Transformational leadership and well-being: The mediating role of trust in leadership, meaningfulness and job satisfaction

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Abstract

The aim of this research study is to explore the mechanisms involved in the relationship between transformational leadership style and employee well-being in the workplace. Previous evidence has shown that transformational leadership is linked with employee well-being. However, it is not clear whether transformational leadership have an indirect effect on employees work environment, and that this subsequently meditates that relationship. A theory driven model was tested by applying a parallel multiple mediation analysis. This was conducted on a cross-sectional data sample of 82 employees working in a public psychiatric hospital in Sweden. The results indicated that transformational leadership and employee well-being is correlated, and that job satisfaction indirectly mediated this relationship. However, contrary to previous studies, the results did not indicated that transformational leadership had an indirect effect on employees’ wellbeing, though, its effect on trust in leadership and employees’ sense of meaning in work. Theoretical and practical contributions as well as limitations of the research study are discussed.

Keywords: transformational leadership, well-being, psychosocial work environment, trust in management, meaningfulness, job satisfaction
Introduction

“When good people have problems, managers and companies need to carry them. This should be a personal mission. If we learn to carry people when they most need it, we become a stronger community and we empower people in ways that we probably can’t imagine when we are young.” - Shane Rodgers, Editor at The Australian

Research has found that between a fifth and a quarter of the variation of an adult’s life satisfaction can be explained by satisfaction in the workplace (Harten, Schmidt, Keyes, 2002). Because people spend a great deal of their adult life in the work place, it is logical to assume that the psychosocial work environment is a great influential factor to people’s health and well-being. Prior research has shown that employee well-being is linked with employee productivity, and the success of the organization as whole (Harten, Schmidt, Keyes, 2002). It has also shown that it is affected by both the physical work and psychosocial environment (e.g., Gilbreath & Benson, 2004). Understanding employees' well-being within organizational boarders is important not only for ethical reasons, but also to plan, design, and execute appropriate and effective interventions. Interventions that help prevent employee suffering and promote well-being.

Depending on which level and perspective one takes, there might be several different answers to the question “who hold the responsibility of people’s well-being in the workplace?”. The formal organizational leaders have a substantial amount of power to impact the individual person’s life and the work place environment. It is the leaders within the organizations that are able to shape and impact the organizational culture which involves workplace norms and values (Bass & Avolio,1993; Jaskyte, 2004), as well as the work climate, and the physical work environment. It is the leaders who have the power to provide employees with the right resources, and create or change policies and procedures which enables employees to grow, and develop their skills and competences.

Research (e.g., Cherniss,1995; Van Dierendonck et al., 2004) demonstrates that employees perceptions of their work environment is associated with leadership behaviour (Nielsen et al., 2008). According to Sparks, Faragher, and Cooper (2001) leadership style is one of the main psychosocial work factor which is a concern in the 21 century workplace, as it has been linked with both positive and negative employee outcomes. For instance, a study conducted by Gilbreath and Benson (2004) indicated
that supervisory behaviour is the strongest predictor of employee well-being compared to other workplace factors. The interest in understanding the effects leaders have on employee well-being has grown over the past three decades (Tafvelin, Armelius, Westerberg, 2011). Several studies have discovered that leadership behaviour affects employee well-being within and without the workplace boundaries (e.g., Kauppala et al., 2008; Skakon, et al., 2010). One of the most well-documented leadership styles is transformational leadership. Transformational leadership has been associated with several different positive organizational outcomes, including employee well-being. However, the process of this association is poorly understood (Nyberg, Bernin, Theorell, 2005), and some researchers propose that this association may be indirect.

On the basis on previous findings within the leadership and occupational health literature, the aim of this thesis is to explore the mechanisms involved in the association between transformational leadership style and employee well-being. The objective is to further increase our knowledge of how leaders influence employees’ well-being. The first part of the thesis will provide a review of the concept leadership, in particular transformational leadership, as well as well-being. Secondly, an overview of the current empirical research and the hypotheses of my research study will be provided. This will follow with a description of the methodology used in this study to explore the hypothesis, and then the empirical results. The last part of the thesis will provide an in-depth discussion of the results and my finale conclusions.

Transformational leadership

According to Hogan & Kaiser (2005) leadership is an important topic within organizations, as good leadership leads to successful and effective organizations which eventually leads to financial and psychological well-being for employees, executives, stakeholders and citizens (Hogan & Kaiser, 2005). It is also an important topic in human science (Yukl, 2012), and it is a concept which has long excited interest among researchers. However, it was not until the late twentieth century the concept of transformational leadership (TL) started to emerge. TL was firstly introduced by James MacGregor Burns (1978) who suggested that there are two forms of leadership transformational and transactional. Burns described TL as a process whereby “leaders and followers raise one another to higher levels of morality and motivation” (Burns, 1978) (Givens, 2008 p.5). Over the past 30 years, TL research has grown and become the most researched leadership theory out of all other leadership theories combined,
and is currently dominating leadership research (Avolio et al., 2009; Judge & Piccolo, 2004; Westerlaken & Woods, 2013). The reason for its growth is due to its effectiveness relating to a number of different positive organizational and employee outcomes. The literature shows, that (TL) is related to subordinates extra effort and the tendency to go the extra mile for the organization (OCB) (e.g., Barling et al., 1996), commitment to the organization (e.g., Koh et al., 1995), managerial satisfaction and effectiveness (e.g., Michel et al., 2011), employee job satisfaction (e.g., Judge & Piccolo, 2004), creative performance (e.g., Hoyt & Blascovich, 2003). It has also been linked to positive group processes such as increase level of group effectiveness (e.g., Bass, et al., 2003), collective efficacy (Kark et al., 2003), and group cohesiveness (e.g., Hoyt & Blascovich, 2003).

