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THE INFLUENCE OF LEADERSHIP
STYLE ON SAFETY CLIMATE,
LEVEL OF TRUST, AND EMPLOYEE
ENGAGEMENT

WITH UNCERTAINTY AVOIDANCE AS MODERATING FACTOR

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Abstract

Current study aimed to investigate the influence of leadership style on employee engagement via safety climate and employee trust. This potential effect was measured by means of a survey including Spanish and Dutch respondents in order to include probable moderating effects of culture in terms of varying levels of uncertainty avoidance. A survey was conducted aiming at discovering relationships between previously mentioned variables based on the following hypotheses:

H1: Transformational leadership will stimulate higher levels of safety climate compared to transactional leadership

H2: Employees with a higher uncertainty avoidance will show a higher level of safety climate compared to employees with a low uncertainty avoidance for transactional as well as transformational leadership

H3: Safety climate will positively influence level of trust.

H4: Employee trust will have a positive effect on employee engagement.

Results showed that leadership did not have a significant influence on safety climate nor was this effect moderated by uncertainty avoidance. However, uncertainty avoidance did demonstrate a significant direct effect on safety climate. Furthermore, safety climate turned out to be a significant predictor for employee trust. Subsequently employee trust was a significant predictor for employee engagement and therefore mediated the relation between safety climate and employee engagement.

In conclusion, supervisors should be aware of the high influence perceived level of safety has on employee trust and subsequently on employee engagement. Focussing on making employees feel safe seems to be highly beneficial when creating a committed workforce, even more so for employees with high uncertainty avoidance.

Keywords: Leadership style, safety climate, employee trust, employee engagement, uncertainty avoidance

Introduction

Research often points out the effects of globalization on companies. It has been stressed that this process has led to a more competitive environment on a global level, which demands effective leadership (Nanjundeswaraswamy & Swamy, 2014). Especially the increase of multi-cultural teams has raised the question which form of leadership is most adequate, as culture is often considered to have a determining influence on people's attitudes and behaviour. A lot of studies within the field of leadership focus on its effectiveness, regarding increased productivity, within this globalized environment (Nanjundeswaraswamy & Swamy, 2014).

More recently, research has connected leadership to the field of safety communication, specifically analysing how safety awareness can be linked to safety behaviour by means of a certain leadership style (Starren, 2016). Most studies determine the influence of leadership on occupational safety by virtue of number of incidents or injuries (Beus et al., 2010). This paper, however, will look into the attitudinal consequences of leadership instead of the actual outcomes of possibly improved safety behaviour. It will examine how leadership influences the perceived level of safety and how this will potentially influence employee's trust and emotional connection to the company, more commonly known as employee engagement. This more emotional view regarding the concept safety and its consequences seem to be underexposed in past research. Nevertheless, looking at safety on a more psychological level could be beneficial as psychological symptoms seem to mediate between safety climate and injuries or near-injuries (Goldenhar et al., 2003). This would imply that examining the role of perceived safety could potentially say more about safety climate in the workplace as psychological symptoms are one step ahead of actual injuries or near-injuries.

Moreover, linking this to employee engagement could potentially be valuable as this form of employee commitment can be seen as profitable for the employee and for the employer. Woodruffe (2006) points out the need of employees to feel commitment to the company as results show that people's decision to take on a certain job does not only seem to be influenced by the factor money these days. While from an employer perspective, employee engagement is favourable as it suggests to be a significant indicator of task performance (Dalal et al., 2012). In summary, one could say that employee engagement is the glue that holds a company together. It is what makes employees motivated to work for an organization and therefore results in profitable outcomes for the employer. It is what enables the company to function and prevents it from falling into pieces

A determining factor that is involved in creating employee engagement is trust (Woodruffe, 2006). As employee trust has frequently been linked to employee engagement and safety in past research, it seems to be assumable that employee trust mediates the connection of safety climate and employee engagement (Gausdal & Makarova, 2017; Kath et al., 2010; Ugwu, Onyishi & Rodríguez- Sánchez, 2014; Wang & Hsieh, 2013)..

Within this proposed model, culture will be included as a possible moderating factor. Snaebjornsson & Edvardsson (2013) pointed out the absence of this factor in literature concerning leadership. However, it is believed that this social factor is worth investigating. ‘People around the globe describe their lives in terms of national culture (Kramer, 2011, as cited in Snaebjornsson & Edvardsson, 2013).’ Elaborating on this believe Snaebjornsson and Edvardsson (2013) imply that leadership within organisations seems to be placed within a certain national context. Meanwhile, globalization is believed to stimulate new perspectives with regard to leadership. Globalization can be defined as ‘people becoming more connected across large distances, creating a new world society in which they do more similar things, affecting each other’s lives more deeply, following more of the same norms, and growing aware of what they share (Lechner, 2009).’ Imaginably, this suggest the possibility of a reduced effect of culture on processes related to attitude and behaviour. This study will examine whether this is the case. It will specifically investigate the influence of uncertainty avoidance, as that cultural dimension has been related more often to safety in previous research (Starren, 2016). Hence this study aims to address previously mentioned research gap by including this specific cultural dimension in the construct.

Theoretical framework

This study aims to disentangle relationships between the concepts leadership style, safety climate, uncertainty avoidance, trust, and employee engagement. In aspiration of contributing on a theoretical level to a practical issue. In order to create a clear overview of the construct used in this research all concepts will be discussed separately in the theoretical framework with a strong focus on already discovered relationships to one another.

Leadership styles

Leadership can be defined as ‘a social influence process in which the leader seeks the voluntary participation of subordinates in an effort to reach organization goals (Nanjundeswaraswamy &

Swamy, 2014, p. 57).’ Previous research has shown that different types of leadership have a differing influence on factors such as employee satisfaction, job performance, and organizational culture (Berson & Linton, 2005; Meng, 2014; Victor & Soutar, 2005). According to Nanjundeswaraswamy and Swamy (2014) these concepts are interconnected, meaning that leadership could potentially influence the overall quality of someone’s experiences at work.

Two commonly used leadership styles in previous research are transformational and transactional leadership. Generally, these two styles are considered to be the most contrasted approaches, which would explain the preference for researchers to make use of them in their studies. Whereas transformational leadership focuses more on individual influence and intellectual stimulation in order to create an open culture in which staff can reach their full potential, transactional leadership is characterized by external demand and relationships based on contract in order to reach a certain organizational goal by means of specific job roles and a mission design (Nanjundeswaraswamy & Swamy, 2014).

Leadership styles are often connected to specific communication styles, which refers to ‘the way one verbally, nonverbally, and para-verbally interacts to signal how literal meaning should be taken, interpreted, filtered, or understood (Norton, 1978, p. 99)’ Even though this study will not specifically measure communication style, past findings concerning the relation between leadership style and communication style could provide us with a more concrete view regarding the differences between transactional and transformational leadership.

Generally, communication styles are defined by means of six characteristics, namely preciseness, verbal aggressiveness, expressiveness, preciseness, assuredness, supportiveness, and argumentativeness (De Vries et al., 2010). Research has connected transactional leadership to preciseness as communication style (De Vries, et al., 2010; Pacleb & Bocarnea, 2016). Preciseness can be defined as ‘individuals communicating in an organised, well-structured, and well-articulated way to others (Crews et al., 2019, p. 422).’ Transformational leadership, on the other hand, is more commonly associated with supportiveness (De vries et al., 2010). A supportive communication style usually entails attentive listening, deliberate decision making without the use of any power differential (Sarhadi, 2016). Leaders who use a supportive communication style are known to focus on understanding what their team wants and aiming to meet those needs as well adding value to a project team (Park & Lee, 2014).

Another way to highlight the distinction between leadership styles is by focussing on the dimensions of which a specific style consists. This has been investigated by Avolio and

Bass (1991), which has led to the creation of the full-range leadership theory (FRLT). According to the full-range leadership theory (FRLT), there are three types of leadership, namely transformational, transactional, and non-transactional laissez-faire leadership (Antonakis et al., 2003). These leadership styles are characterized by nine dimensions which are incorporated in the most frequently used instrument to measure leadership behaviour, the Multifactor Leadership Questionnaire (MLQ) (Antonakis et al., 2003). This study will, partly due to its scope, only take into account transformational and transactional leadership, continuing the evident preference for these two styles in past research. This could potentially increase the comparability of this study to other researches. The following part will elaborate on the dimensions related to those styles.

Transformational leadership is theorized in terms of five dimensions. First of all, *idealized influence (attributed)*, which refers ‘to the socialized charisma of the leader, whether the leader is perceived as being confident and powerful, and whether the leader is viewed as focusing on higher-order ideals and ethics (Antonakis et al., 2003, p. 264)’. Secondly, *idealized influence (behaviour)*, which refers ‘to charismatic actions of the leader that are centred on values, beliefs, and a sense of mission (Antonakis et al., 2003, p. 264)’. Thirdly, *inspirational motivation*, defined as ‘the way leaders energize their followers by viewing the future with optimism, stressing ambitious goals, projecting an idealized vision, and communicating to followers that the vision is achievable (Antonakis et al., 2003, pp. 264-265)’. Fourthly, *intellectual stimulation*, defined as ‘leader actions that appeal to followers’ sense of logic and analysis by challenging followers to think creatively and find solutions to difficult problems (Antonakis et al., 2003, p.265)’. Lastly, *individualized consideration*, which refers ‘to leader behaviour that contributes to follower satisfaction by advising, supporting, and paying attention to the individual needs of followers, and thus allowing them to develop and self-actualize (Antonakis et al., 2003, p. 265)’.

Transactional leadership is theorized in terms of two dimensions. *Contingent reward leadership*, which refers ‘to leader behaviours focused on clarifying role and task requirements and providing contractual obligations (Antonakis et al., 2003, p. 265)’. Secondly, *management-by-exception active*, which can be defined as ‘the active vigilance of a leader whose goal is to ensure that standards are met (Antonakis et al., 2003, p. 265)’.

According to Zigurs (2003) leaders offer encouragement, reward, and motivation by virtue of physical presence and comments. Interaction, involving ‘body language, vocal inflection, eye contact’ and so on, seemingly are required in order for leaders to perform these tasks

(Ruggieri, 2009). However, Computer Mediated Communications seem to complicate this processes (Ruggieri, 2009). Ruggieri demonstrates that, within the context of computer mediated communications, higher levels of satisfaction were measured for transformational leadership than for transactional leadership. Nevertheless, in terms of validation, no significant differences were found between transformational and transactional leadership (Ruggieri, 2009). In this study, type of contact, either physical or virtual, between employee and supervisor will not be added as an extra factor in the construct. Nevertheless, findings from past research about Computer Mediated Communications will be taken into account when discussing the results. Due to the outbreak of Covid-19, more virtual relationships are built than ever. It is therefore believable that this could potentially influence the findings of this study.

