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The Moderating role of Electronic Dependence on the Self-Other Agreement, when influencing Interpersonal Citizenship Behavior

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Summary

In this study, we investigate through a quantitative approach, whether electronic dependence had a significant influence on the relationship between self-rated and other-rated leadership. The impact on the relationship was further seen in relation to the follower outcome, known as interpersonal citizenship behavior (Settoon & Mossholder, 2002). The leadership-style for this study was represented by two facets of Transformational Leadership, which were Individual Consideration and Intellectual Stimulation (Yukl, 2013; Schieltz, 2018; Pasovska & Miceski, 2018). The relationship between self-rated and other-rated leadership was explained by the Self-Other Agreement (Atwater & Yammarino, 1992). Lastly, Electronic Dependence was represented by written IT-communication tools (Gibson & Gibbs, 2006; Dulebohn & Hoch, 2017). Even though there were numerous studies on TFL, SOA, and ICB, the current research was considered lacking important knowledge on the influential role of electronic dependence. The findings showed that there was no direct influence from self-rated TFL on follower ICB. Further, the relationship between other-rated TFL and ICB gained support, which showed a relation between how followers perceive their leader and how they perform at work. The assumptions of self-rated TFL being mediated by other-rated TFL, influencing ICB, were not supported at all. Lastly, the moderating role of ED was supported, concerning IC-related behavior, when impacting person-oriented ICB.

1.0 - Introduction

The use of electronic communication tools has increased the flexibility for communication in general, by removing the necessity of meeting in person when communicating daily. However, the increased influence of technology has not contributed without being granted some mentionable critique. This critique has been primarily in regards to the pitfalls of overconfidence, as a consequence of *electronic dependence* (also known as ED). ED has been described as the relative extent to which teams, or colleagues, rely on electronic tools to communicate (Gibson & Gibbs, 2006). When no other reference point is present in electronic communication, people tend to use themselves as a baseline, when trying to imagine how others would react (Kruger, Epley, Parker & Ng, 2005). These actions have been highly related to promoting biases, in terms of overestimating the ability to perceive messages accurately, when communication in person has decreased (2005). Such biases have been related to influencing the employees' perception of the leader, which may further affect their performance at work (2005).

There has not been a lot of research regarding electronic dependence, and its influence on modern organizations. However, current research has shown ED to be relatively static and has mainly enabled a one-way communication (Stone & Deadrick, 2015). The static nature may be explained by the waiting period that comes from sending an email or message until the response has been received. This way, the communication may be interpreted as impersonal where misunderstandings can arise, and an increasing distance can be the result between leaders and employees (2015). The potential distance created by the electronic dependence may serve as a moderating influence, and increase the gap that has already been established in research, known as the gap in the self-other agreement (Yammarino & Atwater, 1992). *The self-other agreement* (also known as SOA) consists of a self-rating, often made by the leader, and other-rating, which is the follower's perception of the leader (1992). The research conducted on the field of SOA shows that people, in general, tend to overrate their performances at work, compared to how other rates them. The difference in rating can lead to a gap between the leader's perception and how they are perceived (1992). For this study, the self-, and other-rating will be a rating of the

leader's actions regarding *transformational leadership* (also known as TFL). TFL is a leadership style, which influences followers by appealing to their values and emotions, and mobilizes their energy (Yukl, 2013). TFL consists of four facets, where only two have been chosen for this particular study; Individual consideration and intellectual stimulation.

Previous research regarding TFL has shown that there is some skepticism towards the direct effect of a leader's actions (Kuvaas & Dysvik, 2010). Kuvaas & Dysvik (2010) mentioned that TFL should be explained through a mediating factor when attempting to realize desired employee outcomes. Follower's perception of leader behavior may function as a mediator between leaders self-rating of TFL and the outcome, which in this instance was *interpersonal citizenship behavior* (also known as ICB). ICB has been described as the extent to which employees take on responsibilities that lie outside and beyond the job description (Deery, Rayton, Walsh & Kinnie, 2017; Organ & Konovsky, 1989; Organ, 1997; Settoon & Mossholder, 2002). The research of Kuvaas & Dysvik (2010) showed that using the other-rating as a mediator would have a positive effect on the interpersonal branch of organizational citizenship behavior, known as ICB.