Within the occupational health literature studies have showed that workplace factors, such as leadership behaviour, predict workplace ill health (e.g., Landeweerd & Boumans, 1994; Tepper, 2000). On the contrary, positive leadership behaviours similar to TL, might prevent employee bad health and improve employee well-being (Skakon et al., 2010). Burns version of leadership has been developed several times sense his introduction, and one the most widely used versions was conducted by Avolio & Bass (1991). Unlike Burns model, Avolio and Bass’s (1991) the full range leadership model includes an additional leadership component, namely Laizze-faire leadership style (Avolio, et al., 2003; Kelloway et al., 2012).

According to this model TL is composed by four different behavioural dimensions: inspirational motivation, intellectual stimulation, idealized influence or charisma and individualized consideration. 1) Inspirational motivation refers to a leader who communicates a convincing vision of the future, promotes powerful symbols to followers, and motivates followers to make greater efforts. This enables followers to achieve beyond their expectations and to feel a sense of belonging (Nyberg, Bernin, Theorell, 2005). 2) Intellectual stimulation refers to the TL ability to encourage followers to think of problems in new ways and perspectives, and to find answers to their own questions themselves (Nyberg et al., 2005; Arnold et al., 2007). 3) Idealized influence refers to the charismatic characteristic of the leader and their ability to exhibiting moral behaviours and doing what is “right”, express dedication and self-sacrifice to benefit of the followers. Consequently, the TL is regarded as a role model, and followers identify with their leader (Nyberg et al., 2005; Arnold et al., 2007; Yukl, 2012). Lastly 4) Individualized consideration refers to a leader who treat followers as a person, and
takes their time to listen to their concerns and support them, listen to their ideas, coach, and encourage the followers and demonstrate appreciation of their achievements (Arnold et al., 2007; Nyberg et al., 2005).

**Well-being**

The definition of well-being seems to vary depending on researchers’ specific domain. Nevertheless, it is largely accepted that well-being can be conceptualized in two ways. Firstly, well-being can be defined and measured in relation to actual symptomatology and epidemiology rates, whereby the definition encompasses both the psychological and physiological presence of illness or disease (Danna & Griffin, 1999). Secondly, well-being can be defined in relation to mental, psychological or emotional states of workers (Danna & Griffin, 1999). For the past decade or so, there has been a rise of positive psychology among organizational researchers (Fisher, 2010). This has allowed researchers to focus on positive experiences as opposed to the previously dominate total attention on the disease model, which focus on negative states and outcomes such as illnesses, stress, burnout, and depression (Fisher, 2010).

Within the psychology domain, there are three defining characteristics of well-being; firstly, well-being is a phenomenological experience, thus people rate their level of happiness based on their subjective belief of how happy they are (Wright & Cropanzano, 2000). Secondly, it also contains an emotional aspect, whereby psychologically well individuals tend to experience more positive emotions than negative ones (Wright & Cropanzano, 2000). Third, well-being is often considered to go beyond physical health and encompass the “the whole person” as well (Danna & Griffin,1999).

**Occupational Well-being**

Within an organisational context, well-being in the workplace is often operationalized based on employee affective well-being. Affective well-being is conceptually similar to the medical criterion of “ill” and “not ill” (Danna & Griffin, 1999). It is often treated within the pleasure–displeasure axis (Van horn et al., 2004), which consists of positive vs. negative emotional experience such as anxiety–comfort, depression–pleasure, boredom–enthusiasm, tiredness–vigour and anger–placidity (Daniels, 2000). Thus, many current measuring instruments for occupational well-being primarily tap into this affective dimension (Van horn et al., 2004). Specifically they tend to tap into the
pleasure-displeasure axis in a work context, as empirical evidence indicates that this axis accounts for most of the covariance in affective well-being (Daniels, 2000).

Some researchers believe it is important to measure both context free e.g. life satisfaction, and context related aspects of well-being (e.g., Danna & Griffin, 1999). However, Warr (1987, 1994) argued that there is an advantage to focus on context specific elements of well-being, as job related antecedents e.g. intrinsic job factors, and work relationships, are stronger for job related well-being (Van horn et al., 2004). Similarly, Van Horn, Taris, Schaufeli, & Schreurs (2004) concluded that affective well-being (e.g., mood, emotional exhaustion) constitutes the core of occupational well-being. They also argued that cognitive weariness at work (e.g., capacity to take up new information and loss of concentration) and psychosomatic complaints (e.g., headaches and back pains) also play a part in occupational well-being. This is because prior research (e.g., Broadbent et al., 1982; Taris et al., 2001) has found that these are linked with affective well-being (Van horn et al., 2004). Based on these arguments, this paper conceptualizes well-being in the context of work and affective components. Thus, measures of well-being used in this study will incorporate measure of context related affective well-being (emotions at work), physical well-being (cognitive and psychosomatic complaints), and health measures taping into stress, sleep and burnout.

Transformational leadership and employee well-being

Several empirical studies have demonstrated a specific relationship between TL and subordinates well-being (e.g. Arnold et al., 2007; Densten, 2005; Seltzer et al., 1989; Sivanathan et al., 2004). Kelloway et al. (2012) argued that each components of TL leadership are relevant to employee’s well-being. Thus, idealized influence allows leaders to be guided by ethical reasoning when they commit to their employees, and are able to take actions which benefit their employees’ health and well-being in the long-term. They are also able to consider the organization as a whole, rather than their own short term self-interest. Leaders who exhibit individual consideration focus on employees need for achievement and development, and demonstrate empathy and compassion, and provide employees with guidance and support which impacts the employee’s wellbeing, but also fosters a supportive team climate within the organization. Empirical evidence indicate that leadership support leads to higher employee well-being (e.g., Gilbreath & Benson, 2004), less burnout (e.g., Price & Weiss, 2000; Tourigny, et al., 2005), less stress (e.g., Moyle, 1998) and less
psychosomatic complaints (e.g., Elfering et al., 2002), positive affective well-being (e.g., Gilbreath & Benson, 2004).

