivation scale. Subordinates' needs were found to be marginally met (see Table 2), meaning that the needs' standard deviation ranged from lower middle to the higher end of the scale without anyone scoring a complete score (which would indicate a fully satisfied need). The most satisfied need was competence, followed by relatedness and then autonomy. All three needs were found to correlate positively and significantly with autonomous motivation, and not with controlled motivation. Moreover, overall need satisfaction presented a stronger positive correlation with autonomous motivation than each need taken individually. As for the motivation means, they indicate that overall, subordinates were marginally high on autonomous motivation and had moderate controlled motivation. Autonomous and controlled motivation correlates significantly and positively with each other.

Table 2
Means, Standard Deviations, R_{wg} , Standard Deviations, and Correlations for Employees

Variables	M	SD	r_{wg}	$r_{wg} SD$	1	2	3	4	5	6	7	8	9
1. Relatedness	3.78	.82	.62	.34									
2. Competence	4.27	.62	.77	.27	.26**								
3. Autonomy	3.36	.79	.65	.30	.50**	.39**							
4. Needs	3.80	.57			.80**	.65**	.84**						
5. External	2.34	1.00	.08	.19	-.19*	-.18	-.16	-.23*					
6. Introjection	4.00	1.26	.08	.18	.02	.21*	.03	.14	.33**				
7. Identification	4.61	1.20	.23	.32	.24*	.27**	.16	.29**	.13	.61**			
8. Intrinsic	4.68	1.35	.27	.39	.41**	.36**	.40**	.51**	-.17	.34*	.62**		
9. Autonomous Motivation	4.65	1.14			.37**	.36**	.32**	.45**	-.03	.52**	.89**	.91**	
10. Controlled Motivation	3.17	.93			-.05	.02	-.08	-.05	.81**	.82**	.46**	.11	.30*

Note: $n = 105$ for the means and correlations. $n = 27$ for the r_{wg} .

* $p < .05$ (2-tailed). ** $p < .01$ (2-tailed).

Data Aggregation

An evaluation of the convergence of the subordinates' perception of their respective leaders, referred to as inter-rater agreement, was performed (James, Demaree, & Wolfe, 1984, 1993). In order to do so, the data collected were regrouped: all the subordinates were paired with their respective manager, for a total of 27 managers. The inter-rater agreement indexes (r_{wg}) were then tabulated (see Table 2) for each of the subordinates' variables and the values were as such: .62 for relatedness, .77 for competence, .65 for autonomy, .08 for external motivation, .08 for introjection, .23 for identification, and finally .27 for intrinsic motivation. High r_{wg} values (.70 or higher) indicate high level of agreement among the subordinate toward their leader whereas low r_{wg} value is a sign of subordinate disagreement (James et al., 1984, 1993). Accordingly, there is relative agreement among participants for needs for relatedness and autonomy, high agreement for the need for competence, and very low agreement for the motivation scales. Due to the low agreement between the subordinates, aggregated correlations between the managers' authentic leadership scores and the employees' needs and motivation scores could not be performed.

Hypothesis Testing

Given the nested nature of the data (subordinates within a group with a leader), Hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992) was used to test the hypotheses. Thus both autonomous and controlled motivations were examined as a function of need satisfaction of the subordinates and leader authenticity for a total of 24 managers with their respective employees. In addition, the effects of authentic leadership

on need satisfaction were also examined. Cross-level interactions that are composed of the degree of authentic leadership of the manager and the degree of need satisfaction of the employees and their motivation (autonomous or controlled) were estimated using the subsequent equation at the first level (the first level represents the employee variables):

$$\text{Motivation} = \beta_0 + \beta_1 (\text{need}) + r$$

where β_0 represents the employees motivation average within a group; β_1 symbolizes the maximum likelihood estimate of the employees' motivation slope from the employees' need satisfaction; and r represents residual error. Employee motivation averages and slopes were calculated using the following level 2 equations (the second level includes the leader variable):

$$\beta_0 = \gamma_{00} + \gamma_{01} (\text{authentic leadership}) + u_0$$

$$\beta_1 = \gamma_{10} + \gamma_{11} (\text{authentic leadership}) + u_1$$

where γ_{00} refers to the sample mean of motivation; γ_{01} symbolizes the average variation in motivation means as a function of authentic leadership; γ_{10} represents the sample average slope or relation between motivation and need satisfaction; and γ_{11} refers to the average variation of motivation slopes as a function of authentic leadership; and u_0 and u_1 represent the average error.