It was considered essential to identify the gap, as it may support the argument of explaining leader activities through followers' perception of leader behavior (2010). It could, therefore, make it easier to understand the relationship between leader actions and ICB, by examining the negative, and expanding, affect electronic dependence could have on the gap in the SOA. The relationship between self-rated TFL and ICB, mediated by other-rated TFL was essential to identify, as it created the foundation for the model where ED would be included. Even though there were numerous studies on TFL, SOA, and ICB, the research was considered lacking the necessary knowledge on the influential role of electronic dependence (Gibson & Gibbs, 2006; Dulebohn & Hoch, 2017).

When reviewing the existing research on electronic dependence, it appeared to be some deficiency regarding how the gap in the SOA either increases or decreases, by the inclusion of ED. Therefore, in this study we wanted to investigate the moderating effect that electronic dependence had on the relationship between leader and follower. The study will, therefore, attempt to extend beyond existing literature by addressing this gap, which is becoming

increasingly more critical in today's society. Identifying the gap will be done by focusing on how the influence of electronic communication may explain the artificial distance between leaders and followers. The focus can then be directed towards the consequences of diminishing the relationship between leaders and followers. Potential findings may contribute to gaining insight into how the effects of increased electronic dependence could affect the gap between how the leader's self-perception and the employee's perception of leadership behavior. In practice, the insight provided in this study could prove helpful with regards to HR, organizational culture, and leader-follower relations.

The thesis will elaborate on the following to contribute to the existing field of research. Initially, it will test whether there exists a direct relationship between self-rated leadership and ICB. Secondly, the direct relationship between other-rated leadership and ICB will be addressed to highlight the importance of the mediator. Thirdly, the indirect effect of self-rated leadership on ICB will be tested when mediated by other-rated leadership. Finally, the focus will be to include ED as a moderator on the indirect effect to see how the relationship between self-rated and other-rated leadership is explained. The overall research question will, therefore, be presented as:

What influence does electronic dependence have on the relationship between the leader's self-rated behavior and follower-rated leadership behavior, when addressing the outcomes of employees' interpersonal citizenship behavior?

2.0 - Theory

A conceptual model was created, with the intent of visualizing the logic of the study. The model shows the included variables and their role as either predictor, mediator, dependent variable, or as a moderator. The following chapter will present the theoretical framework with a basis in TFL, ICB, SOA, and ED, while previous findings of relevant constructs will be discussed. Based on this, the study included 16 hypotheses, which were all tested in chronological order, based on their number, and they will be formed and presented retroactively.

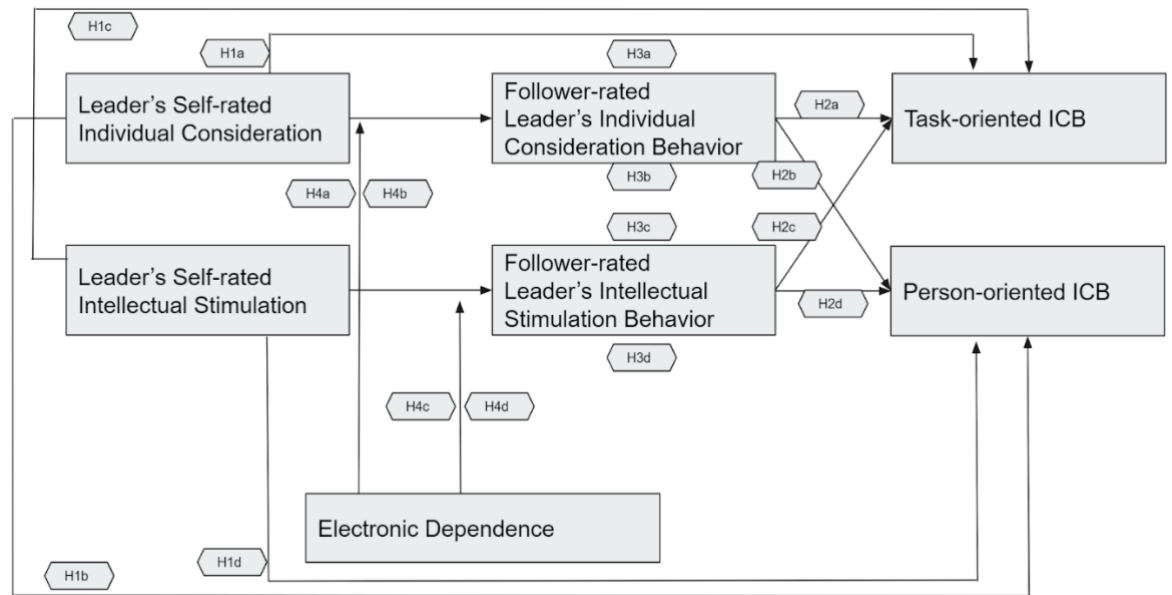


Figure 1: The Moderating Influence of Electronic Dependence.