Safety climate

Safety climate refers to views of policies, procedures and practices with regard to safety (Barling, Loughlin & Kelloway, 2002; Griffin & Neal, 2000). Taking these concepts together, they could provide a clear insight in how important safety is regarded at a specific workplace or, more generally speaking, it shows the employee's perception of how safety is valued within the organization (Barling & Frone, 2004). Kath et al. (2010) point out the debate around the concept, concerning whether safety climate can be seen as a single construct or whether it should be seen as something made up from different facets. In the end, they do also conclude that safety climate refers to 'shared perceptions of the organization's practices and policies pertaining to safety (Kath et al., 2010, p. 1489).'

When measuring safety climate, one could ask for individual perceptions regarding safety. Investigating whether these perceptions are shared among a group of individuals is a required element of a psychological climate. Psychological climate can be defined as 'employees' perceptions of their work environment (Baltes, 2001, p. 12355).' Discovering whether perceptions of safety regarding a particular work environment are shared within a group provides insight in a group climate or a so-called organizational safety climate (James et al., 1990). As all previously mentioned definitions of safety climate underline the importance of shared perceptions, it seems logical that there is need to accumulate individual perceptions, creating understanding of perceptions regarding safety on a group level (Kath et al., 2010).

To make the concept more concrete, several researchers aimed to determine dimensions of which safety climate consists (Brown & Holmes, 1986; Cox & Cheyne, 2000; Dedobbeleer & Béland, 1991; Díaz & Cabrera, 1997; Mearns et al., 2003; Williamson et al., 1997). DeJoy

et al. (2000) divided safety climate into four dimensions, namely management commitment, safety performance feedback, worker involvement, and safety behaviour norms. As these dimensions were commonly reported in other studies and therefore are generally regarded to represent the required elements of safety climate, they were positively validated by Hahn and Murphy (2008).

Employees' perceptions of safety climate can influence their 'attitude towards safety, the way employees perform their work, and the way employees interact with each other with regard to safety issues (Barling & Frone, 2004, p. 15).' Logically, these factors potentially have an influence on outcomes in safety, specifically, in number of accidents. Safety climate can therefore be seen as a potential antecedent for safety behaviour. However, other antecedents are related to safety behaviour as well, namely 'leadership, training and work design (Barling & Frone, 2004, p. 19).' Barling and Frone (2004) specifically emphasize the importance of leadership with regard to safety climate, by discussing several researches.

Zohar (2002) investigated the effect of transactional leadership by training leaders in terms of safety reward and monitoring behaviour. Results showed that employees led by trained leaders, in line with the characteristics of transactional leadership, indicated a higher perception of safety climate compared to employees led by leaders who were not trained. These results were based on conclusions drawn from monitoring safety-related behaviour. This positive relation between transactional leadership and safety climate also occurred in earlier research by Zohar (2000). Zohar (2000) looked into a possible interaction effect between leadership style, transactional and transformational, with the leaders' priority concerning safety when predicting safety climate. Outcomes revealed that transactional leadership was positively related to safety climate. However, this was only true when the leader specifically prioritized safety.

As soon as safety climate was measured in terms of how safety is perceived by employees, which is the perspective current study will also address, transformational leadership showed a more definite influence as was for instance confirmed by Barling, Loughlin and Kelloway (2002). They researched whether transformational leadership, specifically focussed on safety, had an influence on, among other things, safety climate. Results showed that safety-specific transformational leadership enabled enhancing occupational safety. This positive effect was mediated by perceived safety climate, safety consciousness, and safety-related events.

In summary, Barling and Frone (2004) conclude that mainly transformational leadership has been associated with safety in previous research. Specifically, transformational leadership,

compared to transactional leadership, has shown to stimulate higher perceptions of safety climate as well as to improve occupational safety. Both concepts are related to safety climate as they refer to perceptions on procedures, policies and practices linked to safety as well as to the actual outcomes of safety behaviour. Outcomes of previous research therefore indicate that transformational leadership seems to be an appropriate manner to influence safety in the workplace. This study will aim to reproduce this seemingly solid statement which has led to the following hypothesis:

H1: Transformational leadership will stimulate higher levels of safety climate compared to transactional leadership.

Culture

Studies have demonstrated that different cultures show a differing preference for leadership styles (Saeed, 2005). Differences in preferences can be due to varying values between certain cultures. The most common way to explain attitude and behavioural differences between people with a different cultural background, by means of values, is by Hofstede's cultural dimensions. In research regarding safety climate, usually uncertainty avoidance is pointed out as one of the determining dimensions with regard to differences in perceptions concerning safety. Cultures scoring high on this dimension are 'associated with preventing unpredictable and ambiguous situations and rely on fixed and clear regulations (Hofstede, 2001, as cited in Starren, 2016, p. 1021).' It is believed that cultures differ on this dimension on national basis. National culture is defined as the 'collective programming of the mind that distinguishes the members of one group or category of people from another (Hofstede, 2001, as cited in Starren, 2016, p. 1016).'

Previous research has shown that national culture is assumed to influence risk perception. As risk perception is seen as one of the predicting factors for safety behaviour, it is assumable that national culture influences that kind of behaviour (Starren et al., 2013). Starren et al. (2013) point out the role national culture may play in aspects like safety knowledge, safety motivation and safety climate. Uncertainty avoidance has been proven to be a useful measurement tool in order to explain differences in, for instance, safety motivation (Starren et al., 2013). According to Saeed (2005), 'high uncertainty avoidance cultures see uncertainty and ambiguity as a threat and are worried about future situations.' It is therefore assumable that employees from a national culture scoring high on uncertainty avoidance are more focussed on the compliance of rules and procedures compared to employees with a cultural background scoring lower on uncertainty avoidance (Starren, 2016).

Furthermore, Mohamed et al. (2009) suggest a relation between uncertainty avoidance, safety awareness, and safety behaviour. An interview-based questionnaire showed that Pakistani construction workers show a high level of risk awareness, which was in this study considered to be an indicator of safety awareness. As national culture was taken into account, results showed clear influences of cultural dimensions, including uncertainty avoidance. The study implies that employees within a high uncertainty avoidance environment, like the Pakistani workers, are likely to show higher levels of safety awareness, which is seen as an indicator of safety behaviour (Mohamed et al., 2009). As stated before, safety behaviour norms are seen as a determining dimension of safety climate (Hahn & Murphy, 2008). Moreover, safety climate is seen as a predictor of safety behaviour (Barling & Frone, 2004). This suggested relation implies a possible effect of uncertainty avoidance on safety climate via safety awareness and safety behaviour.

Even though Hofstede's cultural dimensions are most often used to compare cultures, critique has emerged concerning Hofstede's theory. First of all, the fact that the theory refers to a culture and a country, using the terms interchangeably, has been a starting point for doubts. Borders of countries function as lines one needs to cross for activities like trade, while cultures are present across various social groups which are not limited by borders (Kirkman et al., 2017, as cited in Messner, 2020). Therefore, comparing one country to another based on differing value averages seems to neglect the possible cultural differences on an individual level, as cultures are not regulated by borders (Fischer & Swartz, 2011, as cited in Messner, 2020).

Secondly, the amount of values defining culture, used by Hofstede, are debated as Schwartz recognizes ten values to describe culture both at an individual level as at a national level, namely 'security, conformity, tradition, self-direction, hedonism, stimulation, power, achievement, benevolence, and universalism (Messner, 2020).' Hofstede's original theory includes 5 dimensions; power distance, uncertainty avoidance, individualism vs. collectivism, masculinity vs. femininity, and long term vs. short Term Orientation. Eventhough a sixth dimension was added in 2010, namely indulgence vs. restraint, critics remain to emphasize that the number of dimensions should be extended. Hofstede (2011) disproves this statement by underlining that extending the model will only make using it to explain the world around us more complicated. As a human being is only able to process a certain amount of information at the same time due to limited processing capacity, enlarging the model will potentially not add any value in terms of usefulness (Hofstede, 2011).

Lastly, Hofstede focusses on differences between cultures, while the increase in globalization might led us to believe that a focus on similarities might be more beneficial (Messner, 2020). Combining previous critique, Messner (2020) summarizes that a combination of several methods measuring culture might be most suitable as every measurement tool captures different cultural facets. Including measurements focussing on differences and similarities would provide us with an insight concerning intercultural variation as well as areas of cultural overlap. This different view on cultural differences would be suitable as a 'route between two cultures is not always a straight line (Zaheer et al., 2012, p. 18 as cited in Messner, 2020).

Also research regarding safety has pointed out the sometimes inadequate theory of Hofstede. Starren (2013) does point out that Hofstede's dimensions are not the only framework one should take into account when researching cultural differences and similarities. Even though cultural dimensions can be useful to compare cultures, one should not neglect the influence of the individual (Starren, 2013). Specifically within the area of safety research, Guldenmund (2007) points out that aspects like safety motivation and safety performance are better reflected in individual measures than group averages concerning safety climate. Factors used in surveys, when conducted within an organization, tend to indicate a more general evaluation of the management (Guldenmund, 2007). It is therefore very important to take into account the levels of theory measurement, as measurements made at a certain level cannot be used at other levels without meeting certain requirements (Guldenmund, 2007).

Regardless of previously mentioned critique, within this research Hofstede's dimensions will be used in order to measure cultural differences as it still is the most developed theory in terms of operationalization. However, critique will be taken into account when discussing the results.

Specifically, this study will include Spanish and Dutch employees as people with these nationalities, according to Hofstede (2001), differ significantly on uncertainty avoidance. As Spain scores an 86 out of 100 it will be regarded as a national culture with a high uncertainty avoidance (Hofstede, 2001). The Netherlands scores a 53 out of 100, which implies the national culture has a low uncertainty avoidance (Hofstede, 2001). Even though this study will not compare Spanish and Dutch respondents directly, including both nationalities will increase the likelihood of creating a mixed sample in terms of differing levels of uncertainty avoidance. This will facilitate the analysis concerning the possible influence of uncertainty avoidance as

the sample is now likely to include low as well as high levels of this cultural dimension. Previously mentioned results have led to the following hypothesis:

H2: Employees with a higher uncertainty avoidance will show a higher level of safety climate compared to employees with a low uncertainty avoidance for transactional as well as transformational leadership.