HLM analyses were performed using HLM 5 (Raudenbush, Bryk, Cheong, & Congdon, 2000) with the predictors centered around the grand mean for all possible equations derived from the variables (grand mean centering versus no centering were performed with similar results). Prior to test for the hypotheses, the results of the null model were examined in order to see if the variance in motivation and needs could be explained by a two level model (i.e. including authentic leadership). The level one model (need satisfaction as the predictor and autonomous motivation as the outcome) resulted in μ_0 and μ_1 that were none-significant. Consequently cross-level interactions are unnecessary and need not be tested as the variation in the motivation means and the need slopes were not-heterogeneous meaning that they did not differ across the managers. Accordingly adding the second-level variable (the managers' authentic leadership) could not possibly explain the variance in need satisfaction and motivation. Through the null model alone it was possible to determine that all three hypotheses involving authentic leadership (H1, H2, and H4) were not supported.

Even though the null model was non-significant, additional analyses were conducted in order to observe any possible trend in the results. First, overall need satisfaction was regressed on authentic leadership in order to test for hypothesis 1 (Leader authenticity will be positively related to follower need satisfaction). Results did not corroborate the first hypothesis (see Table 3). Next, each of the three basic psychological needs for relatedness, competence and autonomy were regressed individually on overall authentic leadership, starting first with the regression of the need for relatedness on authentic leadership, then competence and finally autonomy (see Table 3). None of the results were significant.

Table 3**HLM Analysis of Authentic Leadership on Need Satisfaction**

<i>Predictor</i>	Needs			Relatedness			Competence			Autonomy		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Intercept	3.77	.08	.00	2.97	1.23	.03	4.51	.62	.00	4.27	.77	.00
Authentic Leadership	-0.04	.14	.81	.21	.30	.51	-.11	.15	.48	-.21	.19	.29

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean. The standard errors are robust.

In the hope to uncover possible relations with each of the four authentic leadership components (awareness, transparent relationship, balanced processing and internalized moral perspectives) additional regressions were conducted. Overall need was regressed first on awareness, followed by each need individually (see Table 4). Then the same procedure was followed for transparent relationship (see Table 5), balanced processing of information (see Table 6), and finally internalized moral perspective (see Table 7). Although none of the results were significant, it is worth mentioning that the leader's awareness had a marginally significant impact on the employees need for relatedness.

Table 4**HLM Analysis of Awareness on Need Satisfaction**

<i>Predictor</i>	Needs			Relatedness			Competence			Autonomy		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Intercept	3.72	.39	.00	2.61	.67	.00	4.65	.43	.00	3.87	.50	.00
Awareness	.03	.10	.76	.32	.18	.08	-.09	.11	.41	-.12	.14	.42

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean. The standard errors are robust.

Table 5**HLM Analysis of Transparent Relationship on Need Satisfaction**

<i>Predictor</i>	Needs			Relatedness			Competence			Autonomy		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Intercept	4.12	.57	.00	3.84	1.07	.00	4.61	.66	.00	3.94	.78	.00
Transparent Relationship	-.07	.15	.64	-.01	.27	.97	-.08	.16	.64	-.13	.20	.53

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean. The standard errors are robust.

Table 6**HLM Analysis of Balanced Processing of Information on Need Satisfaction**

<i>Predictor</i>	Needs			Relatedness			Competence			Autonomy		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Intercept	3.68	.42	.00	2.88	.74	.00	4.66	.48	.00	3.53	.66	.00
Balanced Processing	.04	.10	.68	.22	.17	.20	-.09	.12	.47	-.02	.15	.88

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean. The standard errors are robust.

Table 7**HLM Analysis of Moral Perspective on Need Satisfaction**

<i>Predictor</i>	Needs			Relatedness			Competence			Autonomy		
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>p</i>
Intercept	4.28	.54	.00	4.15	.89	.00	4.58	.43	.00	4.13	.77	.00
Moral Perspective	-.10	.13	.42	-.09	.21	.67	-.07	.10	.52	-.17	.18	.36

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean. The standard errors are robust.

The next step was to test for hypothesis 2 (Leader authenticity will be positively related to follower autonomous work motivation). Thus each type of motivation was regressed on authentic leadership, starting first with autonomous motivation. Controlled

motivation was tested afterwards (see Table 8). A negative trend can be observed between authentic leadership and controlled motivation.

Table 8

HLM Analysis of Authentic Leadership on Motivation

<i>Predictor</i>	Motivation					
	Autonomous			Controlled		
	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>
Intercept	4.67	.13	.00	3.58	.85	.00
Authentic Leadership	-0.20	.35	.58	-.35	.21	.12

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

Then both types of motivation were regressed separately on each authentic leadership components individually starting with awareness (see Table 9), transparent relationship (see Table 10), balanced processing of information (see Table 11), and finally internalized moral perspective (see Table 12). Here again none of the results were significant, however it is interesting to note that awareness had a marginally significant effect on controlled motivation.