2.1 - Transformational Leadership

A new concept of leadership was defined in 1978 by James Macgregor Burns, known as "Transformational leadership" (Yukl, 2013; Schieltz, 2018; Pasovska & Miceski, 2018). It had an innovative approach to leadership by appealing to the common good, rather than focusing on the leader's power basis (Pasovska & Miceski, 2018). Burns' work has been a popular research area ever since, and it has become highly recognized in today's society as a preferred approach towards leader behavior (Yukl, 2013; Schieltz, 2018). Pasovska & Miceski (2018) states that the goal of transformational leadership is to "transform" people and organizations in a literal sense: to change their hearts and minds, to develop a clear and appealing vision, to confirm the objectives, to adjust their behavior to specific beliefs, principles, and values. In other words, to make changes that are real, permanent, essential, and evolving (Pasovska & Miceski, 2018).

TFL contains several facets, which serve as a means to influence employees to become high achievers with moral codes aligned with the company's (Yukl, 2013; Pasovska & Miceski, 2018). The facets are individual consideration, inspirational motivation, idealized influence, and intellectual stimulation, together known as the four I's (Boer, Deinert, Homan & Voelpel, 2016; Yukl, 2013).

Individual consideration is reflected in the way leaders support, encourage, and pay special attention to the specific follower's achievement and

growth needs (Tracey & Hinkin, 1998; Cherry, 2018; Yukl, 2013). Therefore, open communication is an important aspect, to obtain a platform where ideas are shared frequently, and special recognition is given immediately for each unique contribution (Cherry, 2018; Yukl, 2013). The individual recognition feedback is supported by the findings from Globoforce, where employees at Deloitte said they prefer a dynamic, continuous, and personalized reward program, to a once-a-year bonus (Deloitte, 2018). In other words, employees perceive it as more favorable when more customized approaches are being applied.

Inspirational motivation is the way leaders present behaviors that provide meaning and a challenge to the followers' work (Tracey & Hinkin, 1998). Previous research has argued that a leader's ability to articulate an achievable and attractive vision, is a cornerstone for achieving genuine motivation from the followers (Cherry, 2018; Yukl, 2013).

Idealized influence describes behaviors that make the followers admire, respect, and trust the leader (Tracey & Hinkin, 1998). A commonly accepted fact about leadership is that a leader must serve as a role model, by creating an idealized way of behaving in the given work environment (Cherry, 2018; Yukl, 2013).

Intellectual stimulation reflects behaviors where leaders try to make the followers think of new ideas, solutions, or approaches when solving their tasks (Tracey & Hinkin, 1998). To challenge the status quo is an essential aspect of transformational leadership, where creativity should be encouraged to achieve innovation. A leader is, therefore, urged to support followers when exploring new methods and discovering new ways to learn (Cherry, 2018; Yukl, 2013).

Much empirical knowledge about transformational leadership has been gathered up to date, which supports its significant role in today's knowledge dependent society. However, there have been some disagreements regarding the facets of TFL in measuring the accurate content of the leader's style (Bass, 1999). The controversy mainly revolves around inspirational motivation and idealized influence. Bass (1999) found through a multifactor leadership questionnaire that inspirational motivation was highly correlated to the trait charisma with a loading above 0.80, which indicated that the traits could not easily be separated (Bass, 1999).

McNamara's Fallacy highlighted an additional challenge through a confirmatory factor analysis of 3786 respondents. The Fallacy suggested that inspirational motivation and idealized influence were so closely linked that they should instead be merged into inspirational-idealized influence. However, it is yet to become one of the recognized facets (Bass, 1999). It is also worth mentioning that the facet idealized influence could be culturally bound. As characteristics of a role model in one culture, might not be the same in another (Jung, Bass & Sosik, 1995). Based on the overall challenges in terms of clarity and accuracy, inspirational motivation and idealized influence will be excluded for the remaining research of this study.