Frank & Felfe (2011) suggested that the components idealized influence and individual consideration influences employees own self-concept by providing application and empathy, which fosters perceptions of confidence and trust, which eventually leads to decreased perceived strain (Zwingmann et al., 2014). Through Intellectual stimulation, employees are able to make sense of their situation and to feel an increased sense of self-confidence when solve when they solve work related problems in their own way they and achieve beyond their own expectations and also enables them to make sense of their situation. This in turn enhances their well-being (Kelloway et al., 2012). Intellectual stimulation could also influence employee’s task clarity, and decrease uncertainty and ambiguity, when the leader describes expected performance (Liu et al. 2010), which in turn leads to low levels of perceived stress and less stress symptoms (Liu et al. 2010). Thus, empirical research seems to support the positive effect of transformational leadership on employee well-being, especially the dimension individualized influence and individualized consideration. Therefore, based on these theoretical arguments and empirical findings, this study hypothesises that perceived transformational leadership leads to higher employee well-being.

\[ H1: \text{There is a positive relationship between perceived transformational leadership and employee well-being.} \]

Despite the vast amount of studies conducted on TL and its relation to outcomes, the influence process of TL is, according to many researchers still poorly understood (e.g., Avolio et al., 2009; Van Knippenberg, & Sitkin, 2013). According to Bass (1999), further examination of the process of TL is needed. Although Bass conclusions still ring true, some researches have since then explored different aspects of TL, such as the antecedents of TL (e.g., Wright & Pandey, 2010; Bono et al., 2012), moderators of TL and outcomes (e.g., Zhu, Avolio, & Walumbwa, 2008), as well as mediators that directly or indirectly effect TL and outcomes (e.g., Eisenbeiss et al., 2008). However, research in this area is still lacking, in order to fully explain how and why TL influences employee’s attitudes, motivations, behaviours and well-being. Thus, this has led the process to be referred to as the “blackbox” of TL (Avolio et al., 2009; Yukl, 1999).

The aim of this paper is to investigate the mechanisms between TL and employee well-being, through mediation analysis. The mediation process examines potential
intervening or mediating variables which function as a connection between TL and wellbeing. Several studies have indicated that employees perceived work characteristics, such as meaningfulness (Arnold et al., 2007; Nielsen et al., 2008) and trust in leadership (Liu, Siu, Shi, 2010; Kelloway et al., 2012), mediates the relationship between TL and employee well-being. However, previous research often considers job satisfaction as an outcome or antecedent of TL and well-being. In order to find a significant mediation, it is important to demonstrate that TL and well-being is related. It is also important that these two variables relate to each mediating variable. Based on the model for mediation and previous empirical evidence, it only seems logical to assume that employees' satisfaction with their jobs, sense of meaningfulness at work and trust in their leader, could potentially be mediating the relationship between TL and well-being. Thus, the following section will demonstrate the theoretical reasoning behind this proposed mediation model.

**Transformational leadership and the mediating variables**

According to the empirical evidence, TL is positively linked with employees trust in leader (e.g., Podsakoff et al. 1990, 1996; Dirks & Ferrin, 2002), a sense of meaningfulness at work (e.g., Brossoit, 2001; Sparks & Schenk, 2001; Nyberg et al. 2005), and increase level of job satisfaction (e.g., Podsakoff et al., 1990; Fuller et al., 1996; Nielsen et al., 2009; Turner et al., 2002; Djibo, et al., 2010; Kovjanic et al. 2012). The literature suggest that TL adhere to employees basic psychological needs such as relatedness, by showing concern, consideration, and support to their employees (Arnold et al., 2007). This in turn confirms their needs and feelings and fosters a sense of meaningfulness, moral purpose, and commitment to their work (Arnold et al. 2007). Empirical evidence also indicate that leadership support leads to higher job satisfaction (e.g., Moyle,1998; Sellgren et al., 2008).Through the dimension *individualized consideration* TL develop deep relationships with their employees, and as a consequence instils trust and respect (Den hartog et al., 2002), and positive affective response such as job satisfaction (Butler et al., 1999; Liu et al., 2010).

The dimension *inspirational motivation* allows the leader to also foster meaningfulness and job satisfaction. TL ability to communicate a shared future vision has been argued to influence employees to be optimistic regarding future goals, and thus to feel a sense of meaning for the task at hand, and to see a higher purpose in their work, as they are able to understand where they fit in (Nielsen et al., 2008). This in turn increases employees' personal core values, and increases the likelihood of employees to perceive
their work as purposeful, motivational, and important (Nielsen et al., 2008). Furthermore, providing a future vision, as well as other TL behaviours such as leading by example, coaching, developing employees and share information, has been argued to energize and empower employees (Arnold et al., 2007). Empirical evidence indicates that empowerment increases levels of job satisfaction (e.g., Appelbaum & Honegger, 1998).

Furthermore, Ghadi, Fernando, Caputi (2013) suggest that TL component intellectual stimulation leaders encourage employees to find their own solutions to their problems and to be creative, thus employees perception of them self-enhances which increases their self-esteem and make work meaningful. This leadership behaviour will make employees feel safe to express their opinion without fear of being criticized. This help employees to control and prevent an environment where feelings of rejection, prejudice, and misunderstanding manifests itself, and thus preclude meaning in work to foster (Ghadi et al., 2013).

**Trust in leadership and well-being**

Previous research has found that employee trust in their leader mediate the association between TL and employee well-being (Liu et al., 2010; Kelloway et al., 2012). According to Liu, Siu, Shi (2010) and Kelloway et al. (2012) employees who trust their leader experience a sense of safety and comfort. This is because employees feel their leader cares about them, and therefor feel less exposed to being harmed by their leader, which leads to an increase in psychological safety. When the sense of risk and vulnerability is limited, through trust, it affects followers’s psychological well-being (Kelloway et al. 2012). To the contrary, Dirks & Ferrin (2002) argue that employees can experience a sense of psychological distress if they do not trust their leaders which can negatively affect their well-being. Kelloway et al. (2012) suggest that employees are consumed by emotional and cognitive energy when they distrust their leader, because their emotional and physical resources becomes reduced when the then attempt to safeguarding themselves from their leader.