Table 9

HLM Analysis of Awareness on Motivation

<i>Predictor</i>	Motivation					
	Autonomous			Controlled		
	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>
Intercept	4.86	.89	.00	3.94	.51	.00
Awareness	-.05	.23	.83	-.23	.13	.10

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

Table 10**HLM Analysis of Transparent Relationship on Motivation**

<i>Predictor</i>	Motivation					
	Autonomous			Controlled		
	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>
Intercept	4.62	.99	.00	3.83	.65	.00
Transparent Relationship	.01	.24	.96	-.19	.16	.26

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

Table 11**HLM Analysis of Balanced Processing of Information on Motivation**

<i>Predictor</i>	Motivation					
	Autonomous			Controlled		
	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>
Intercept	4.61	.79	.00	3.88	.62	.00
Balanced Processing	0.01	.18	.94	-0.19	.14	.19

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

Table 12**HLM Analysis of Moral Perspective on Motivation**

<i>Predictor</i>	Motivation					
	Autonomous			Controlled		
	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>
Intercept	5.99	1.13	.00	3.02	.56	.00
Moral Perspective	-.33	.28	.26	.02	.13	.88

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

In order to test for hypothesis 3 (Follower need satisfaction will be positively related to follower autonomous work motivation), both autonomous motivation and controlled motivation were regressed on overall need satisfaction one at a time. Overall need satisfaction was significantly related to autonomous motivation (see Table 13) but not with controlled motivation, thus supporting the third hypothesis.

Table 13

HLM Analyses of the Psychological Needs on Motivation

<i>Predictor</i>	Motivation					
	Autonomous			Controlled		
	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>
Intercept	0.57	.91	.53	3.57	.09	.00
Needs	1.05	.21	.00	-.02	.15	.92

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

Then, each individual need was examined for its effects on autonomous and controlled motivation starting with relatedness (see Table 14), competence (see Table 15) and autonomy (see Table 16). All three needs had highly significant relations to autonomous motivation but again results were non-significant with controlled motivation.

Table 14**HLM Analyses of the Need for Relatedness on Motivation**

<i>Predictor</i>	Motivation					
	Autonomous			Controlled		
	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>
Intercept	4.67	.13	.00	3.57	.09	.00
Relatedness	.57	.11	.00	-.07	.12	.58

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

Table 15**HLM Analyses of the Need for Competence on Motivation**

<i>Predictor</i>	Motivation					
	Autonomous			Controlled		
	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>
Intercept	4.67	.13	.00	3.57	.09	.00
Competence	.68	.28	.02	-.07	.14	.62

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

Table 16**HLM Analyses of the Need for Autonomy on Motivation**

<i>Predictor</i>	Motivation					
	Autonomous			Controlled		
	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Robust SE</i>	<i>p-value</i>
Intercept	4.67	.13	.00	3.57	.09	.00
Autonomy	.41	.17	.02	-.02	.17	.90

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

At last, even though H1 and H2 were not supported and support was only found for H3, a final HLM analysis was carried out to investigate the fourth hypothesis (Follower need satisfaction will mediate the link between leader authenticity and follower

autonomous work motivation). Thus motivation (level 1) was entered as the outcome variable; overall need satisfaction (level 1) as a grand mean centered predictor; and authentic leadership (level 2) as a second-level predictor. Results did not substantiate H4 (see Table 17). A final analysis was conducted to test authentic leadership on controlled motivation with need satisfaction as a mediator but was non-significant as well (see Table 18).

Table 17

HLM Analyses of Authentic leadership on Psychological Needs and Autonomous Motivation

Predictor	Coefficient	Robust <i>SE</i>	<i>p</i> -value
Intercept γ_{00}	-0.05	8.18	.99
Authentic leadership γ_{01}	0.15	2.14	.94
Intercept γ_{10}	1.43	2.05	.49
Authentic leadership γ_{11}	-0.09	0.53	.86

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

Table 18

HLM Analyses of Authentic leadership on Psychological Needs and Controlled Motivation

Predictor	Coefficient	Robust <i>SE</i>	<i>p</i> -value
Intercept γ_{00}	4.26	7.59	.58
Authentic leadership γ_{01}	-0.08	1.84	.96
Intercept γ_{10}	-0.02	2.02	.99
Authentic leadership γ_{11}	-0.05	0.49	.92

Note. $n = 88$ subordinates nested within 24 managers. The Gammas (γ) are unstandardized and centered around the grand mean.

Even though the results were not as expected, deviance, a test of goodness of fit in HLM (Bryk & Raudenbush, 1992) was performed in order to evaluate whether incorporating need satisfaction in the equation in addition to authentic leadership explained more of the variance in employee motivation. The model of authentic leadership leading to autonomous motivation's deviance was 271.779, whereas adding the need to the equation resulted in a deviance of 255.436 thus resulting in a difference between the two models of about 16. This difference in chi-square test is significant when compared to the critical value of chi-square with 2 degrees of freedom of 5.99. The result indicates that need satisfaction is an important variable to predict autonomous motivation.