2.2 - Interpersonal Citizenship Behavior

ICB's link to *Organizational Citizenship Behavior* (also known as OCB) and individual outcomes has been established through the study of Organ (1990), and Williams and Anderson (1991). OCB has been defined as behavior that contributes "*to the maintenance and enhancement of the social and psychological context that supports task performance*" (Organ, 1997, p. 91). Their research contributes to our current study, as individual outcomes of OCB is related to ICB (Settoon & Mossholder, 2002). The study will as a result of this focus on the facet of OCB, which is ICB, as it represents updated research on the relation to leader behavior. It will, therefore, function as the designated term for this study as it addresses employee outcomes, instead of OCB (2002). The argument of focusing on employee outcomes is further supported by Yukl (2013), as the study includes certain facets of TFL, that focuses on the individual's values and emotions.

The field of research on OCB has grown remarkably since the 1980s and has sparked some disagreement and confusion about the nature of the concept (Podsakoff, Mackenzie, Paine & Bachrach, 2000). The behaviors found in OCB are therefore not viewed as a job requirement, but actions that exceed standard role descriptions (Deery, Rayton, Walsh & Kinnie, 2017; Organ & Konovsky, 1989; Organ, 1997). Organ (1997) emphasized that the behaviors found in OCB often support the broader base of the organization. OCB tackles the social and psychological environment around the technical core, instead of contributing to the technical aspect of an organization. (1997). These behaviors

are not mandatory, and employees take on the responsibility on their own accord, even though they are not compensated for the behavior (Organ & Konovsky, 1989).

Organ (1990) mentioned several different behaviors that describe OCB; however, Williams & Anderson (1991) take a different approach to identifying the different kinds of behaviors presented in OCB. They distinguish between OCBO and OCBI, which separate behaviors that benefit organizations and individuals (1991). OCBO are behaviors that benefit the organization. These can be adhering to informal rules, giving advance notice when one is sick or away, etc. (Williams & Anderson, 1991). OCBI are behaviors that benefit the individuals, and through them can influence the organization (1991). Either by helping absentees with their work-load, or taking a personal interest in their co-workers (1991). One of the arguments for separating the behavior comes from the fact that citizenship behaviors often occur in interpersonal relationships (i.e., help or take an interest in others), and in an organizational context (i.e., gives advance notice when unable to come to work, or adheres to informal rules) (Settoon & Mossholder, 2002; Williams & Anderson, 1991).

Settoon & Mossholder (2002) presented further in their study the concept of ICB, which builds on the work of Williams and Anderson (1991) about OCBI. OCBI may be seen in relation to ICB, as both are described as actions made by followers that go outside the scope of the job description, with an emphasis on interpersonal relationships (Settoon & Mossholder, 2002). Settoon & Mossholder (2002) go on to distinguish between two forms of ICB; *person-focused* and *task-focused*. Person-focused ICB deals with problems of a more personal nature, as it has a foundation in social support (Settoon & Mossholder, 2002). Kinds of behavior could be accessibility, counseling and lifting the spirits of coworkers, closely linked with altruism and courtesy (Settoon & Mossholder, 2002; Hunter, Neubert, Perry, Witt, Penney & Weinberger, 2013). Task-focused ICB deals more with assisting with work that's not part of the formal work description. These behaviors could be work-related advice, offering a new perspective, or assuming additional responsibility like working late or getting involved in organizational affairs (Settoon & Mossholder, 2002; Hunter et al., 2013; Khodabandeh & Ardabili, 2015). Both

person-focused and task-focused ICB seem relevant for this study, in relation to the chosen facets of TFL, individual consideration, and intellectual stimulation.

It is also important to point out that ICB is not motivated by the same behaviors that inspire an employee to join, stay, or perform for an organization (Smith, Organ & Near, 1983). As interpersonal citizenship behaviors influence the willingness to go beyond formal requirements, they are not easily affected by the threat of sanctions (Smith et al., 1983; DiPaola & Tschannen-Moran, 2001). The research of Wang et al. (2005) and Podsakoff et al. (1990) showed that TFL is positively related to citizenship behaviors. The relation was to both organizational and individual outcomes, where the latter is related to ICB (Settoon & Mossholder, 2002). The positive relationship was also supported through a study conducted by Nguni and colleagues (2006). As citizenship behaviors focus solely on individual outcomes, it could enhance the social and psychological work environment. The argument could be made that there does exist a linkage between employees' ratings of leader behavior and the outcomes of citizenship behaviors (Wang et al., 2005). The existence of the relationship is not unthinkable, as a stronger leader rating from employees could improve the relationship between leader and employee, which also relates positively to citizenship behaviors (Wang, Law, Hackett, Wang, & Chen, 2005).