Level of trust

Trust can be defined as ‘a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another (Rosseau et al., 1998, p. 395).’ When applying this to the relation between an employee and his or her manager, trust is often described in terms of being willing to show behaviour based on the words of another (McAllister, 1995). According to Diffie-Couch (1984) trust is an essential element for every relationship. Implying that a relationship, for instance between employer and employee, would not survive without trust.

Research has shown that managers who create relationships based on trust, for instance, with their subordinates, have a higher chance of creating a safe working environment (Luria, 2010). Luria (2010) proved this by showing that safety climate level turned out to be a mediating factor between trust in the leader and the injury rate. Moreover, he implied that trust in the leader led to a higher mean climate score of the group, which was composed of individual perceptions of safety climate priority.

These findings are confirmed by Gausdal and Makarova (2017), stating that interpersonal trust, between employee and manager, seems to influence safety-related organizational outcomes. They emphasize that interpersonal trust seems to be essential especially in situations that are considered to be not critical, referring to situations in which guidance is often absent (Gausdal and Makarova, 2017).

Previously mentioned studies have pointed out the influence of trust on safety climate (Gausdal & Makarova, 2017; Luria, 2010). Kath et al. (2010) implied the possible influence of safety climate on trust, therefore turning around the concepts as used in other research. They hypothesised that ‘group upward safety communication will be positively associated with individual-level organizational trust (Kath et al., 2010, p. 1490).’ Upward safety communication can be defined as ‘the willingness of employees within an organisation to share comments regarding safety issues with their superiors (Kath et al., 2010, p. 1490).’ The

proposed hypothesis by Kath et al. (2010) was confirmed. As they assumed that upward safety communication is an essential part of safety climate, it is assumable that safety climate could potentially positively influence trust as well. This led to the following hypothesis for my current study:

H3: Safety climate will positively influence level of trust.

Mishra (1996) addresses the multidimensional nature of trust. The fact that there is no general accepted definition of the concept has led to differing, vaguely formulated, and sometimes unidimensional conceptualizations across studies regarding the same notion (Barber, 1983; Luhmann, 1979, as cited in Mishra, 1996). A literature review has brought about Mishra's (1996) own definition of trust: 'Trust is one party's willingness to be vulnerable to another party based on the belief that the latter party is 1) competent, 2) open, 3) concerned, and 4) reliable (Mishra, 1996, p. 5).' The Organizational Trust Index, created by Shockley- Zalabak et al. (1999) was based on these four dimensions, with identification as an additional dimension. This measurement tool, in customized form, will be used in this research to measure trust.

Employee engagement

'Engagement is a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and persuasive affective-cognitive state that is not focused on any particular object, event, individual, or behaviour. Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Dedication refers to being strongly involved in one's work and is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work (Schaufeli & Bakker, 2004).' Schaufeli and Bakker (2004) indicate a substantial number of consequences of employee engagement, including job satisfaction, organizational commitment, and positive organizational behaviour. As these concepts are related to health and low levels of depression, employee engagement seems to be a concept worth investigating (Wilmar B. Schaufeli et al., 2008).

Research has pointed out the relation between employee trust and employee engagement (Ugwu et al., 2014; Wang & Hsieh, 2013). Ugwu et al. (2015) empirically investigated the relation between organizational trust and work engagement, finding a positive relation between both aspects. Furthermore, psychological empowerment seemed to be a moderating factor.

Conclusively, when employees trust their manager, or when they consider themselves able to reach certain job outcomes, they will portray positive behaviour towards their job, resulting in a higher employee engagement (Anderson & Williams, 1996; Wat and Shaffer, 2005, as cited in Ugwu et al., 2014). These findings are in line with Wang and Hsieh (2013), stating that employee trust, which was strongly influenced by the supervisor's consistency regarding words and actions, has a positive relation with employee engagement. This study aims to replicate those findings by means of the following hypothesis:

H4: Employee trust will have a positive effect on employee engagement.

In order to visualize how previously mentioned hypotheses relate to one another figure 1 is included. Figure 1 demonstrates the proposed theoretical model of this research which aims to provide a clear overview of the overall construct of current study.

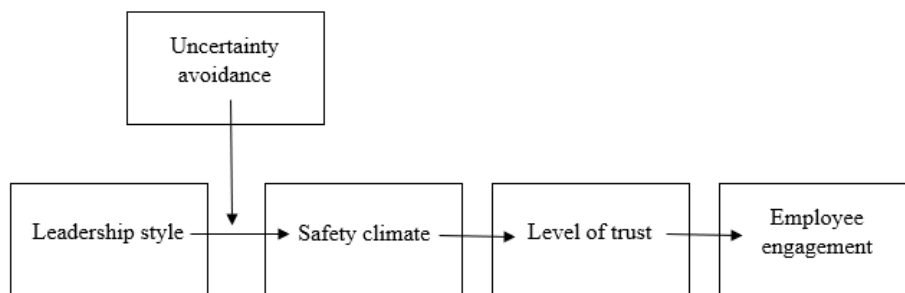


Figure 1. Proposed theoretical model of this research

Method

For this study, a survey was chosen as the most applicable research method. This research focusses on exploring possible correlations instead of causal relationships. Moreover, used scales concentrate on measuring real life situations of the participants increasing the ecological validity of this research. This would potentially, increase the possibility of making generalizations based on currently occurring trends instead of determining conclusions based on hypothetical situations, which would occur during an experiment.

Instruments

The predictor variable used in the survey was leadership style, which was measured by means of the Multifactor Leadership Questionnaire (MLQ) by Avolio and Bass (1991). Previous research has shown that the MLQ is an appropriate, adequate, and reliable model to measure

leadership (Antonakis et al., 2003; Muenjohn & Amstrong, 2008). The seven dimensions concerning transformational leadership and transactional leadership were included in the survey. As this study does not focus on non-transactional laissez-faire leadership, items regarding this category were eliminated from the survey. The remaining seven dimensions were measured by means of a 5-point Likert scale (*'Not at all' - 'Frequently, if not always'*). The perspective of the statements was adapted, as this study focusses on the perspective of an employee on his or her supervisors leadership style instead of his or her own leadership style. Therefore, the questionnaire of this study included the following items: *'My supervisor goes beyond self-interest for the good of the group'* (idealized influence, attributes), *'My supervisor considers the moral and ethical consequences of decisions'* (idealized influence, behaviours), *'My supervisor talks optimistically about the future'* (inspirational motivation), *'My supervisor re-examines critical assumptions to question whether they are appropriate'* (intellectual stimulation), *'My supervisor helps others to develop their strengths'* (individualized consideration), *'My supervisor makes clear what one can expect to receive when performance goals are achieved'* (contingent reward), and *'My supervisor keeps track of all mistakes'* (management by exception, active). The reliability of leadership style was acceptable: $\alpha = .74$. As means will be calculated over the items concerning one specific leadership style, Cronbach's alpha was also calculated with regard to the items specifically referring to transformational leadership and transactional leadership separately. The reliability of transformational leadership style was acceptable: $\alpha = .77$. However, the reliability of transactional leadership turned out to be unacceptable: $\alpha = .44$. Nevertheless, in consultation with the statistician has been decided to use the mean scores of the items to calculate the compound variable 'transactional leadership' as the scores were only used to determine in which group a respondent would be placed and no direct calculations were performed with the actual mean scores.

Uncertainty avoidance functioned as a moderating variable. It was measured by means of the questionnaire developed by Dorfman and Howel (1988), which was validated by Culpepper and Watts (1999). Five items were measured on a 5-point Likert scale (*'Completely disagree' - 'Completely agree'*) including some of the following questions: *'It is important to have job requirements and instructions spelled out in detail so that employees always know what they are expected to do'* and *'Standard operating procedures are helpful to employees on the job'*. All items used for measuring uncertainty avoidance can be found in appendix A and B. The reliability of uncertainty avoidance was good: $\alpha = .84$. Therefore, the mean of all five

items was used to calculate the compound variable ‘uncertainty avoidance’, which was used for further analyses.

The dependent variables that were measured in this survey are safety climate, trust, and employee engagement. Safety climate was measured by means of a 6-item measure used by Hahn & Murphy (2008). In their research they found results that supported the validity and reliability of the model, including all essential dimensions regarding safety climate namely, management commitment, safety performance feedback, worker involvement, and safety behaviour norms. The six items will measured by means of a 5-point Likert scale (*‘Strongly disagree’- ‘Strongly agree’*) including the following questions: *‘New employees learn quickly that they are expected to follow good health and safety practices’*, *‘employees are told when they do not follow good safety practices’*, *‘workers and management work together to ensure the safest possible conditions’*, *‘there are no major shortcuts taken when worker health and safety are at stake’*, *‘the health and safety of workers is a high priority with management where I work’*, and *‘I feel free to report safety problems where I work’*. The reliability of safety climate was good: $\alpha = .82$. Therefore, the mean of all six items was used to calculate the compound variable ‘safety climate’, which was used for further analyses.

Trust was operationalized according to the Organizational Trust Index (OTI), created by (Shockley-Zalabak et al., 1999) and validated by Ugwu et al. (2014). This scale, originally consisting of 29 items, was used in this survey in an adapted form. The downsized version that was used consisted of 22 items. All items were evaluated on a 5-point Likert scale ranging from *‘very little’* to a *‘great deal’*. Examples of the items that were used are *‘I can tell my immediate supervisor when things are going wrong’*, *‘I am highly satisfied with the organization’s overall efficiency of operation’*, and *‘my immediate supervisor listens to me’*. All items used for measuring trust can be found in appendix A and B. Even though Cronbach’s alpha could potentially indicate a false reliability due to the relative high amount of items, in consultation with the statistician has been decided that a factor analysis is not necessary, as the scale has been validated by previous research. Therefore, Cronbach’s alpha is considered to be adequate to calculate the reliability of this specific scale. The reliability of trust was excellent: $\alpha = .95$. Therefore, the mean of all 22 items was used to calculate the compound variable ‘trust’, which was used for further analyses.

Employee engagement was measured by means of a scale developed by Schaufeli and Bakker (2004). This scale consisted of 17 items and was evaluated on a 5-point Likert scale (*‘Never’- ‘Always’*). Items, for instance, included the following statements: *‘I find the work I*

do useful and meaningful and *My work inspires me*. All items used for measuring employee engagement can be found in appendix A and B. Also for this scale, in consultation with the statistician, Cronbach's alpha was considered to be adequate to calculate the reliability, regardless of the relatively high amount of items. The reliability of employee engagement was excellent: $\alpha = .93$. Therefore, the mean of all 17 items was used to calculate the compound variable 'employee engagement', which was used for further analyses.