DISCUSSION

The purpose of this study was to examine the effects of authentic leadership on employee need satisfaction and in turn motivation. Previous research has determined that employee need satisfaction and autonomous motivation yield important outcomes such as optimal functioning (Gagné & Deci, 2005). It has also been established that the leader's support of the three basic psychological needs of autonomy, competence and relatedness has a great impact in predicting need satisfaction (Baard et al., 2004; Deci et al., 2001; Gagné, 2003; Ilardi et al., 1993) and autonomous motivation of subordinates (Black & Deci, 2000; Blais & Brière, 1992; Lynch et al., 2005; Williams & Deci, 1996). However relatively little is known about the personal characteristics of autonomy supportive leaders. Authentic leadership, a relatively new construct built on previous well-known theories of leadership (Avolio & Gardner, 2005; Avolio et al., 2004; Luthans & Avolio, 2003), was thus proposed as an antecedent of autonomy support.

In this study, the results of the authentic leadership scale differed greatly to those obtained by Walumbwa and colleagues (2008). For instance all the means were above 4 (on a scale of 5) for the components except awareness which had a mean of 3.72. Even when considering the standard deviation, these results are relatively high, indicating that managers perceived themselves as quite authentic. In comparison, Walumbwa et al. (2008) obtained lower means and broader range for each of the four components of authentic leadership in the three studies conducted. Specifically, their means ranges from 2.00 to 2.87 with standard deviations ranging from .76 to .99. This disparity could be explained in part by who completed the authentic leadership scale. In this study, managers rated themselves whereas in Walumbwa et al.'s studies, the subordinates rated their immediate supervisor. As for the correlations between each component, this study obtained lower scores than those found in Walumbwa et al.'s studies, in which correlations ranged between .63 to .69 in a US sample. The Cronbach alpha for the balanced processing of information subscale was lower in this study compared to the acceptable alpha obtained in all of the studies conducted by Walumbwa and his colleagues.

Nonetheless, many findings uncovered regarding authentic leadership were unexpected. For instance, age related negatively with both balanced processing of information and overall authentic leadership. This is in fact very interesting as Luthans and Avolio (2003) suggested that authenticity increases with age, but in this sample, the reverse is happening: younger managers had higher levels of balanced processing of information and overall authentic leadership. Balanced processing of information requires a manager to use a more participative management style and as such it is possible that

younger managers find it easier to act in such ways since participative management has become more and more popular, as opposed to older managers who most probably had to adapt from a more traditional management style that was prevalent earlier in their career.

In addition, although the significance level was marginal, there is some indication, as seen in the HLM analyses, that high leader awareness, as well as his overall authentic leadership, negatively relate to employee controlled motivation. These suggest that leaders possessing high self-knowledge and self-acceptance and/or high authentic leadership (self-awareness, the ability to consider different points of view before coming to a decision, transparent relationships and self-regulated behaviours) have employees who are less likely to perform their work because of external or internal sources of control.

Surprisingly and contrary to expectations, authentic leadership did not yield any effects on autonomous motivation nor need satisfaction. It is interesting that despite the fact that subordinates within their respective group marginally agreed about their need satisfaction (as seen with the r_{wg}), need satisfaction was not affected by authentic leadership. Hence, although they experience similar level of need satisfaction, it is something else than authentic leadership that affects need satisfaction. While subordinates agreed about their need satisfaction, they disagreed regarding their motivation. It thus seems that other factors, in addition to need satisfaction, are involved in work motivation (differences in work motivation could be affected by personality, personal life, work task, and so on).

Although need satisfaction was not a mediator between authentic leadership and autonomous motivation as was hypothesized, autonomy, competence and relatedness did

individually predict autonomous motivation. Consequently when employees had their basic needs satisfied, they were more autonomously motivated. Interestingly, providing need support is related to having autonomously motivated employees, but is not related to employees' controlled motivation (Deci et al., 1994). This means that autonomy support affects autonomous motivation but not controlled motivation. Since these motivations are not typically related (in this sample $r = .30$), it is possible that these types of regulations have different levers. While autonomy support affects autonomous motivation, other things, like authentic leadership, may affect fluctuations in controlled motivation. A word of caution is warranted: employees low on controlled motivation will not automatically be high on autonomous motivation: motivation styles are independent of one another. Research has shown that although high autonomous motivation yields better outcomes when controlled motivation is low, high autonomous motivation and high controlled motivation still lead to better outcomes than low autonomous and high controlled motivation or when both types are low (Ratelle, Guay, Vallerand, Larose & Sénécal, 2007).