Podsakoff et al. (1990) add to the discussion by highlighting a potential direct effect from the different facets of TFL on ICB. Both individual consideration and intellectual stimulation proved to be more significant in their impact on ICB than the rest. While individual consideration had a positive, augmenting effect on citizenship behavior, intellectual stimulation showed a potential, negative impact (Podsakoff, Mackenzie, Moorman & Fetter, 1990). The negative impact was explained due to the role of intellectual stimulation in increasing task demands towards employees, always to try to find new and better methods. The employee could then experience increased role ambiguity, conflict, and stress (1990). Growing demands by the leader's intellectual stimulation might lead to less trust in the leader and less engagement in organizational citizenship behaviors (1990). Even though the study from Podsakoff et al. (1990) has focused on OCB, they focused on outcomes related to both organizations and individuals. Their research is the closest existing comparison available today, to explain the relation between TFL and ICB, which

is why it will serve as a baseline for this study (Podsakoff et al., 1990). As the relationship between TFL and ICB has not explicitly been tested in previous research, it highlights the need for us to create the following hypotheses:

H1a: *The leader's self-rated IC has a direct and positive influence on follower's task-oriented ICB.*

H1b: *The leader's self-rated IC has a direct and positive influence on follower's person-oriented ICB.*

H1c: *The leader's self-rated IS has a direct and negative influence on follower's task-oriented ICB.*

H1d: *The leader's self-rated IS has a direct and negative influence on follower's person-oriented ICB.*

2.3 - Self-Other Agreement

The mediating role of follower-rated leader behavior has become an area of research on its own, likely because of its commonly accepted relationship with follower outcomes (Dysvik & Kuvaas, 2010). A well-known statement in today's knowledge-oriented society is that leaders and organizations benefit from productive, engaged, and supportive employees. Such a perspective may help "reverse the lens" in leadership research by addressing the role that followers play in creating and maintaining effective relationships and leadership outcomes (Carsten, Uhl-Bien, West, Patera & McGregor, 2010).

The gap between the perception of self- and others is a potential for great contrasts. Atwater & Yammarino conducted in 1992 an extension of Ashford's research within the area of self-perception and presented an in-depth model of the self-other agreement theory (also described as SOA). The SOA is considered a powerful and relevant tool in situations where leaders have shown to over- or underestimated their performance (Atwater & Yammarino, 1992). For this particular study, the specific behavior that will be used as a measurement index is perceived supportive leader activities related to individual consideration and intellectual stimulation (Boer, Deiner, Homan, & Voelpel, 2016).

SOA involved two different ratings, one self-rating and one other-rating of oneself made by the follower, to compare and contrast (Atwater & Yammarino, 1992). Self-rating was highlighted by Atwater and Yammarino

(1992) to be potentially influenced by several factors such as personal characteristics, cognitive processes, and contextual factors. The other-rating was related to the influence of emotional stability and similarity effects (1992). As several social factors may influence the rating, there are also several social biases related to the process. To avoid these biases, Atwater and Yammarino (1992) emphasized the need to use several different questions when mapping ratings from self- and others, to predict existing relationships within SOA. Their study was conducted through a self-administered questionnaire containing 106 items with data from over 9725 individuals. The findings pointed clearly at the fact that self-raters tend to have a significantly higher score than other-raters (1992). The study implies that we tend to evaluate our performance more positively than our followers and colleagues seem to. It is hard to determine whether self-raters or other-raters present the most reliable answers, since social biases may influence both sides in different ways. However, the other-raters' perception of leader behavior will stand to represent what is considered to be the appropriate measure for this study. These other-ratings are argued to be directly related to ICB (Atwater & Yammarino, 1992; Boer et al., 2016).

Further, a study was conducted by Carpenter and colleagues (2014), where the link between SOA and OCB was examined. The study showed promising findings as a rating made of self or others would predict a rating made of OCB in a similar fashion (Carpenter, Berry & Houston, 2014). The study suggested that SOA could, to some degree, predict OCB outcomes related to both organizations and employees (2014). There was; however, a significant pitfall highlighted by the study, which is a well-known critique towards SOA. The critique revolves around the gap between self-rating and other-rating (2014). The link showed that self-raters had a tendency to rate themselves significantly higher than how others perceive them to be, which serves as an essential point to be aware of when applying the theory (Carpenter et al., 2014; Taylor & Brown, 1988).