The option *This does not apply to me* was not added to any of the scales, as this would force participants to answer within the provided range. Moreover, no reversed scaling was used, as past experiences show that it often turns out to be confusing to participants. Reversed scaling can interfere with the automatic response rhythm of participants when subjects are exposed to exorbitant long questionnaires. It is believed that the disadvantage could potentially out way the advantage of the method, as the survey used in this research is divided in manageable sections of items. Therefore, this method was not applied in this study.

Some demographic questions were included in the questionnaire, including gender, age, level of education, position within the company (junior, medior, senior), and working industry/sector. The provided options concerning working sector were based on the *werkgelegenheidsstructuur* (Employment structure) concerning an overview of jobs between 1999 and 2019 as provided by the CBS (CBS, 2021). It should be noted that participants were not selected based on the sector they are working in. Even though Kath et al. (2010) point out that, for instance, relationships between safety climate and trust turned out to be stronger for employees working within a sector in which safety is particularly relevant, this study focusses on safety with regard to the employee perspective. This means it looks at safety as a psychological concept resulting in perceived levels of safety more than actual numbers expressed in injury rates, therefore decreasing the importance of working sector. However, participants will be asked to indicate the sector they are working in if results turn out to ask for additional analysis.

Lastly, a few open questions were added to the questionnaire. These open questions were *What are, according to you, factors that determine how safe you feel at work?* and *What does, in your opinion, influence an employee's commitment to a company?*. Answers to these questions were not part of the quantitative data set, but solely had a supporting function in the discussion section of this paper.

All participants filled out the questionnaire in their mother tongue, meaning a Spanish and Dutch version of this questionnaire was developed. The Spanish version was validated by Annick Starren and the Dutch version was validated by Marianne Starren.

Respondents

151 people indicated to accept all terms and indicated to participate in this research. However, after deleting all respondents who did not finish the questionnaire, 127 respondents remained, which were used for further analyses. Of these respondents, 71 people (55,9%) filled out the Dutch version of the survey, whereas 56 people (44,1%) completed the Spanish version of the survey. 78 respondents (61,4%) identified themselves as women, 46 respondents (36,2%) as men, and 3 respondents (2,4%) as different. The mean age of all respondents was 39.09 ($SD = 13.77$), ranging from 20 to 72 years old.

Furthermore, respondents were asked to indicate their highest (completed) level of education. As the educational systems of The Netherlands and Spain differ significantly, distributions will be indicated in the table 1 and table 2 below divided by nationality.

Table 1. Distribution Spanish respondents across educational levels, including frequencies and percentages.

Educational Level	Frequency	Percentage
Escuela secundaria	1	1.8
Bachillerato	7	12.5
Formación Profesional	7	12.5
Enseñas universitarias (Grado)	21	37.5
Enseñas universitarias (Máster)	14	25.0
Enseñas universitarias (Doctorado)	6	10.7

Table 2. Distribution Dutch respondents across educational levels, including frequencies and percentages.

Educational Level	Frequency	Percentage
Middelbare school (mavo/havo/vwo)	7	9.9
MBO	12	16.9
HBO	27	38.0
WO Bachelor	5	7.0
WO Master	19	26.8
WO PhD	1	1.4

Moreover, respondents indicated the level of their function as well as in which sector they are currently working. 25 respondents (19,7%) indicated to have a junior function, 20 respondents (15,7%) had a medior function, and 40 respondents (31,5%) indicated to have a senior function. 42 people (33,1%) expressed that attributing such a level to their function was not applicable. The distribution of all respondents concerning in which sector they were working can be found in table 3 below.

Table 3. Distribution respondents across sectors, including frequencies and percentages.

Working sector	Frequency	Percentage
Business services	8	6.3
Care	16	12.6
Trade	9	7.1
Industry	10	7.9
Education	22	17.3
Culture/Recreation	3	2.4
Catering industry	16	12.6
Public administration	4	3.1
Transport and storage	2	1.6
Information and communication	15	11.8
Financial services	3	2.4
Other	19	15.0

Procedure

The survey was developed digitally by means of the program Qualtrics in both Dutch and Spanish. Both versions can be found in the appendix (A and B). A link towards the online questionnaire was distributed via various platforms including, WhatsApp, email, Facebook, SurveySwamp, and SurveyCircle. The link was distributed with a short message explaining what the research was for and what it would be about. In order to reach as many respondents as

possible, snowball sampling was used as respondents were stimulated to distribute the survey within their own network. Data was collected from the 12th of may 2021 till the 5th of june 2021.

Before filling out the questionnaire, respondents were informed about what was expected of them, and what would happen with their personal details. All data was stored anonymously, and this was clearly indicated in the introductory text. Moreover, it was expressed that one could withdraw at any point throughout filling in the survey. Lastly, contact information of the researcher was shared in case a respondent had any questions. The respondents did not receive any reward or incentive.

After completing the survey, respondent got a thank you note, expressing the researchers gratitude for completing the survey. According to qualtrics calculations, completing the survey took, on average, 8 minutes.

Statistical treatment

All data was entered in the program IBM SPSS Statistics 27. In order to examine the possible relation between leadership and safety climate an independent samples t-test was performed. In addition, an ancova was performed in order to demonstrate possible effects of uncertainty avoidance on safety climate as well as examining the possibility of uncertainty avoidance being a moderating variable. Moreover, a simple regression was run to see whether safety climate would function as a predicting variable for level of trust. In completion, a multiple regression was performed to see whether level of trust on its turn functions as a predictor for employee engagement whilst mediating between safety climate and employee engagement.

Some additional analyses were done including chi square and two independent sample t-tests in order to provide some supplementary outcomes with regard to nationality.

Results

In order to do any analysis all respondents were categorized within one of the two leadership styles, either transactional or transformational. Per respondent mean scores were calculated concerning the items referring to transformational leadership and transactional leadership. Respondents were classified based on the highest mean score. This led to an unequal distribution as 91 respondents were placed within the group of transformational leadership, whereas only 36 respondents were categorized within the group of transactional leadership.

This unequal distribution was taken into consideration while doing analysis and drawing conclusions based on outcomes.

Safety climate

An independent samples t-test showed no significant difference between transformational and transactional leadership with regard to safety climate ($t(68.63) = .74, p = .464$). Therefore, hypotheses 1 was not supported. As previously has been mentioned, the groups compared (transactional vs. transformational) with this t-test were not equal in terms of numbers. However, recent publications in the field of statistics have shown that consequences of this effect are likely to be negligible, as the power of the test is based on the smallest sample. This implies that unequal groups do not bias the test (Grace-Martin, 2020). Therefore, for this specific test, unequal groups will not be taken into consideration while interpreting the results.

An ancova showed that the covariate, uncertainty avoidance, was significantly related to safety climate $F(1,124) = 12.27, p = .001$, partial $\eta^2 = .09$. Parameter estimates indicate that uncertainty avoidance was indeed a significant predictor for safety climate ($B = .34, p = .001$), which means that if the score on uncertainty avoidance goes up by one on the scale used, safety climate goes up with .34 on the scale used.

Nevertheless, the ancova showed that there was no significant effect of leadership style on safety climate after controlling for uncertainty avoidance, $F(1,124) = .01, p = .935$, partial $\eta^2 < .01$. Therefore, hypothesis 2 was partly supported.

Employee trust

A simple regression analysis showed employee trust can be explained 37% by the variable safety climate entered in the model ($F(1,125) = 74.55, p < .001$). In support of hypothesis 3, safety climate was a significant predictor for employee trust ($B = .59, p < .001$), which means that if the score on safety climate goes up by one on the scale used, employee trust goes up with .59 on the scale used.

Employee engagement

A multiple regression analysis showed Employee engagement can be explained 31% by the 2 variables (Safety climate and Employee trust) entered in the model ($F(2,124) = 29.42, p < .001$).

Employee trust was a significant predictor for employee engagement ($B = .53, p < .001$), which means that if the score on employee trust goes up by one on the scale used, employee engagement goes up with .53 on the scale used, given that all other variables are kept constant.

Safety climate was no significant predictor for employee engagement ($B = .13, p = .198$)

Additional descriptive analyses

Nationality

A chi-square test showed a significant relation between nationality and leadership style ($\chi^2 (1) = 10.38, p = .001$). Dutch respondents would more often describe the leadership style of their direct superior as transformational (64.8%) compared to Spanish respondents (35.2%). Vice versa, Spanish respondents would more often describe the leadership style of their direct superior as transactional (66.7%) compared to Dutch respondents (33.3%).

An independent samples t-test showed no significant difference between transformational and transactional leadership style for Spanish respondents ($t(52.39) = .40, p = .688$). Levene's test of equality of variances showed a significant difference regarding error of variance of the dependent variable safety climate across both groups ($p = .004$).¹

An independent samples t-test showed no significant difference between transformational and transactional leadership style for Dutch respondents ($t(13.81) = .67, p = .515$).

An independent samples t-test did show a significant difference between Spanish and Dutch respondents for level of uncertainty avoidance ($t(124.99) = 8.87, p < .000$). Spanish respondents ($M = 4.67, SD = .46$) showed significantly higher levels of uncertainty avoidance compared to Dutch participants ($M = 3.79, SD = .59$).

Sector and gender

A chi-square test showed no significant relation between sector and leadership style ($\chi^2 (11) = 12.49, p = .328$).

¹ Although Levene's test turned out to be significant, this will not be taken into account for further analyses as this is beyond the scope of this research. Therefore, the regular F-test was reported.

A chi-square test did also show no significant relation between gender and leadership style ($\chi^2 (2) = 1.24, p = .539$).

Conclusion

Hypothesis 1 stated that *transformational leadership will stimulate higher levels of safety climate compared to transactional leadership*. However, this was not supported by the results of this study, meaning hypothesis 1 was not supported.

Hypothesis 2 implying that *employees with a higher level of uncertainty avoidance will show a higher level of safety climate compared to employees with a low uncertainty avoidance for transactional as well as transformational leadership* was partly supported. Results indicate a direct influence of the cultural dimension uncertainty avoidance on safety climate. However, uncertainty avoidance did not turn out to be a moderating factor on the effect of leadership on safety climate as theory would suggest.

Hypothesis 3 included that *safety climate will positively influence level of trust*. This was fully supported by the results, implying that a higher level of safety climate leads to higher levels of trust in the employer.

Finally, hypothesis 4 suggests that *employee trust will have a positive effect on employee engagement*. This statement was also completely supported by the results, which suggests that higher level of trust in the employer leads to higher employee engagement.