**Meaningfulness and well-being**

Researchers (e.g., Frank, 1963) argue that finding meaning in different events increases peoples will to live (Arnold et al., 2007) and recognizes the benefits in stressful circumstances (Britt et al., 2001). The literature generally recognizes that people make evaluation of their life in affective terms i.e. as the experience of
unpleasant or pleasant emotions in reaction to life (Diener, 2000). Based on the *circumplex model*, work engagement is a sign of positive affective well-being, which is characterized by enthusiasm, energy and happiness, and the opposite of burnout, sadness and tiredness. Furthermore, Kahn’s *model of work engagement*, propose that meaningfulness, together with psychological safety and availability, are antecedent to work engagement. Studies have found positive association between engagement and health (e.g., Hallberg & Schaufeli, 2006; Schaufeli et al., 2008). For instance studies conducted by Demerouti et. al. (2001) and Rothbord (2001) found that those scoring high on engagement measures experience better physical and psychological health, and other studies have found that those that are engaged in their jobs, see their work as meaningful, relevant, and personally important (Britt, Adler, & Bartone, 2001). A study conducted by May et al. (2004) found that psychological meaningfulness was the strongest predictor (37% of the variance) of work engagement, and research conducted by Ghadi, Fernando, & Caputi (2013) found that perception of meaning in work mediated the relationship between TL and work engagement. Westaby, Versenyi, & Hausmann (2005) study found that intrinsic reasons for working, such as finding work as meaningful, was predictive of intention to work in individuals who were suffering from terminal illness. To the contrary, employed people compared with unemployed, experienced better psychological health (Arnold et al., 2007). According to Winefield & Tiggemann (1990) employment after graduating school has a positive effect on well-being (Arnold et al., 2007).

**Job satisfaction and well-being**

Research has shown that there is a strong link between job satisfaction and people's health and well-being. For instance a meta-analysis conducted by Fargher, Cass & Cooper (2005) on 485 cross-sectional studies found a correlation between job satisfaction and a variety of different health outcomes. These include outcomes such as burnout, self-esteem issues, depression, anxiety, and physical well-being. The researchers proposed that job satisfaction can have a positive affect on a person’s feelings about themselves and their life, which eventually reduces their health, especially their mental health (Fragher et al., 2005). Thus, the authors concluded that job satisfaction plays an important role for determining individual well-being. They further argue that there are good enough reasons to hypotheses that job satisfaction is a causal influence on health and mental well-being (Fragher et al., 2005). Other researchers have also highlighted the causal influence job satisfaction has on health.
and well-being. For instance, Kelloway and Barling (1991) identified job satisfaction as a key factor influencing people’s mental health. In addition, Zhai et al. (2013) proposed that job satisfaction can “spill over”, and influence subjective well-being.

A study conducted by Kern et al. (2014) indicated that positive emotions at work and physical health is positively correlated with job satisfaction, and negative emotions, whereas somatic symptoms were negatively related to job satisfaction. Based on all of these theoretical and empirical explanations, this paper expects to find a positive correlation between TL and all three mediating variables, and between all mediating variables and well-being, and therefor hypotheses to find a significant mediation between TL and well-being.

H2: Employee trust in their leader will mediate the relationship between perceived transformational leadership and well-being

H3: The relationship between perceived transformational leadership and well-being is mediated by the experience of meaningful work

H4: The relationship between perceived transformational leadership and employee well-being is mediated by job satisfaction

Method

Participants
The subjects in this study are all staff working in a large public psychiatric hospital. The hospital is divided and located in three different cities within a specific county in Sweden. Each city is similarly populated. The hospital provides both adult outpatient clinic and general psychiatric clinic. Care in the outpatient clinic caters to people with mental health problems, with or without referral, that require specialist care. Care in a general psychiatric unit offers care and treatment for various psychiatric conditions e.g. depression, anxiety, mania. Questionnaires were distributed to 200 employees, and 82 were returned, yielding a response rate of 41 %. The study participants were predominantly female (80 %), and the average age between 41-45 (M = 5,1, SD = 2,6 ) and they have been working in this particular workplace on average between 2-5 years (M = 3,5, SD = 1,83). The majority were healthcare’s (47 %), 22 % nurses, 19 % psychiatric nurses, 6% medical secretary,

\[ \text{Age was divided into nine categories. } M = 5.1, \text{ and represent the fifth category which include age between 41-45} \]

\[ \text{The b-values are the unstandardized regression coefficient that indicates the strength of relationship between a given predictor of many and an outcome in the units of measurement s of the predictor. It is the change in the} \]
3 % occupational therapist, 2 % psychologist, 1 % social workers. Eight managers in total were rated by their employees.

**Procedure**
The HR department of the hospital was approached via email and telephone by the researcher asking whether they wanted to take part in the study. The study was introduced to the subjects by their respective leader, thus each leader received a letter detailing the purpose of the study from the researcher. The questionnaires were then handed out to the subjects by their respective leaders. In order to adhere to ethical principles, each questionnaire included an introduction which highlighted the purpose of the study, confidentiality and anonymity, and their right to withdraw from the study. The respondents were reminded that this study intend protect respondents’ and the organizations identity. Due to the sensitive nature of rating one’s own boss, the subjects were urged to hand in their answers in an envelope with the researchers address on it, in order to further assure their anonymity. However, one of the subjects did report to the researcher that this procedure was not followed within one unit. However, the researcher contacted HR and all leaders were reminded again via email to provide an envelope for all subjects taking part in the study. No other complains emerged.