Indeed the results of this research indicates that a trend can be observed between a leaders' self-awareness or a leader's authenticity and lower controlled motivation; whereas high autonomous motivation could be predicted by need satisfaction. This could indicate that both autonomy support and authenticity (at least awareness), are required for optimal motivation (i.e. high autonomous motivation and low controlled motivation). This research also provides support for the authentic leadership literature, which has proposed positive outcomes at the employee level (Gardner et al., 2005; Ilies et al., 2005). Specifically, Ilies et al. (2005) posited relations between authentic leadership and self-

determination theory constructs, which the current study has found (although not what had been expected by these authors). The current research does add to the literature by providing some additional information regarding both types of motivation and authentic leadership. Leaders high on self-awareness may provide less pressure, evaluation and surveillance, make fewer comparisons between employees, rely less on reward and punishment, and allow divergent points of view to be expressed. Leaders' self-awareness could thus have important organizational outcomes as it could avoid the negative outcomes associated with controlled motivation that were previously mentioned.

Implications

On a different note, the present study provides some practical implications. First, organizations could take into consideration self-awareness of a person when recruiting or promoting for a managerial position. Second, managerial training should be provided on managerial behaviours that ought to be done (i.e. autonomy supportive behaviours) and behaviours that ought not to be done (i.e. controlling behaviours). Autonomy supportive training has been done successfully by Deci et al. (1989) who demonstrated that employees' needs were satisfied following managerial training. Managers should also be provided with opportunities to increase their self-awareness, as there is a reverse relation with controlled motivation. Many methods have been suggested to increase a person's level of self-awareness and authenticity. For instance, Weis and Hanson (2008) proposed the use of T-group to increase a person's self-awareness. A T-group is a group of people learning about human interactions and by the same token learning about themselves. Providing 360 degree feedback offers another good venue to promote self-awareness (Thach, 2002). Life-stories have been proposed to develop authentic leaders as they

provide an opportunity for the leader to create meanings from their own life events and thus improve self-awareness (Shamir & Eilam, 2005) which is considered the cornerstone of leadership development (Gardner, Avolio, & Walumbwa, 2005). Others have suggested pairing managers with a mentor (May et al., 2003) or using case studies of authentic leaders (Cooper, Scandura & Schriesheim, 2005). None of the above interventions have been tested yet as to their efficacy in training authentic leaders nonetheless it provides interesting avenue for future research.

In a nutshell, training leaders to be autonomy supportive, would satisfy employees' needs and by the same token lead to autonomously motivated employees, whereas authentic leadership training would relate to employees having lower levels of controlled motivation. Thus working on the leader as a person, as authentic leadership suggests, the leader's awareness, self-regulation, values and ethics in addition to providing autonomy support training could be a successful combination for optimal employee outcomes such as their well-being and motivation.

Limitations

Although most hypotheses were not supported and unanticipated results were discovered, several limitations encountered in this study could provide some explanations for such results. For instance, the sample size was really small, especially in terms of number of employees per leader and the results were based on self-report questionnaire, thus raising the possibility of common variance issues, but considering that many correlations were non-significant, it is less likely. Additionally, the length of time employees were working with their managers was unknown as well as if at the time of the questionnaire they were working more with their managers or their project managers,

since they were in a matrix structure. It could very well be that employees worked most often with their project managers and since the questionnaire was about their general manager, these latter would be less likely to have an impact on some of the employee outcomes, such as need satisfaction. The sample also included many levels of employees who could possibly have different perspectives on their managers. The sample of this study consisted, for the vast majority, of engineers, all from the same department. Their environment is fast-paced, highly skilled and creative. One could think that objectivity would be a necessary skill for such an environment. This could explain the high mean scores obtained on the authentic leadership scale.

In addition, only men were tested. The fact that they were all men, with the same educational background, within the same department could possibly provide an explanation relative to the low variance obtained in authentic leadership. Lastly, whereas Walumbwa et al. (2008) had the employees complete the ALQ, and thus authentic leadership was measured as a perception from the employees' perspective, in this study it was the leaders themselves who filled out the ALQ. The difference of who completes the ALQ could account for some of the results as well as the seemingly contradictory results of this study with the authentic leadership literature (Gardner et al., 2005; Ilies et al., 2005). Although it seems that having the employees fill out the ALQ would better reflect their perception which could, in turn, better explain employee outcome variables, it seems strange to have employees rate their managers on how true to their self the managers' behaviours are or how well the managers know themselves. On the other hand, one could argue that one can feel if someone is being genuine or fake, however such an assessment could be called upon its objectivity. In the end, it does seem that managers are

better placed to answer some of the very personal statements of the authentic leadership questionnaire. For instance, one item asks “As a leader, I make decisions based on my core values”. How could a subordinate know his or her manager’s core values? On a different note, the need satisfaction scale does not pertain exclusively to need satisfaction as provided by an immediate manager but is rather more general to the work environment. This could potentially explain that no relations were found between authentic leadership and the three basic psychological needs. Many elements raised definitely require further investigations.