Moreover, as safety climate did not show a significant effect on employee engagement directly, but only significantly influenced employee trust, which on its own showed a significant effect on employee engagement, employee trust can be seen as a mediating factor between safety climate and employee engagement. This is in line with the proposed model of this study.

Discussion

This study aimed to unwind a possible line between leadership style and employee engagement, including safety climate and employee trust as mediating factors, and uncertainty avoidance as a moderating factor. A noteworthy result was the absence of a significant relation between

leadership style and safety climate as this relation was expected to be present based on previous research. Barling & Frone (2004) demonstrated a clear relation between transformational leadership and safety climate, however, this study implies that outcomes in terms of perceived safety, in this study operationalised as safety climate, are relatively equal regardless of which leadership style is used. One study that would be more in line with the findings of this study would be by Zohar (2002), as he demonstrated the effect of transactional leadership on safety climate, which he expressed in terms of safety-related behaviour. This study was disproved by Barling & Frone (2004), because as soon as the perspective of the employee was included in the research construct the positive effect of transformational leadership on safety climate turned out to be significantly higher compared to the effect of transactional leadership. Nonetheless, results of current study suggests, by means of demonstrating no significant difference between the two leadership styles, that safety related behaviour and perceived level of safety are more closely related that maybe was expected.

Moreover, the potential influence of computer mediated contacts could have caused insignificant differences between varying leadership styles. It is believed that computer mediated contact disorders the communication flow, for instance with regard to body language and eye contact (Ruggieri, 2009). Previously mentioned facets of communication are known for being effective aspects with regard to encouragement. Providing encouragement as a leader to your employee on its turn is known to be a fundamental aspect of transformational leadership (Nanjundeswaraswamy & Swamy, 2014). Due to the outbreak of Covid-19 physical communication was temporarily not possible, which resulted in a drastic increase in the use online communication tools, logically resulting in more computer mediated contact. Potentially this could have diminished the effects of leadership styles as different styles could have been perceived as more similar when used in online conversations.

Respondents were asked to answer two open questions at the end. One of them was *what are, according to you, factors that determine how safe you feel at work?*. Answers to this question could potentially provide us with an explanation for the non-significant result with regard to the influence leadership has on safety climate. Noteworthy, a lot of respondents used terms like *(open) communication* and *being heard by supervisor*² in their answer. Concepts which can be linked to upward safety communication or supportiveness as a communication style (De vries et al., 2010; Kath et al., 2010). As these notions are related to transformational

² All answers were given in either Dutch or Spanish. In the text only English translations will be used.

leadership these answers would underline the potential effect of leadership style on safety climate. However, they were not supported by the quantitative results. Moreover, *information*, *safety regulations*, and *rules*² were mentioned several times. These notions would align with transactional leadership, as this style focusses on order, which can for instance be achieved by means of rules (Nanjundeswaraswamy & Swamy, 2014). As both aspects related to transformational and transactional leadership were brought up, this could potentially provide an explanation as to why both styles are not differing significantly in the context of safety.

Furthermore, another frequently mentioned concept, namely *colleagues*², potentially had a more substantial effect and therefore possibly may have weakened the influence of leadership style. Moreover, *atmosphere* and *environment*² have been mentioned several times. It might be interesting to further look into how atmosphere and environment are defined. Also, as it is imaginable that these notions are partly influenced by the relationships with colleagues, disentangling the relationships between these three concepts and its consequences on safety climate compared to leadership style might be an appealing way to extend current research in the future.

In addition, results of the current study underlined the theory concerning the influence of uncertainty avoidance on safety climate. This is in line with previous research concerning the relation between culture, specifically uncertainty avoidance, and safety motivation, safety behaviour, and safety awareness, which are all concepts related to safety climate (Mohammed et al, 2009; Starren, 2013). It should be emphasised that uncertainty avoidance only had a direct influence on safety climate and did not function as a moderating factor as proposed by Snaebjornsson & Edvardsson (2013). Previously mentioned critique on Hofstede's cultural dimensions has been taken into account when analysing the possible effects of uncertainty avoidance. Reoccurring commentary with regard to Hofstede's method referred to generalizations on national level as his use of dimensions does not focus on the possible influence of the individual (Starren, 2013). Nor is the influence of globalization taken into account, a process which could potentially result in more similarities on a group level as globalization is believed to stimulate comparable behaviour when comparing, for instance, one nationality to another (Lechner, 2009; Messner, 2020). Therefore, analysing possible influences on an individual level might be more beneficial. Even though this study does still utilize Hofstede's definition of the cultural dimension uncertainty avoidance, by analysing data with a regression analysis this study aimed to include possible differences on an individual level. As the results showed, when someone scores higher in terms of uncertainty avoidance, someone is

more likely to also score higher on safety climate. Preserving these scales in the analysis enabled us to attribute conclusions to the individual compared to making generalizations, which would have occurred when respondents would have been categorized as either high or low in terms of uncertainty avoidance. It should be emphasized that this also enables us to clearly distinct the concepts culture and nationality. Hofstede has also been criticized for using the terms interchangeably (Kirkman et al., 2017). Therefore, analysing data by means of a regression, resulting in results on an individual basis, also diminishes the potential confusion between culture and nationality, as respondents were not grouped according their nationality.

Additionally, results suggest that safety climate significantly influences employee trust. This is in agreement with results found by Kath et al. (2010), who related safety climate to trust by means of upward safety communication. Nevertheless, upward safety communication was not separately measured in this study. Current research has included the notion indirectly as openness which was used as one of the dimensions measuring trust. However, the specific effect of this dimension was not calculated. As previous research specifically mentions openness in terms of upward communication it might be beneficial to consider the strength of its influence, by extending the conceptual model of this study.

In addition, employee trust turned out to significantly influence employee engagement, hence confirming previous research (Ugwu et al, 2015; Wang & Hsieh, 2013). When looking to the other open question asked to the respondents, *What does, in your opinion, influence an employee's commitment to a company?*, we could see whether these quantitative results were in line with their qualitative answers. Reoccurring terms in the respondents answers were *validation, appreciation, and recognition*². This implies that not only trust in the employer seems to be essential in creating employee engagement, the feeling of being trusted by your supervisor seems to add on to this relationship between employee and employer. Future research might be able to make the influence of trust more concrete with regard to its direction and whether this has a significantly different effect on employee engagement.

Some additional analyses were conducted including nationality as an independent variable. Not performing them was seen as a missed opportunity, now that the data of two different nationalities was available. When looking at the additional descriptive analysis, several conclusions can be drawn with regard to nationality. It needs to be strongly accentuated that nationality and culture are not considered to be the same thing. Notwithstanding, outcomes do indicate that for the specific sample in current research the cultural dimension uncertainty

avoidance does significantly differ when comparing the Spanish and Dutch respondents. Meaning that for the respondents that took part in this specific this survey, Spanish people turned out to show higher levels of uncertainty avoidance compared to Dutch people. One should also note that not an equal number of Spaniards and Dutch people were included in the sample. This did not influence the results concerning the hypothesis of this research, as nationality was not concluded in the construct. However, when interpreting the results of additional descriptive analysis in which scores are attributed to nationality, one should take them with a grain of salt. Conclusions concerning these analyses will therefore function more as a demonstration of potential relations for which further research is needed.

A significant relation was found between nationality and leadership style. Dutch respondents indicated to perceive the leadership style of their direct supervisor more often as transformational, though Spanish respondents implied the contrary by demonstrating to perceive the leadership style of their direct supervisor more often as transactional. This result contrasts with the believe that globalization creates a world society in which we behave more similarly (Lechner, 2009). Supervisors do turn out to show significantly different behaviour in terms of leadership.

Additionally, leadership style still had no significant influence on safety climate, even when the data was divided based on nationality. Earlier outcomes did not support hypothesis 1 by showing no direct influence of leadership on safety climate regardless of level of uncertainty avoidance. Same explanations can be attributed to these results concerning nationality. The potential influence of computer mediated communications might have had an equal influence on both nationalities as it has increased in use due to a pandemic we had to cope with on a global level.

Lastly, nor sector nor gender showed a significant relation with leadership, meaning groups categorized as either transactional or transformational were comparable. Due to this lack of significant differences no further conclusions will be drawn upon this. In light of current research it enables us to make more generalizations with respect to the other results, making outcomes more universally applicable.

Referring back to the objective of this study, namely disentangling the possible line between leadership and employee engagement, it can be overall concluded that all included variables showed clear connections apart from leadership itself. Future research might be able

to look into this relation, within the context of safety, more deeply in order to find possible other factors that might influence the outcomes of this study.

Limitations

With regard to the concept of safety climate, one limitation that calls the attention is the fact that it remains to be a vague concept. This study has clearly incorporated safety climate in terms of perceived level of safety as seen from the point of view of an employee. However, as results are linked to theory that potentially interpret safety climate in a different way, it could potentially lower the comparability of this study.

Secondly, one concept that is well known within cultural research is response style. The potential presence of different response styles was not measured nor taken into account when interpreting the results. This might be something future research could elaborate on.

Thirdly, the scale measuring leadership style did not have an equal number of items measuring transformational leadership and transactional leadership. Whereas 5 items were used to calculate transformational leadership, only 2 items were included to assess transactional leadership. Even though a the scale used in current study by Avolio and Bass (1991) was validated by Antonakis et al. (2003) and Muenjohn and Amstrong (2008), one could argue that both leadership styles were not equally presented in the construct.

Theoretical implications

On a theoretical level, this study contributes to the research field concerning leadership and safety communication. Even though no direct relation was found between these two concepts, factors of potential influence have risen to the surface, namely globalization and the digitalization of communication. Future research might be able to look into this suggested cause of insignificant results. Furthermore, current research adds the influence of psychological processes to a theoretical framework which tends to focus on behavioural outcomes in terms of numbers. As the results suggest a cogent impact of emotional views and attitudinal consequences regarding processes provoking safety and trust which are leading to employee engagement, it might be valuable for future research to take this into account.

Practical implications

Findings of current study provide some practical implications for supervisors and companies. This study stresses the importance of safety and trust in creating employee engagement. Noteworthy is the uncommon view on safety this study provides. Safety in terms of how it is perceived, addressing the notion on a more emotional level, seems to highly influence the trust one has in one's direct supervisor. Moreover, supervisors and organisations should not underestimate the influence of culture, specifically uncertainty avoidance, in how safety is perceived. Understanding this significant influence of culture can especially be valuable in international business, as it can function as a guideline in how to increase perceived safety and therefore trust in relation to, for instance, foreign subordinates. Nevertheless, as no direct relation was found between leadership and safety climate, no practical implications can be made regarding which form of leadership could potentially stimulate a chain reaction leading to employee engagement. Future research might be able to extend this research by discovering how a supervisor could practically influence this chain.