**Measurements**
The TL, trust in leadership and job satisfaction scales, were translated into Swedish, and back translated into English by the researcher. These scales were later reviewed by English to Swedish translation expert, and by the supervisor of this thesis. Based on their feedback, some corrections were made. All six scales were piloted for this particular study on a small group of Swedish speaking participants (n=7), in order to ensure that the questions were understandable. The first participant, provided some feedback, and some additional corrections were made. The remaining six participants found that the questionnaire was not too long and the questions were understandable.

**Transformational leadership** This was measured using the *Global Transformational Leadership Scale (GLT)* developed by Carless, Wearing, and Mann (2000). The instrument includes seven items which measures all underlying dimensions of TL including vision, employee development, supportive leadership, empowerment, innovation or lateral thinking, led by example or role modelling and charismatic leadership (Carless, et al., 2000). Examples of items are “*My leader communicates a
clear and positive vision of the future” and “My leader encourages thinking about problems in new ways and questions assumptions.” Response categories ranged from 1 = To a very small extent, to 5 = to a very large extent. The GLT has been found to have higher convergent validity than the Multifactor Leadership Questionnaire (MLQ) (Carless, et al., 2000). Furthermore, previous Cronbach alpha for this scale was calculated as .93, which indicates that the GLT is a highly reliable measure of TL. Carless et. al. (2000) also reported significant Discriminant validity for this scale when the test compared groups of managers who would be expected to have different scores on the GLT. Furthermore, they also tested for convergent validity which indicated that the GLT was highly correlated with other TL measures such as the MLQ and the Leadership and the Leadership Practices Inventory (LPI). Cronbach alpha calculated in this study was .96.

**Well-being**

**DNA.** The health section of the *Det nya arbetslivet (DNA)* instrument was used to measure well-being. It was developed by Metodicum and *The stress research institute* part of Stockholm University, based on good theoretical foundations. Four subcomponents out of the eight components included within the health section of DNA were used for this particular study; 14 items measuring emotions at work, three items measuring psychosomatic stress, three items measuring cognitive stress, and one item measuring general health. Response rate on the emotions at work scale ranged from 1 = to a very high degree, to 4 = to a very low degree/not at all. Example of an item is “to what extent do the following words describe how you feel during a normal working day at the job: Happy”. The psychosomatic stress was reported on response scale which ranged from 1 = yes, to 4 = No almost never/never. An example of an item is “How often, during the last three months have you had headache?”. Response rate on the cognitive complaints scale ranged from 1 = always, to 5 = never. Example of an item is “How often, during the last three months, have you had problems with concentration?”. This instrument has been found to have good validity and reliability. The questions included in DNA are also included in The Swedish Longitudinal Survey of Occupational Health (SLOSH) (Oxenstierna et al., 2008). Previous Cronbach alpha for psychosomatic stress has been found to be .68, and .88 for cognitive stress (Oxenstierna et al., 2008). Cronbach alpha found in this study include .59 for emotions at work, however the mean inter-item correlations for this scale was 2.7 with values ranging from 1.8 to 3.7. For psychosomatic stress Cronbach alpha was found to be .66 and .83 for cognitive stress.
COPSOQ II. Questions in the wellbeing scale revolving stress, burnout, and sleep problems were taking from the Swedish version of *The Copenhagen psychosocial questionnaire (COPSOQ II)*. This instrument was developed by the *National research centre for the working environment (NRCWE)*. Each scale had four items with five response options which ranged from 1 = Always, to 5 = Never/hardly ever. Examples of items include “How often have you had problems relaxing?”, “How often have you felt worn out?”, and “How often have you found it hard to go to sleep?”. The instrument, has been found to show good validity and reliability (Bjorner & Pejtersen, 2010; Thorsen & Bjorner, 2010). COPSOQ is based on good theoretical foundations, and has been used in several studies (e.g. Aust et al., 2007; Kristensen et al., 2005; Nielsen et al. 2008). Furthermore, Bjorner & Pejtersen (2010) found that external variables such as gender, age, education, social class, employment in private or public sector had no statistical significant differential item functioning (DIF) effect on all three scales. On a population of n = 3517, Pejtersen et al. (2010) found high Chronbach alfa levels of .83 for burnout, .86 for sleep and .91 for stress. Chronbach alpha in this study was found to be .57, .82, and .64, respectively.

**Job satisfaction.** The *satisfaction with job facet questionnaire* developed by Andrew and Withey (1976) was used for this study. The measure uses five items to measure satisfaction with specific job facets such as work in general, work demands, work environment, work supervision, and the work itself (Fields, 2002). Answers for this measurement was reported on a scale ranging from 1 = terrible, to 7 = delighted. Examples of item is “How do you feel about your job?” and “What is it like where you work --- the physical surroundings, the hours, the amount of work you are asked to do?”. The scale has both good reliability and validity. The questionnaire has been found to positively correlate with organizational commitment, supervisory rated performance, positive conversations with boss, amount of decision making, and mental efforts required (Fields, 2002). The measure has also previously been found to positively correlate with satisfaction on scales from *the Minnesota satisfaction questionnaire* and *the job descriptive index (JDI)* (Fields, 2002). It has also been found to correlate with JDI work facets such as pay, supervision, promotions, co-workers, and the work itself (Fields, 2002). Previous studies conducted by McFarlin & Rice (1992), Rentsch & Steel (1992) Steel & Rentsch, (1995, 1997), found that chronbach alpha levels for this scale range from .79 to .91 (Fields, 2002). Chronbach alpha in this study was found to be .83.
Trust in leader. The *managerial interpersonal trust instrument* developed by McAllister (1995) was used in this study to measure subordinates trust in their leader. This instrument measures two dimensions of trust including affective and cognitive trust. A total of six items were used to assess affective trust e.g. “*I can talk freely to this individual about difficulties I am having at work and know that (s)he will want to listen*” and five items to assess cognitive trust e.g. “*Given this person’s track record, I see no reason to doubt his/her competence and preparation*”. Answers for this measurement was rated on a scale ranging from 1= strongly disagree to 7= strongly agree. The instrument has acceptable convergent, discriminant, nomological validity (McEvily & Tortoriello, 2011). The instrument is based on good theoretical foundation, and initially the instrument was tested within an organizational context (McAllister, 1995). The instrument has also been used in over 12 studies (Dietz et al., 2006). Furthermore, the instrument showed a good reliability. McAllister (1995) conducted a confirmatory factors analysis on this instrument, and the analysis showed that chronbach alpha levels for all items met or exceeded .90, which indicates that the measure meets the standard criteria for acceptability (McAllister, 1995). Chronbach alpha in this study indicated .93.