Future Research

Future research should take into account the limitations encountered, the outcomes of authentic leadership and its development as well (Cooper, Scandura, & Schriesheim, 2005; Eigel & Kuhnert, 2005). Further investigations could make an attempt at making the authentic leadership scale employee friendly, perhaps by focusing more on behaviours that could be noticed objectively by the employees. Nonetheless, authentic leadership is an interesting construct that includes the person in the leader as opposed to just the leader. As such, authentic leadership research should carry on. Authentic leadership would not only be an important component to investigate for organizational training, but for selecting managers as well (Ilies et al., 2005). Research could explore the impact of hiring highly authentic leaders on organizational outcomes.

Other research could look into the level of authentic leadership of leaders and its impact over time on employees as Gardner, Avolio, Luthans et al. (2005) suggested that new employees on the workforce may connect more rapidly with an authentic leader as opposed to more experienced workers who may have become disillusioned with

leadership for various reasons. Another interesting question raised by Harter (2002), is whether a person can possess too much authenticity. Employees, who may not be as aware and confident with themselves, may be defensive and feel threatened by the authentic leader's transparency, honesty and openness. As a result, those employees may not connect as easily with the authentic leader at least initially. Yet another interesting avenue for subsequent studies would be the organizational environment promoting authentic leadership (Avolio, 2003; Gardner, Avolio, Luthans et al., 2005; Luthans & Avolio, 2003; May et al., 2003). Are there some environments that allow authentic leadership to flourish and others that forestall it? On the other hand, other personality variables could be investigated as possible antecedents of autonomy support. Many interesting questions remain to be investigated.

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APPENDIX A

Sample items of the Authentic Leadership Questionnaire (ALQ)

The following survey items refer to your leader's style, as you perceive it.

Judge how frequently each statement fits your leadership style using the following scale:

- 0 Not at all
- 1 Once in a while
- 2 Sometimes
- 3 Fairly often
- 4 Frequently, if not always

As a leader I...

En tant que leader...

Say exactly what I mean.	Je dis précisément ce que je pense.
Admit mistakes when they are made.	J'admets mes erreurs lorsque j'en fais.
Make decisions based on my core values.	Je prends des décisions basées sur mes valeurs fondamentales.
Seek feedback to improve my interactions with others.	Je m'efforce d'obtenir de la rétroaction afin d'améliorer mes interactions avec les autres.
Solicit views that challenge my deeply held position.	Je sollicite des opinions qui remettent sérieusement en question les miennes.

APPENDIX B

Need Satisfaction Scale

The following questions pertain to your general feelings about your work, please rate the extent to which you agree with each statement.

1 (totally disagree) to 5 (totally agree) scale

Relatedness	Affiliation
I don't really feel connected with other people at my job.	Je ne me sens pas vraiment lié(e) aux autres personnes au travail.
At work, I feel part of a group.	J'ai le sentiment de faire partie d'un groupe au travail.
I don't really mix with other people at my job.	Je ne me mêle pas aux autres à mon travail.
At work, I can talk with people about things that really matter to me.	Je peux parler de choses qui me tiennent à cœur avec les gens au travail.
Some people I work with are close friends of mine.	Quelques personnes à mon travail sont de vrais amis.
At work, no one cares about me.	Personne ne tient à moi au travail.
Competence	Compétence
I don't really feel competent in my job.	Je ne me sens pas vraiment compétent(e) dans mon travail.
I really master my tasks at my job.	Je maîtrise bien mes tâches dans mon travail.
I doubt whether I am able to execute my job properly.	Je doute de pouvoir bien exécuter mon travail.
I am good at the things I do in my job.	Je suis bon(ne) dans ce que je fais dans mon travail.
I often think my job is difficult.	Je pense souvent que mon travail est difficile.
I have the feeling that I can accomplish even the most difficult tasks at work.	J'ai l'impression de pouvoir accomplir les tâches les plus difficiles dans mon travail.
Autonomy	Autonomie
I feel free to express my ideas and opinions in this job.	Je me sens libre d'exprimer mes idées et opinions dans ce travail.

I feel like I can be myself at my job.	J'ai l'impression de pouvoir être moi-même au travail.
I feel pressured at my job.	Je ressens beaucoup de pression au travail.
At work, I often feel like I have to follow other people's commands.	Au travail j'ai souvent l'impression d'avoir à suivre les ordres des autres.
I feel free to do my job the way I think it could best be done.	Je me sens libre d'exécuter mon travail comme je crois qu'il est bon de le faire.
In my job, I feel forced to do things I do not want to do.	Au travail, je me sens forcé(e) de faire des choses que je ne veux pas faire.