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Reference list

- Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: An examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. In *Leadership Quarterly* (Vol. 14, Issue 3).
[https://doi.org/10.1016/S1048-9843\(03\)00030-4](https://doi.org/10.1016/S1048-9843(03)00030-4)
- Avolio, B. J., & Bass, B. M. (1991). *The full range leadership development programs: basic and advanced manuals*.
- Baltes, B. B. (2001). Psychological Climate in the Work Setting. *International Encyclopedia*

of the Social & Behavioral Sciences, 12355–12359. <https://doi.org/10.1016/b0-08-043076-7/01437-6>

- Barling, J., & Frone, M. R. (2004). *The psychology of workplace safety*. American Psychological Association. <https://doi.org/10.1037/10662-000>
- Barling, J., Loughlin, C., & Kelloway, E. K. (2002). Development and test of a model linking safety-specific transformational leadership and occupational safety. *Journal of Applied Psychology*, 87(3), 488–496. <https://doi.org/10.1037/0021-9010.87.3.488>
- Berson, Y., & Linton, J. D. (2005). An examination of the relationships between leadership style, quality, and employee satisfaction in R&D versus administrative environments. *R and D Management*, 35(1), 51–60. <https://doi.org/10.1111/j.1467-9310.2005.00371.x>
- Beus, J. M., Payne, S. C., Bergman, M. E., & Arthur, W. (2010). Safety climate and injuries: An examination of theoretical and empirical relationships. *Journal of Applied Psychology*, 95(4), 713–727. <https://doi.org/10.1037/a0019164>
- Brown, R. L., & Holmes, H. (1986). The use of a factor-analytic procedure for assessing the validity of an employee safety climate model. *Accident Analysis and Prevention*, 18(6), 455–470. [https://doi.org/10.1016/0001-4575\(86\)90019-9](https://doi.org/10.1016/0001-4575(86)90019-9)
- CBS. (2021). *Werkgelegenheidsstructuur*. <https://www.cbs.nl/nl-nl/visualisaties/dashboard-arbeidsmarkt/banen-werkgelegenheid/toelichtingen/werkgelegenheidsstructuur>
- Cox, S. J., & Cheyne, A. J. T. (2000). Assessing safety culture in offshore environments. *Safety Science*, 34, 111–129.
- Crews, E. R., Brouwers, M., & Visagie, J. C. (2019). Transformational and transactional leadership effects on communication styles. *Journal of Psychology in Africa*, 29(5), 421–428. <https://doi.org/10.1080/14330237.2019.1675996>
- Culpepper, R., & Watts, L. (1999). Measuring cultural dimensions at the individual level: An examination of the Dorfman and Howell (1988) scales and Robertson and Hoffman (1999) scale. *Academy of Strategic and Organizational Leadership Journal*, 3(1), 22–24.
- Dalal, R. S., Baysinger, M., Brummel, B. J., & Lebreton, J. M. (2012). The relative importance of employee engagement, other job attitudes, and trait affect as predictors of job performance. *Journal of Applied Social Psychology*, 42(1), 295–325. <https://doi.org/10.1111/j.1559-1816.2012.01017.x>

- De Vries, R. E., Bakker-Pieper, A., & Oostenveld, W. (2010). Leadership = communication? The relations of leaders' communication styles with leadership styles, knowledge sharing and leadership outcomes. *Journal of Business and Psychology*, 25(3), 367–380. <https://doi.org/10.1007/s10869-009-9140-2>
- Dedobbeleer, N., & Béland, F. (1991). A safety climate measure for construction sites. *Journal of Safety Research*, 22, 97–103. [https://doi.org/10.1016/0022-4375\(91\)90017-P](https://doi.org/10.1016/0022-4375(91)90017-P)
- DeJoy, D. M., Searcy, C. A., & Murphy, L. R. (2000). Behavioural-diagnostic analysis of compliance with universal precautions among nurses. *Journal of Occupational Health Psychology*, 5, 127–141.
- Díaz, R. I., & Cabrera, D. D. (1997). Safety climate and attitude as evaluation measures of organizational safety. *Accident Analysis and Prevention*, 29(5), 643–650. [https://doi.org/10.1016/s0001-4575\(97\)00015-8](https://doi.org/10.1016/s0001-4575(97)00015-8)
- Diffie-Couch, P. (1984). Building a feeling of trust in the company. *Supervisory Management*, 29(4), 31–36.
- Dorfman, P. W., & Howel, J. P. (1988). Dimensions of national culture and effective leadership patterns: Hofstede revisited. *Advances in International Comparative Management*, 3(1), 127–150.
- Gausdal, A. H., & Makarova, J. (2017). Trust and safety onboard. *WMU Journal of Maritima Affairs*, 16, 197–217. <https://doi.org/10.1007/s13437-017-0126-z>
- Goldenhar, L. M., Williams, L. J., & Swanson, N. G. (2003). Modelling relationships between job stressors and injury and near-miss outcomes for construction labourers. *Work and Stress*, 17(3), 218–240. <https://doi.org/10.1080/02678370310001616144>
- Grace-Martin, K. (2020). *When unequal sample sizes are and are not a problem in ANOVA*. The Analysis Factor. <https://www.theanalysisfactor.com/when-unequal-sample-sizes-are-and-are-not-a-problem-in-anova/>
- Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: a framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, 5(3), 347–358. <https://doi.org/10.1037/1076-8998.5.3.347>
- Guldenmund, F. W. (2007). The use of questionnaires in safety culture research - an

- evaluation. *Safety Science*, 45(6), 723–743. <https://doi.org/10.1016/j.ssci.2007.04.006>
- Hahn, S. E., & Murphy, L. R. (2008). A short scale for measuring safety climate. *Safety Science*, 46(7), 1047–1066. <https://doi.org/10.1016/j.ssci.2007.06.002>
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage publications.
- Hofstede, Geert. (2011). *Dimensionalizing Cultures: The Hofstede model in Context*. 2(1), 1–26.
- James, L. R., James, L. A., & Ashe, D. K. (1990). The meaning of organizations: The role of cognition and values. *Organizational Climate and Culture*, 40–84.
- Kath, L. M., Magley, V. J., & Marmet, M. (2010). The role of organizational trust in safety climate's influence on organizational outcomes. *Accident Analysis and Prevention*, 42(5), 1488–1497. <https://doi.org/10.1016/j.aap.2009.11.010>
- Lechner, F. J. (2009). *Globalization: The making of world society*. Wiley - Blackwell.
- Luria, G. (2010). The social aspects of safety management: Trust and safety climate. *Accident Analysis and Prevention*, 42(4), 1288–1295. <https://doi.org/10.1016/j.aap.2010.02.006>
- McAllister, D. J. (1995). Affect- and cognition- based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, 38(1), 24–59.
- Mearns, K., Whitaker, S. M., & Flin, R. (2003). Safety climate, safety management practice and safety performance in offshore environments. *Safety Science*, 41, 641–680. [https://doi.org/10.1016/S0925-7535\(02\)00011-5](https://doi.org/10.1016/S0925-7535(02)00011-5)
- Meng, J. (2014). Unpacking the relationship between organizational culture and excellent leadership in public relations: An empirical investigation. *Journal of Communication Management*, 18(4), 363–385. <https://doi.org/10.1108/JCOM-06-2012-0050>
- Messner, W. (2020). Connections Between Cultures: Using Empirical Distributions for Measuring Cultural Differences. *Journal of Cross-Cultural Psychology*. <https://doi.org/10.1177/0022022120982370>
- Mohamed, S., Ali, T. H., & Tam, W. Y. V. (2009). National culture and safe work behaviour of construction workers in Pakistan. *Safety Science*, 47(1), 29–35. <https://doi.org/10.1016/j.ssci.2008.01.003>

- Muenjohn, N., & Armstrong, A. (2008). Evaluating the structural validity of the multifactor leadership questionnaire (MLQ), capturing the leadership factors of transformational-transactional leadership. *Contemporary Management Research*, 4(1), 3–14.
- Nanjundeswaraswamy, T. S., & Swamy, D. R. (2014). Leadership styles. *Advances in Management*, 7(2), 57–62. <https://doi.org/10.1016/b978-1-84334-658-6.50003-6>
- Norton, R. W. (1978). Foundation of a Communicator Style Construct. *Human Communication Research*, 4(2), 99–112. <https://doi.org/10.1111/j.1468-2958.1978.tb00600.x>
- Pacleb, T. G., & Bocarnea, M. c. (2016). The relationship between leadership styles, leader communication style, and impact on leader-member exchange relationship within the banking sector in the United States. *Challenges, Performances and Tendencies in Organisation Management*, 275–287.
- Park, J. G., & Lee, J. (2014). Knowledge sharing in information systems development projects: Explicating the role of dependence and trust. *International Journal of Project Management*, 32(1), 153–165. <https://doi.org/10.1016/j.ijproman.2013.02.004>
- Rosseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *The Academy of Management Review*, 23(3), 393–404.
- Ruggieri, S. (2009). Leadership in virtual teams : A comparison of transformational and transactional leaders. *Social Behavior and Personality*, 37(8), 1017–1021. <https://doi.org/10.2224/sbp.2009.37.8.1017>
- Saeed, J. (2005). *Managing Organizations in a Global Economy. An Intercultural Perspective*. Thomson South- Western.
- Sarhadi, M. (2016). Comparing Communication Style within Project Teams of three Project-oriented Organizations in Iran. *Procedia - Social and Behavioral Sciences*, 226, 226–235. <https://doi.org/10.1016/j.sbspro.2016.06.183>
- Schaufeli, W. B., & Bakker, A. B. (2004). Utrecht work engagement scale Preliminary Manual Version 1.1. *Occupational Health Psychology Unit Utrecht University*, December, 1–60. <https://doi.org/10.1037/t01350-000>
- Schaufeli, Wilmar B., Taris, T. W., & Van Rhenen, W. (2008). Workaholism, burnout, and work engagement: Three of a kind or three different kinds of employee well-being?