Meaningfulness at work. This was measured by using the subcomponent *Meaningfulness* part of the Swedish version of *The Copenhagen psychosocial questionnaire (COPSOQ II)*. Three items were used to measure meaningfulness at work e.g. “*Is your work meaningful?*” and answers for this measure were rated on a scale of 1=To a very small extent and 5= To a very large extent. Chronbach alpha levels for this scale has been found to range from .66 to .63, in a longitudinal study with a similar RQ as in this current study (Nielsen et al., 2008). Furthermore, it has been used in several different countries including Sweden as well as within a variety of both private and public occupational sectors including the health services. It has also been tested across different professions, age, and gender (Nielsen et al., 2008). Chronbach alpha in this study indicated .85.

Data analysis

A parallel multiple mediation analysis with the bootstrapping method (Preacher & Hayes, 2008) was performed. Mediation analysis is a statistical method used to help answer the question to *how* the causal or antecedent variable TL (x) transmit its effect on well-being (Y), by adding a third mediating variable (s) (M) which may explain that relationship (Field, 2013; Hayes, 2013). The conceptual model test mediation through a
series of regression models. These models indicate the relationship between the antecedent variable and the outcome variable, which must show a significant direct effect in order to perform a mediation analysis. The models also indicate whether these two variables are related to a third intervening variable (s) i.e. the mediator, in a specific way. Lastly, the models show whether the relationship between antecedent variable and outcome variable is different when the mediator is included in the model, and the other mediators in the model are hold constant. This is called an indirect effect.

The analysis examines these following pathways:

a) The relationship between TL and employee well-being (Path c)
b) The relationship between TL and M (Path a)
c) The relationship between M and employee well-being (Path b)
d) The relationship between TL and employee well-being, when M is included in the model, and all other mediators are hold constant (Path c’)

Thus, a full mediation is said to have occurred when TL and employee well-being is no longer associated when the mediation variable is accounted for in the model (i.e. regression for path c’ is insignificant). A partial mediation has occurred when TL predicts well-being much less when the mediation variable is in the model (i.e. regression for part c’ is less than for path c). Prior to conducting the main mediation analysis all variables were tested for correlation using Spearman’s correlation coefficient test.

Results
As part of the preliminary analyses descriptive statistics were computed. A reliability test was performed in order to test the reliability of all the scales, the results were mentioned in the method section, and the test showed that all scales had acceptable chronbach alpha values. However the emotions at work component of the DNA scale and the burnout component of the COPSOQ II scale, had relatively low chronbach alpha values and inter-item correlation for the emotions scale exceeded 1.00. Thus, this may effect the reliability of these two scales. All the variables were tested for heteroscedasticity, and the Anova test was insignificant F (4, 31) = .199, \( p = .937 \) and thus \( H_0 \) of homoscedasticity assumption was accepted and \( H_1 \) for heteroscedasticity was rejected. All variables were assessed for skewness and kurtosis. As trust in leader scale, TL and meaningfulness was positively skewed, and both Kolmogorov-simirnov and Shapiro walks test for normality was significant for these respective scales, the data violated the assumptions for a parametric normal distributional test. Thus, all variables were tested
for correlation using Spearman’s correlation coefficient test (see table 1). The results indicated that there was a strong, positive monotonic correlation between TL and employee well-being ($r_s = .403, p < .001$), TL and trust in leader ($r_s = .830, p < .001$), TL and job satisfaction ($r_s = .545, p < .001$), but no significant correlation was found between TL and employees sense of meaningfulness at work ($r_s = .138, p = n.s.$). Contrary to expectations, the test indicated that there was no significant relationship between meaningfulness at work and well-being ($r_s = .194, p = n.s.$). However, the test indicated that there was a positive relationship between trust in leader and employee well-being ($r_s = .309, p < .005$), well-being and job satisfaction ($r_s = .47, p < .001$).

<table>
<thead>
<tr>
<th>Scale</th>
<th>M</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Meaningfulness</td>
<td>12.5</td>
<td>1.9</td>
<td>6</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Trust in leader</td>
<td>49.6</td>
<td>13.5</td>
<td>14</td>
<td>73</td>
<td>.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Job satisfaction</td>
<td>25.0</td>
<td>3.8</td>
<td>15</td>
<td>35</td>
<td></td>
<td>.39**</td>
<td>46**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Transformational Leadership</td>
<td>23.7</td>
<td>7.2</td>
<td>7</td>
<td>35</td>
<td>.13</td>
<td>.83**</td>
<td>.54**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Well-being</td>
<td>108.0</td>
<td>11.0</td>
<td>82</td>
<td>128</td>
<td>.19</td>
<td>.30**</td>
<td>.47**</td>
<td>.40**</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: N for correlations = 82
M= Mean
SD= Standard deviation
**p <.01 (2-tailed) *p <.05 (2-tailed)