APPENDIX C

Motivation at Work Scale (MAWS)

REASONS FOR DOING YOUR JOB

People might put effort in their job for various reasons. Using the scale below, please indicate for each of the following statements to what degree they correspond to one of the reasons for which you would or do put efforts in your job.

1 Not at all	2 Very Little	3 A Little	4 Moderately	5 Strongly	6 Very Strongly	7 Exactly
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Why do you or would you put efforts into your job?

Amotivation	
I don't , because I really feel that I'm wasting my time at work	J'en fais peu parce que j'ai vraiment l'impression de perdre mon temps à faire ce travail.
Honestly, I put little efforts in this job	Honnêtement, je fais peu d'efforts dans ce travail.
I do little because I don't think this work is worth putting efforts into.	J'en fais peu parce que je ne crois pas que ce travail en vaille la peine.
I don't know why I'm doing this job, it's pointless work.	Je ne sais pas pourquoi je fais ce travail, il ne sert à rien.
I don't, because I don't expect to attain desired results from my work.	Je n'en fais pas parce que je ne vois aucun résultat positif de mon travail.
External	
Because others put pressure on me (e.g., supervisor, colleagues, family, clients...).	Car certains me mettent de la pression pour que je le fasse (mes supérieur, collègues, clients, famille ...).
Because others require it (e.g., supervisor, colleagues, family, clients...).	Parce que certains me le demandent (mes supérieur, collègues, clients, famille ...).
To get others' approval (e.g., supervisor, colleagues, family, clients...).	Pour obtenir l'approbation de certains (mes supérieur, collègues, clients, famille ...).
Because others will appreciate me more (e.g., supervisor, colleagues, family, clients...).	Pour être apprécié davantage de certains (mes supérieur, collègues, clients, famille ...).

Because others will respect me more (e.g., supervisor, colleagues, family, clients...).	Pour me faire respecter davantage par certains (mes supérieur, collègues, clients, famille ...).
To avoid being criticized by others (e.g., supervisor, colleagues, family, clients...)	Pour éviter les critiques de certains (mes supérieur, collègues, clients, famille ...).
To avoid disappointing others (e.g., supervisor, colleagues, family, clients...)	Pour éviter de décevoir certains (mes supérieur, collègues, clients, famille ...).
Because others will reward me financially only if I put enough effort in my job (e.g., employer, supervisor, ...).	Essentiellement parce que mes supérieurs me récompenseront financièrement.
Because others offer me greater job security if I put enough effort in my job (e.g., employer, supervisor...).	Parce que mes supérieurs m'assurent une plus grande sécurité d'emploi.
Because I risk losing financial benefits if I don't put enough effort in my job.	Parce que je risque de perdre des avantages monétaires si je ne fais pas assez d'efforts au travail.
Because I risk losing my job if I don't put enough effort in it.	Car je risque de perdre mon emploi si je ne fais pas assez d'efforts au travail.
Introjection	
Because it is my duty vis-à-vis my employer to put efforts in my job.	Car je considère cela comme étant mon devoir envers mon employeur.
Because I have to prove to myself that I can	Car je dois me prouver à moi-même que j'en suis capable.
Because it makes me feel proud of myself	Parce qu'ainsi, je me sens fier de moi.
Because it makes me feel good about myself	Parce que je me sens bien lorsque je le fais.
Because otherwise I will feel ashamed of myself	Parce qu'autrement, j'aurais honte de moi.
Because otherwise I will feel bad about myself	Parce qu'autrement, je me sentirais mal face à moi-même.
Because otherwise I will feel guilty	Parce que je me sentirais coupable de ne pas le faire.
Identification	
Because what I do in this job has a lot of personal meaning to me.	Car ce que je fais dans mon travail a beaucoup de sens pour moi.
Because I personally consider it important to put efforts in this job	Car je considère qu'il est important de faire des efforts dans ce travail.

Because putting efforts in this job aligns with my personal values	Car ce travail correspond bien à mes valeurs personnelles.
Because putting efforts in this job has personal significance to me.	Car ce travail a une signification personnelle pour moi.
Because putting effort in this job allows me to express my personal values through action.	Car je pense réaliser des choses qui en valent la peine dans ce travail.
Integration	
Because I am made for this type of work.	Car je suis fait pour ce travail.
Because this work is a vocation to me.	Car ce travail est pour moi une vocation.
Because I actualize myself fully through this work.	Car je me réalise pleinement dans ce travail.
Because this work fits perfectly well with my life goals.	Car mon travail s'intègre parfaitement dans mes objectifs de vie personnelle.
Intrinsic Motivation	
Because I enjoy this work very much.	Parce que j'aime vraiment ce travail.
Because I have fun doing my job.	Parce que j'ai du plaisir à faire ce travail.
Because what I do in my work is exciting.	Car ce que je fais dans mon travail est stimulant.
Because the work I do is interesting.	Parce que le travail que je fais est intéressant.
Because the work I do is a lot of fun.	Parce que je m'amuse dans mon travail.