- Applied Psychology*, 57(2), 173–203. <https://doi.org/10.1111/j.1464-0597.2007.00285.x>
- Shockley-Zalabak, P., Ellis, K., & Cesaria, R. (1999). *Measuring organizational trust: Trust and distrust across cultures: The organizational trust index*.
- Snaebjornsson, I. minelgaite, & Edvardsson, I. R. (2013). Gender, Nationality and Leadership Style: A Literature Review. *International Journal of Business and Management*, 8(1). <https://doi.org/10.5539/ijbm.v8n1p89>
- Starren, A., Hornikx, J., & Luijters, K. (2013). Occupational safety in multicultural teams and organizations: A research agenda. *Safety Science*, 52, 43–49. <https://doi.org/10.1016/j.ssci.2012.03.013>
- Starren, M. (2016). Multicultural Working Teams and Safety Awareness: How Effective Leadership Can Motivate Safety Behaviour. *Psychology*, 07(07), 1015–1022. <https://doi.org/10.4236/psych.2016.77102>
- Ugwu, F. O., Onyishi, I. E., & Rodríguez-Sánchez, A. M. (2014). Linking organizational trust with employee engagement: The role of psychological empowerment. *Personnel Review*, 43(3), 377–400. <https://doi.org/10.1108/PR-11-2012-0198>
- Victor, G. Y. S., & Soutar, G. N. (2005). The Role Of Ethical Behaviours In The Relations Between Leadership Styles And Job Performance. *Anzmac Conference: Corporate Responsibility*, 24–33.
- Wang, D. S., & Hsieh, C. C. (2013). The effect of authentic leadership on employee trust and employee engagement. *Social Behavior and Personality*, 41(4), 613–624. <https://doi.org/10.2224/sbp.2013.41.4.613>
- Williamson, A. M., Feyer, A. M., Cairns, D., & Biancotti, D. (1997). The development of a measure of safety climate: The role of safety perceptions and attitudes. *Safety Science*, 25(1–3), 15–27. [https://doi.org/10.1016/S0925-7535\(97\)00020-9](https://doi.org/10.1016/S0925-7535(97)00020-9)
- Woodruffe, C. (2006). The crucial importance of employee engagement. *Human Resource Management International Digest*, 14(1), 3–5. <https://doi.org/10.1108/09670730610643891>
- Zigurs, I. (2003). Leadership in virtual teams: Oxymoron or opportunity? *Organizational Dynamics*, 31, 339–351.

Zohar, D. (2000). Safety climate and leadership factors as predictors of injury records in work-groups. *Academy of Management Annual Meeting*.

Zohar, D. (2002). Modifying supervisory practices to improve subunit safety: a leadership-based intervention model. *The Journal of Applied Psychology*, 87(1), 156–163.

<https://doi.org/10.1037/0021-9010.87.1.156>

Appendix A Dutch survey

Introduction + Consent

Beste deelnemer,

U wordt uitgenodigd om mee te doen aan een onderzoek naar de betrokkenheid van de werknemer. Dit onderzoek wordt uitgevoerd door Kris Verschuuren, student aan de Radboud Universiteit.

Wat wordt er van u verwacht?

Meedoen aan het onderzoek houdt in dat u een online vragenlijst gaat invullen. De vragen hebben betrekking op uw directe leidinggevende, uw werk, veiligheid op de werkvloer en het vertrouwen in uw werkgever. Het invullen van de vragenlijst kost ongeveer 8 minuten. Er zit echter geen tijdslimiet op deze survey, wat inhoudt dat u alle tijd mag nemen die u nodig heeft om alle vragen door te nemen.

Vrijwilligheid

U doet vrijwillig mee aan dit onderzoek. Daarom kunt u op elk moment tijdens het onderzoek uw deelname stopzetten en uw toestemming intrekken. U hoeft niet aan te geven waarom u stopt. Omdat de data meteen geanonimiseerd worden, is het na het voltooien van de survey niet mogelijk om uw onderzoeksgegevens te laten verwijderen.

Wat gebeurt er met mijn gegevens?

De onderzoeksgegevens die we in dit onderzoek verzamelen, zullen door wetenschappers gebruikt worden voor datasets, artikelen en presentaties. De anoniem gemaakte onderzoeksgegevens zijn tenminste 10 jaar beschikbaar voor andere wetenschappers. Als we gegevens met andere onderzoekers delen, kunnen deze dus niet tot u herleid worden. We bewaren alle onderzoeksgegevens op beveiligde wijze volgens de richtlijnen van de Radboud Universiteit.

Heeft u vragen over het onderzoek?

Als u meer informatie over het onderzoek wilt hebben, kunt u contact opnemen met:
Kris Verschuuren

k.verschuuren@student.ru.nl

Ethische toetsing

Dit onderzoek is goedgekeurd door de Ethische Toetsingscommissie Geesteswetenschappen van de Radboud Universiteit (ETC-GW versie 1.6)

Toestemming

Door te klikken op de knop 'Ik ga akkoord' geeft u aan dat u:

- bovenstaande informatie heeft gelezen
- vrijwillig meedoet aan het onderzoek
- 16 jaar of ouder bent

Als u niet mee wilt doen aan het onderzoek, kunt u op de knop 'Ik wil niet meedoen' klikken.

- Ik ga akkoord
- Ik wil niet meedoen

Leadership styles

De volgende stellingen gaan over uw directe leidinggevende.

Geef aan hoe vaak onderstaande stellingen van toepassing zijn.

	Helemaal niet	Af en toe	Soms	Regelmatig	Vaak
Mijn leidinggevende zet het belang van de groep boven eigenbelang.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn leidinggevende houdt rekening met de morele en ethische consequenties van beslissingen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn leidinggevende praat optimistisch over de toekomst.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Helemaal niet	Af en toe	Soms	Regelmatig	Vaak
Mijn leidinggevende onderzoekt kritische aannames opnieuw om te kijken of ze wel passend zijn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn leidinggevende helpt anderen om hun sterke punten te ontwikkelen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn leidinggevende maakt duidelijk wat men kan verwachten als prestatiedoelen worden behaald.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn leidinggevende houdt alle fouten bij.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Uncertainty avoidance

De volgende stellingen gaan over uw werk.

Geef aan in hoeverre onderstaande stellingen voor u van toepassing zijn.

	Helemaal mee oneens	Oneens	Neutraal	Eens	Helemaal mee eens
Het is belangrijk om functie-eisen en instructies in detail uit te leggen, zodat medewerkers altijd weten wat ze moeten doen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managers verwachten dat werknemers instructies nauwgezet opvolgen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regels en voorschriften zijn belangrijk omdat ze medewerkers informeren over wat de organisatie van hen verwacht.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Helemaal mee oneens	Oneens	Neutraal	Eens	Helemaal mee eens
Standaard uitgeschreven voorschriften voor dagelijkse handelingen kunnen werknemers hulp bieden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructies voor specifieke handelingen zijn belangrijk voor werknemers die aan het werk zijn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Safety climate

De volgende stellingen gaan over veiligheid op uw werkvloer.

Geef aan in hoeverre u het eens bent met onderstaande stellingen.

	Helemaal mee oneens	Oneens	Neutraal	Eens	Helemaal mee eens
Nieuwe medewerkers leren snel dat van hen verwacht wordt dat ze gezondheids- en veiligheidsvoorschriften goed opvolgen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Werknemers worden op de hoogte gebracht wanneer ze niet goed de veiligheidsvoorschriften volgen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Werknemers en management werken samen om de veiligst mogelijke omstandigheden te garanderen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Er worden geen compromissen gesloten wanneer het de gezondheid en veiligheid van werknemers betreft.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Helemaal mee oneens	Oneens	Neutraal	Eens	Helemaal mee eens
De gezondheid en veiligheid van werknemers heeft hoge prioriteit bij het management waar ik werk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel me vrij om veiligheidsproblemen te melden waar ik werk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Level of trust

De volgende stellingen gaan over het vertrouwen dat u heeft in uw directe leidinggevende.

Geef aan in hoeverre onderstaande stellingen voor u toepasbaar zijn.

	Zeer weinig	Weinig	Een beetje	Sterk	Zeer sterk
Ik kan het mijn directe leidinggevende vertellen wanneer er iets misgaat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn directe leidinggevende volgt op wat hij/zij zegt dat hij/zij gaat doen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben zeer tevreden over de algehele efficiëntie van de organisatie waar ik werk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn directe leidinggevende luistert naar mij.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben vrij om het oneens te zijn met mijn directe leidinggevende.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn directe leidinggevende gedraagt zich consequent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Zeer weinig	Weinig	Een beetje	Sterk	Zeer sterk
Ik voel me verbonden met mijn organisatie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben zeer tevreden over de algehele kwaliteit van de producten en/of diensten van de organisatie waar ik voor werk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik heb inspraak in beslissingen die van invloed zijn op mijn werk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn directe leidinggevende gaat vertrouwelijk om met informatie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik krijg voldoende informatie over hoe goed ik mijn werk doe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben zeer tevreden over het vermogen van de organisatie om haar doelstellingen te behalen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik krijg voldoende informatie over hoe ik word beoordeeld.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik voel me verbonden met mijn directe leidinggevende.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik krijg voldoende informatie over hoe er met mijn werk gerelateerde problemen wordt omgegaan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn directe leidinggevende toont interesse in mijn persoonlijk welzijn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik krijg voldoende informatie over de manier waarop organisatorische beslissingen worden genomen die van invloed zijn op mijn werk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Zeer weinig	Weinig	Een beetje	Sterk	Zeer sterk
Mijn directe leidinggevende komt zijn/haar verplichtingen tegenover teamleden na.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn waarden zijn vergelijkbaar met de waarden van mijn directe leidinggevende.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik krijg voldoende informatie over de langetermijnstrategie van mijn organisatie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn directe leidinggevende is oprecht in zijn/haar pogingen om met teamleden te communiceren.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn directe leidinggevende spreekt positief over ondergeschikten in het bijzijn van anderen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Employee engagement

De volgende uitspraken hebben betrekking op hoe u uw werk beleeft en hoe u zich daarbij voelt. Wilt u aangeven hoe vaak iedere uitspraak op u van toepassing is?

	Helemaal niet	Af en toe	Soms	Regelmatig	Vaak
Op mijn werk bruis ik van energie.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik vind het werk dat ik doe nuttig en zinvol.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ik aan het werk ben, dan vliegt de tijd voorbij.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ik werk voel ik me fit en sterk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben enthousiast over mijn baan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Helemaal niet	Af en toe	Soms	Regelmatig	Vaak
Als ik werk vergeet ik alle andere dingen om me heen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn werk inspireert mij.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ik 's morgens opsta heb ik zin om aan het werk te gaan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wanneer ik heel intensief aan het werk ben, voel ik mij gelukkig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben trots op het werk dat ik doe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ga helemaal op in mijn werk.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ik aan het werk ben, dan kan ik heel lang doorgaan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn werk is voor mij een uitdaging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn werk brengt mij in vervoering.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Op mijn werk beschik ik over een grote mentale (geestelijke) veerkracht.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik kan me moeilijk van mijn werk losmaken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Op mijn werk zet ik altijd door, ook als het tegenzit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographic questions

Met welk geslacht identificeert u zich het meest?