A parallel multiple meditational analysis with 1000 bootstraping was run. As can be seen in figure 1 and Table 2, the results revealed that when controlling for other mediators in the model, and for cofounding variables such as workplace tenure, time spend with the boss, and age, there was a significant relationship between TL and job satisfaction ($a^3 = 0.254, p < .001$), and job satisfaction and employee well-being ($b^3 = 1.143, p = .003$). Path c was also significant, which indicated that there was a direct relationship between TL and employee well-being ($c = .53, p < .05$). Based on these significant results, a mediation analysis was conducted to test whether path c significantly changed when job satisfaction was included in the model (path c'). The test showed that job satisfaction fully mediated the relationship between TL and employee well-being, as the direct relationship between TL and employee well-being changed from significant ($c = .53, p < .05$) to
insignificant path $c'^2 (b= 0.460, p = .215 )$. There for the test shows that there is a significant indirect effect of TL on employee well-being through job satisfaction, $b = 0.285$, 95% CI [0.10, 0.54], sobel test also indicated a positive mediating effect (SE= .114, $z = 2.49, p < .05$) with an effect size of 28, 5%. Thus, the test accepts both H1 and H4. Consistent with the spearman’s correlation test mediation analysis indicated that the relationship between TL and trust in leadership was significant ($a^1 = 1.66, p < .001$), and regression model showed that perceived TL behaviours explains about 81.1 % of the variance in employee trust in their leader ($R^2 = 0.811$, $F (4, 74) = 79.4, p < .001$). However, the relationship between trust in leader and employee well-being ($b^1 = -.120, p = .531$), and the indirect effect of TL on employee well-being through employee trust in leadership was insignificant $b = -.207, 95 \% \text{CI} [-.74, .32]$. Thus, the test rejects H2. Contrary to expectations, the test indicated that there was insignificant relationship between TL and meaningfulness ($a^2 = .110, p = 0.25$), employees sense of meaningfulness at work and their well-being ($b^2 = -0.175, p= .794.$). Thus, the test also rejects H3, as no significant meditational effect of TL on employee well-being through employees’ sense of meaningfulness at work $b = -.003, 95 \% \text{CI} [-.12, .02]$.

<table>
<thead>
<tr>
<th>Antecedents</th>
<th>M1 (Trust)</th>
<th>M2 (Meaningfulness)</th>
<th>M3 (Job satisfaction)</th>
<th>Y (well-being)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X (TL)</td>
<td>Coeff.</td>
<td>SE</td>
<td>$p$</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$a_1$</td>
<td>1.660</td>
<td>.093</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>M1 Trust</td>
<td>$a_2$</td>
<td>.0110</td>
<td>.023</td>
<td>.525</td>
</tr>
<tr>
<td>M2 Meaningfulness</td>
<td>$b_1$</td>
<td>-.120</td>
<td>.190</td>
<td>.531</td>
</tr>
<tr>
<td>M3 Job satisfaction</td>
<td>$b_2$</td>
<td>-.175</td>
<td>.670</td>
<td>.794</td>
</tr>
<tr>
<td>Constant</td>
<td>iM1</td>
<td>10.34</td>
<td>2.310</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>R²</td>
<td>0.811</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F (4, 74)</td>
<td>79.4, p &lt; .001</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Regression coefficients, Standard Errors, and model summary information

2 The $b$-values are the unstandardized regression coefficient that indicates the strength of relationship between a given predictor of many and an outcome in the units of measurement s of the predictor. It is the change in the outcome associated with a unit change in the predictor (Field, 2013)
Figure 1: A statistical diagram of the parallel multiple mediator model

Discussion

The aim of this study was to investigate the relationship between TL and employee well-being, and to examine the mediating role of meaningfulness, trust in management, and job satisfaction between these two variables. From a parallel multiple mediation analysis the result indicated that TL significantly correlated with employees trust in leader, employee job satisfaction, and employee well-being. In addition, TL indirectly influenced employee well-being through its effect on employee’s job satisfaction. The significant mediation results indicates that as exhibiting TL behaviours in the workplace such as, communicating a shared vision, coaching and mentoring, and encourage employees to engage in problem solving may increase employees job satisfaction, which then “spill over” and increases employee well-being. Although, generally meditational effects are conceptualized as causal (Arnold et al., 2007), the proposed model is based on cross-sectional data. Therefor this study does not conclude any causational effect based on these results. Future research should use longitudinal analyses in order to account for variation over time, which may help to conclude causal interferences of TL on employee well-being through job satisfaction. Nevertheless, this model provides further understanding, and a good basis for future studies to investigate this further in order to get a better understanding of the relationship between these three variables.

Contrary to previous research (e.g. Liu et al., 2010; Arnold et al., 2007; Nielsen et al., 2008; Kelloway et al., 2012) and H2 and H3, the mediation analysis did not find that TL
effects employee wellbeing through employees trust in their leader and a sense of meaningfulness at work. Using spearmans correlation test, a positive correlation was found between trust in leadership and employee well-being. However, the mediation analysis indicated that trust in leader was not significantly correlated with employee well-being, which indicates there is no mediation. It possible that path b was not statistically significant due to multicollinerity between TL and Trust in leader, as these two variables were found to be highly intercorrelated .81. If TL explains all the variation in employee well-being, there will not be any unique variation caused by employees trust in leader, which may explain the variance in employee well-being. The measurement scales used in this study for TL and trust in leadership are quite problematic, as they ask fairly similar questions. Thus, it could be possible that these two variables in reality can be equally regarded as one predictor variable. A study conducted by Arnold et al. (2007) found that mediation between TL and wellbeing, through trust in leadership was only significant at the individual level, and not the group level. The researchers concluded that it is the individual experience with a particular leader that predicts employee well-being, rather than the shared perception among employees of a particular leader (Arnold et al. (2007). Based on this logic, another plausible explanation of the insignificant results could be that there might be some individual differences that are not present in the model, which may affect whether a participant trust in leader will affect their well-being.