APPENDIX D

CONSENT TO PARTICIPATE IN THE MANAGER SURVEY

This is to state that I agree to participate in a program of research being conducted by Professor Marylène Gagné of the Department of Management, John Molson School of Business at Concordia University. Phone: 514-848-2424 ext. 2484. Email: mgagne@jmsb.concordia.ca.

A. PURPOSE

I have been informed that the purpose of the research is to examine the best supervision methods to increase the engagement and well-being of employees.

B. PROCEDURES

This research consists of administering a survey to managers and employees at Miranda Technology Inc. You are being asked to complete at this time the Manager Survey. This survey will take you approximately 10 minutes to complete. It is recommended that you complete the survey in one sitting. You will notice that many questions seem to be repeated in the survey. Although we agree that this may be somewhat frustrating to answer the seemingly same question more than once, we have to do it this way in order to ensure that we have reliable results. We therefore ask you to answer ALL questions in the survey so that we can provide reliable and valid results to Miranda.

Although you are being sent a personalized email, we will identify your survey responses by a code we have assigned to you in order to preserve the confidentiality of your responses. Miranda will not receive any individual responses, but will instead receive a report of aggregated results. We have signed a confidentiality agreement with Miranda that protects your identity and protects Miranda's identity in any resulting presentation or publication of the results in scientific journals. The data is collected on a secured server located at Concordia University and will be processed on secured computers.

C. RISKS AND BENEFITS

There are no anticipated risks to you associated with participating in this survey. Your participation will yield many benefits: It will provide useful feedback that can be used in training. It will provide data to test new management ideas. It will give useful feedback to Miranda. You may benefit in the long run by helping Miranda improve its practices.

D. CONDITIONS OF PARTICIPATION

- I understand that I am free to withdraw my consent and discontinue my participation at anytime without negative consequences. ◦ I understand that my participation in this study is confidential (i.e., the researcher will know, but will not disclose my identity).
- I understand that the data from this study may be published in academic journals and conferences, without disclosing my identity or the identity of my company.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY. COMPLETING THIS SURVEY CONSTITUTES CONSENT ON MY PART.

If at any time you have questions about your rights as a research participant, please contact Adela Reid, Research Ethics and Compliance Officer, Concordia University, at (514) 848-2424 x7481 or by email at areid@alcor.concordia.ca.

(you can print this page for your records)

APPENDIX E

CONSENT TO PARTICIPATE IN THE EMPLOYEE EXPERIENCE SURVEY.

This is to state that I agree to participate in a program of research being conducted by Professor Marylène Gagné of the Department of Management, John Molson School of Business at Concordia University. Phone: 514-848-2424 ext. 2484. Email: mgagne@jmsb.concordia.ca.

A. PURPOSE.

I have been informed that the purpose of the research is to examine the best supervision methods to increase the engagement and well-being of employees.

B. PROCEDURES.

This research consists of administering a survey to managers and employees at Miranda Technology Inc. You are being asked to complete at this time the Employee Experience Survey. This survey will take you approximately 30 minutes to complete. It is recommended that you complete the survey in one sitting. You will notice that many questions seem to be repeated in the survey. Although we agree that this may be somewhat frustrating to answer the seemingly same question more than once, we have to do it this way in order to ensure that we have reliable results. We therefore ask you to answer ALL questions in the survey so that we can provide reliable and valid results to Miranda.

Although you are being sent a personalized email, we will identify your survey responses by a code we have assigned to you in order to preserve the confidentiality of your responses. Miranda will not receive any individual responses, but will instead receive a report of aggregated results. We have signed a confidentiality agreement with Miranda that protects your identity and protects Miranda's identity in any resulting presentation or publication of the results in scientific journals. The data is collected on a secured server located at Concordia University and will be processed on secured computers.

C. RISKS AND BENEFITS.

There are no anticipated risks to you associated with participating in this survey. Your participation will yield many benefits: It will provide useful feedback that can be used in training. It will provide data to test new management ideas. It will give useful feedback to Miranda. You may benefit in the long run by helping Miranda improve its practices.

D. CONDITIONS OF PARTICIPATION.

- I understand that I am free to withdraw my consent and discontinue my participation at anytime without negative consequences.
- I understand that my participation in this study is confidential (i.e., the researcher will know, but will not disclose my identity).
- I understand that the data from this study may be published in academic journals and conferences, without disclosing my identity or the identity of my company.

I HAVE CAREFULLY STUDIED THE ABOVE AND UNDERSTAND THIS AGREEMENT. I FREELY CONSENT AND VOLUNTARILY AGREE TO PARTICIPATE IN THIS STUDY. COMPLETING THIS SURVEY CONSTITUTES CONSENT ON MY PART.

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