- Man
- Vrouw
- Anders
- Zeg ik liever niet

Wat is uw leeftijd?

Wat is uw hoogst genoten opleidingsniveau?

- Middelbare school (mavo/havo/vwo)
- MBO
- HBO
- WO Bachelor
- WO Master
- WO PhD

Wat is het niveau van uw functie binnen uw bedrijf?

- Junior
- Medior
- Senior
- Niet van toepassing

Binnen welke sector bent u werkzaam?

- Zakelijke dienstverlening
- Zorg
- Handel
- Industrie
- Onderwijs
- Bouwsector
- Cultuur/Recreatie
- Horeca
- Openbaar bestuur
- Vervoer en opslag
- Informatie en communicatie

- Landbouw en visserij
- Financiële dienstverlening
- Verhuur en handel van onroerend goed
- Waterbedrijven en afvalbeheer
- Energievoorziening
- Delftstoffenwinning
- Overig

Open questions

Wat zijn, volgens u, factoren die bepalen hoe veilig u zich voelt op uw werk?

Wat beïnvloedt, volgens u, de betrokkenheid van een werknemer ten opzichte van het bedrijf?

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Appendix B Spanish survey

Introduction + Consent

Querido participante,

Está invitado a participar en una encuesta sobre el compromiso de los empleados. Esta investigación la lleva a cabo Kris Verschuuren, estudiante de la Universidad de Radboud.

¿Qué se espera de ti?

Participar en la encuesta significa que completará un cuestionario en línea. Las preguntas se relacionan con su supervisor directo, su trabajo, la seguridad en el lugar de trabajo y la confianza en su empleador. Completar el cuestionario toma aproximadamente 8 minutos. Sin embargo, no hay límite de tiempo para esta encuesta, lo que significa que puede tomarse todo el tiempo que sea necesario para responder a todas las preguntas.

Voluntariedad

Participa voluntariamente en este estudio. Por lo tanto, puede dejar de participar y retirar su consentimiento en cualquier momento durante el estudio. No es necesario que indique por qué se detiene. Debido a que los datos se anonimizan inmediatamente, no es posible eliminar los datos de su investigación después de que se haya completado la encuesta.

¿Qué pasa con mis datos?

Los científicos utilizarán los datos de investigación que recopilamos en este estudio para conjuntos de datos, artículos y presentaciones. Los datos de investigación anonimizados están disponibles para otros científicos durante al menos 10 años. Si compartimos datos con otros investigadores, no se puede rastrear hasta usted. Almacenamos todos los datos de investigación de manera segura y de acuerdo con las pautas de Radboud University.

¿Tiene alguna pregunta sobre el estudio?

Si desea obtener más información sobre el estudio, comuníquese con:

Kris Verschuuren

k.verschuuren@student.ru.nl

Revisión ética

Esta investigación ha sido aprobada por el Comité de Revisión Ética de Humanidades de la Universidad de Radboud (ETC-GW versie 1.6)

Permiso

Al hacer clic en el botón 'Estoy de acuerdo', indicas que:

- lea la información anterior
- participa voluntariamente en el estudio
- tiene 16 años o más

Si no desea participar en el estudio, puede hacer clic en el botón 'No quiero participar'.

- Estoy de acuerdo
- No quiero participar

Leadership styles

Las siguientes tesis son sobre su supervisor inmediato.

Indique con qué frecuencia se le aplican las siguientes tesis.

	Para nada	De vez en cuando	Algunas veces	Regularmente	A menudo
Mi supervisor antepone los intereses del grupo al interés propio.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor tiene en cuenta las consecuencias morales y éticas de las decisiones.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor es optimista sobre el futuro.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor vuelve a examinar las suposiciones críticas para ver si son apropiadas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor ayuda a otros a desarrollar sus fortalezas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Para nada	De vez en cuando	Algunas veces	Regularmente	A menudo
Mi supervisor aclara qué se puede esperar cuando se alcanzan los objetivos de desempeño.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor realiza un seguimiento de todos los errores.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Uncertainty avoidance

Las siguientes tesis son sobre su trabajo.

Indique en qué medida se le aplican las siguientes tesis.

	Totalmente en desacuerdo	Discrepar	Neutral	una vez	Totalmente de acuerdo
Es importante explicar los requisitos del trabajo y las instrucciones en detalle para que los empleados siempre sepan qué hacer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Los supervisores esperan que los empleados sigan las instrucciones de cerca.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Las reglas y regulaciones son importantes porque informan a los empleados sobre lo que la organización espera de ellos.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Las reglas escritas estándar para las actividades diarias pueden ayudar a los empleados.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Totalmente en desacuerdo	Discrepar	Neutral	una vez	Totalmente de acuerdo
Las instrucciones para acciones específicas son importantes para los empleados que están en el trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Safety climate

Las siguientes tesis se refieren a la seguridad en su lugar de trabajo.

Indique en qué medida está de acuerdo con las siguientes tesis.

	Totalmente en desacuerdo	Discrepar	Neutral	una vez	Totalmente de acuerdo
Los nuevos empleados aprenden rápidamente que se espera que sigan las normas de salud y seguridad correctamente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Se notifica a los empleados cuando no cumplen correctamente las normas de seguridad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Los empleados y la gerencia trabajan juntos para garantizar las condiciones más seguras posibles.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No se hacen concesiones en lo que respecta a la salud y la seguridad de los trabajadores. (Totalmente en desacuerdo = se hacen concesiones; totalmente de acuerdo= no se hacen concesiones)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Totalmente en desacuerdo	Discrepar	Neutral	una vez	Totalmente de acuerdo
La salud y seguridad de los empleados es una prioridad alta en la gestión donde trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Me siento libre de informar problemas de seguridad en el lugar donde trabajo. (totalmente en desacuerdo= no me siento libre, no puedo informar problemas; totalmente de acuerdo= me siento libre, puedo informar problemas)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Level of trust

Las siguientes tesis se refieren a la confianza que tiene en su supervisor inmediato.

Indique en qué medida le son aplicables las siguientes tesis.

	Muy pocos	Pequeño	Un poco	Fuerte	Muy fuerte
Puedo decirle a mi supervisor inmediato si algo sale mal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor directo hace un seguimiento de lo que dice que va a hacer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estoy muy satisfecho con la eficiencia general de la organización en la que trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor inmediato me escucha.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soy libre de no estar de acuerdo con mi supervisor inmediato.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Muy pocos	Pequeño	Un poco	Fuerte	Muy fuerte
Mi supervisor directo se comporta de forma coherente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Me siento conectado con mi organización.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estoy muy satisfecho con la calidad general de los productos y / o servicios de la organización para la que trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tengo voz en las decisiones que afectan a mi trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor directo maneja la información de manera confidencial.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recibo suficiente información sobre lo bien que hago mi trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estoy muy satisfecho/a con la capacidad de la organización para lograr sus objetivos.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recibo suficiente información sobre cómo me están evaluando.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Siento un vínculo con mi supervisor inmediato.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obtengo suficiente información sobre cómo se manejan mis problemas relacionados con el trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor directo está interesado en mi bienestar personal. (bienestar personal = Estado de la persona, condiciones físicas y mentales)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Muy pocos	Pequeño	Un poco	Fuerte	Muy fuerte
Obtengo suficiente información sobre la forma en que se toman las decisiones organizativas que afectan mi trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor inmediato cumple con sus obligaciones con los miembros del equipo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mis valores son comparables a los valores de mi supervisor inmediato.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recibo suficiente información sobre la estrategia a largo plazo de mi organización.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor inmediato es sincero en sus esfuerzos por comunicarse con los miembros del equipo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi supervisor directo habla positivamente de los subordinados en presencia de otros.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Employee engagement

Las siguientes tesis se relacionan con cómo percibe su trabajo y cómo se siente al respecto. ¿Le gustaría indicar la frecuencia con qué las tesis siguientes son verdaderas para usted?

	Nunca	De vez en cuando	Algunas veces	Regularmente	A menudo
En el trabajo estoy rebotante de energía.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encuentro el trabajo que hago útil y significativo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Nunca	De vez en cuando	Algunas veces	Regularmente	A menudo
Cuando estoy en el trabajo, el tiempo vuela.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cuando trabajo me siento fuerte y en forma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estoy emocionado con mi trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cuando trabajo me olvido de todo lo que me rodea.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi trabajo me inspira.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cuando me levanto por la mañana tengo ganas de ir a trabajar.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cuando trabajo muy intensamente, me siento feliz.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estoy orgulloso del trabajo que hago.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estoy completamente absorto en mi trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cuando estoy trabajando, puedo continuar durante mucho tiempo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi trabajo es un desafío para mí.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mi trabajo me embelesa.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
En el trabajo tengo una gran capacidad de recuperación mental (espiritual).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Me cuesta romper con mi trabajo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Siempre persevero en el trabajo, incluso cuando las cosas van mal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographic questions

¿Con qué género te identificas más?

- hombre
- Mujer
- Diferente
- prefiero no decir

¿Cuál es su edad?

¿Cual es su nivel más alto de educación?

- Escuela secundaria
- Bachillerato
- Formación Profesional
- Enseñas universitarias (Grado)
- Enseñas universitarias (Máster)
- Enseñas universitarias (Doctorado)

¿Cuál es el nivel de su puesto dentro de su empresa?

- Nivel inicial (1 - 3 años)
- Medio (3 - 7 años)
- Avanzado (7+ años)
- no se aplica

¿En que sector trabajas?

- Servicios de negocios
- Sector sanitario
- Comercio
- Industria
- Educación

- Sector de construcción
- Cultura/Recreación
- Hostelería
- Administración Pública
- Transporte y almacenamiento
- Información y comunicación
- Agricultura y la pesca
- servicios financieros
- Alquiler y comercio de bienes raíces
- Empresas de agua y la gestión de residuos
- Abastecimiento energético
- Extracción en minas y canteras
- Otro

Open questions

¿Cuáles cree que son los factores que determinan qué tan seguro se siente en el trabajo?

¿Qué cree que afecta el compromiso de un empleado con la empresa?

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