Similar reasons may explain the insignificant mediation found for the variable meaningfulness. Individual differences in work values i.e. employees implicit beliefs whether work should be meaningful, may have influenced the relationship between meaningfulness and employee well-being. Future studies may also want to include other covariates, in order to find different results. Because the relationship between TL and meaningfulness at work has previously been found, it could also be possible that the conceptualization of the meaningfulness scale used in this study did not correlate with TL. Thus, future research should consider other measures of meaningfulness which taps into different conceptualizations, in order to find a relationship between these two variables (Arnold et al., 2007).

**Study limitations**

There are some limitations to this study which should be considered for those interpreting the results. Firstly, it is important to note that the sample size is small (N=82) in regards to the aims of this study and the statistical methodology. According to
Ma & Zeng (2014) the sample size in a study needs to be sufficient enough to reach an adequate statistical power of 0.8. Statistical power helps calculate the probability of accepting an alternative hypothesis after rejecting a false null hypothesis. Therefore it is important to calculate power analysis for a multiple mediation model prior to data analysis. This way one is able to confirm how many samples are required and decide whether to increase sample size in order to reach a power of 0.8. Although bootstrapping method was applied in this study, power analysis was not conducted, which increases the risk of making a type II error and thus may impact the interpretation of the results. According to Ma & Zeng (2014) low power is one possible reason for no statistically significant results being identified in a study. Based on these arguments, this study may have underestimated the existence of a meditational effect of meaningfulness and trust in leadership variables due to the small sample size. Secondly, even though the measurement of well-being used both context free and context related assessments of well-being, it did not include object measurements e.g. blood pressure, and other measures taping into subjective well-being e.g. life satisfaction.

Thirdly, the results are found based on cross-sectional data as mentioned earlier, but also the data rely on answers on all scale from a single source. This raises the risk that the relationship found between the variables in this study is influenced by common method variance. Although most of the measures had good reliability except the emotions at work component, and burnout, and validity, it may have been possible that the length of the questionnaire affected the response rate, as only 41 % answered the questionnaire. The lengthy questionnaire could have also affected the answers on the questions. The low response rate could also be due to the fact that I was not present at the workplace the data was collected from, but rather the data was distributed by the participant’s bosses. Another limitation is that one leader was collecting the data at his/her office, rather than providing an envelope to the employees. Due to the sensitive nature of the study questions and that participants (employees) were asked to rate their leader, it could have affected the response rate and may also have skewed the data. Unfortunately I was unable to perform a statistical test which could have explored for any differences among groups of employees. This is because it was impossible to trace which sample belonged to what particular leader, as the samples were mixed and arrived in an envelope.
Theoretical implications and future research

The findings of this study have some important theoretical implications, as it is able to support previous research (e.g. Liu et al., 2010) which have found a significant correlation between TL and the mediating variables. The results also supports previous researchers who have found that TL is related to an increase in job satisfaction (e.g. Podsakoff et al., 1996), and proposed that job satisfaction may cause employee wellbeing (e.g. Fragher et al., 2005). Furthermore, these results adds to the current literature as it demonstrated that it is possible to consider job satisfaction also as a potential mediator rather than just as an antecedent variable or an outcome variable of TL and employee well-being.

Theoretically, job satisfaction in this study was measured based on components such as satisfaction with work in general, work demands, work environment, work supervision, and the work itself. Because the TL measurement in this study refers directly to the supervisors behaviour, it is possible that TL had a strong direct effect on one component of the job satisfaction measure i.e. satisfaction with work supervision (Liu et al., 2010). Furthermore, the current literature suggests that certain components of TL inspirational motivational and individualized consideration increases employee’s job satisfaction.

Although the aim of this study was not to investigate different forms of TL and job satisfaction, the measurements used in this study may suggest that certain facets of TL and job satisfaction correlated with each other. Future research should examine these elements, in order to extend our theoretical knowledge regarding which specific aspects of TL influences particular facets of work which are relevant for employees’ satisfaction. This is important for both practical and scientific reasons. Firstly, in addition to increasing our theoretical knowledge of the relationship between these variables, researchers are able to improve and use appropriate measurements of TL and job satisfaction in line with their research question. Secondly, practitioners in organisations are able to design goal specific interventions. For example, if the aim is to increase employee satisfaction through improving relationships between supervisors and employees, interventions could focus on coaching specific TL behaviours which are in line with their goal.

Future research could also focus on investigating the effects of intervention programs that aim towards developing leaders transformational behaviours. Leadership development focus on changing the leaders in order to change the employees, however
it could also be possible that leadership development influence leaders own well-being, as they enhance their attitudes and self-efficiency. Furthermore, leaders own perception of their psychosocial environment may also influence whether they exhibit TL behaviours. Thus, it would be interesting if future research investigate what workplace factors encourage such behaviours, and how leaders own well-being is influenced by this process. This may provide further information on how leaders TL behaviours can be encouraged, and provide a more holistic picture of how TL and employee well-being can be promoted in the workplace.

Conclusions
Despite the limitations in this study, the results provide some theoretical contribution to the field. Firstly, this study was able to replicate previous findings which demonstrate a positive relationship between TL and employee well-being. Secondly, the results also extend the research area in the sense that it has increased our knowledge about the mechanisms involved of the influence TL behaviours have on employee well-being. In addition, this research paper also provides some practical contributions. The results suggest that it is possible to increase employees’ well-being, through leadership development interventions which effects employees’ perceptions of their psychosocial work environment. Organisations and employees can benefit from leadership training, which focus on applying positive TL behaviours e.g. communicating a shared vision. This way, organisations’ is able to implementing individual-level intervention on a small group, rather than organizational-level interventions that may involve the whole workforce. This makes interventions easier to control and organizations are also able to be both cost effective and efficient enough to increase the work force well-being. Organisations can also make these transformational behaviours more sustainable in the long term by using goal setting interventions. Thus, transformational training can be added into supervisors and managers yearly developmental assessments such as 360-degree feedback instruments and managerial skills surveys.

References