Interference of the attribution-theory should also be taken into consideration, as it elaborates on how people relate themselves with the outcomes of their actions. If the results are positive, people tend to associate themselves with the outcome, while distancing themselves, if the results are considered below par (Taylor & Brown, 1988; Kelley & Michela, 1980). Kelley

and Michela (1980) presented some consistent findings through 12 different studies revolving around the perception of failure and success, where participants were to evaluate their performance. Here, the majority of respondents referred to positive outcomes as internal attributions, while negative results were related to external attributions (Kelley & Michela, 1980). The reasoning could be, how leaders might identify their team as *their* team and feel a sense of belonging to the team, and its performance. This study will, therefore, try to determine how leaders in charge of a specific team might give deviating ratings in relation to ratings made by their followers.

As the research of Carpenter and colleagues (2014) focuses on the relationship between the benefits of other-rated leader behavior and employee outcomes of OCB, this study saw it prudent to test similar hypotheses. These would focus on the follower-rated leader behavior in relation to the task- and person-oriented ICB from the research of Settoon and Mossholder (2002). This relationship has, to the best of our knowledge, not been tested in previous research. Additionally, based on the arguments made regarding the perception of leader behavior concerning ICB by studies of Wang et al., (2005) and Podsakoff et al., (1990), the following hypotheses have been presented:

H2a: Employees' perception of IC will positively influence their task-oriented ICB.

H2b: Employees' perception of IC will positively influence their person-oriented ICB.

H2c: Employees' perception of IS will negatively influence their task-oriented ICB.

H2d: Employees' perception of IS will negatively influence their person-oriented ICB.

2.3.1 - Self-Other Agreement as a Mediating Factor on ICB

Kuvaas & Dysvik conducted a study where the focus area was the relationship between perceived leader support and follower outcomes. Their research implied that the perception of leader support should not be measured in direct relation with follower outcome. It should rather be entirely dependent on the mediating role of perceived leader efforts to explain the outcome (Kuvaas & Dysvik, 2010).

The relevance of other-rated leader behavior was further argued to have an even more significant perceived effect on ICB than OCB (2010). Their findings contributed to our study by highlighting the importance of including other-rated leader behavior, as a mediator in explaining the outcome of ICB. Without identifying the actual gap between self- and other-rated leader behavior, there is no possible way to adjust inappropriate leader behavior (2010).

The relationship between self-rating and other-rating appears highly relevant to address, as the other-rating has shown promising linkages to ICB. Therefore, the study will further include SOA in the hypotheses, when discussing the relation between leader behavior and follower ICB. The argument of adding a mediating variable has also been supported through studies conducted by Sosik & Megerian (1999). Here, they showed promising findings where an agreement between leaders' self-rated behavior and followers' other-rated of their current behavior, would be positively related to followers' performance (Sosik & Megerian, 1999). It was argued that followers would perceive leaders who had an accurate self-image in a more positive light, which further would influence follower behavior (1999).

Additionally, positive relationships did also occur between leaders who underrated their behavior and follower performance. Further, Sosik & Megerian (1999) assumed that leaders who over-rate their behavior would have decreasing results, through their employees. In sum, current studies tend to conclude that it does exist a gap between the direct linkage of leader behavior and employee outcomes, due to a gap in ratings between self- and others (Wang et al., 2005; and Podsakoff et al., 1990; Carpenter & colleagues, 2014; Sosik & Megerian, 1999). The following hypotheses will address this tendency and assess whether the assumption of mediation is correct concerning followers' ICB outcomes.

H3a: Follower-rated IC mediates the positive relationship between the leader's self-rated IC and the task-oriented ICB.

H3b: Follower-rated IC mediates the positive relationship between the leader's self-rated IC and the person-oriented ICB.

H3c: Follower-rated IS mediates the negative relationship between the leader's self-rated IS and the task-oriented ICB.

H3d: Follower-rated IS mediates the negative relationship between the leader's self-rated IS and the person-oriented ICB.

2.4 - Electronic Dependence

A final independent variable was added to the study, to moderate the relation between the leader's self-rated leader behavior and follower-rated perceived leader behavior. The moderator was electronic dependence (also described as ED) and was included based on its potentially strong influence on a majority of existing work-related situations in today's modern society (Gibson & Gibbs, 2006; Dulebohn & Hoch, 2017). Electronic dependence is described as the relative extent to which teams, or colleagues, rely on electronic tools to communicate (Gibson & Gibbs, 2006). Some teams depend heavily on computer-mediated communication, through email, or other written, electronic communication, to get their work done more efficiently. Other events may require more mobile coordinating efforts, through messages, WhatsApp, etc. The relative extent to which a team relies on these tools, compared to its functioning through communication in person, implies how electronically dependent a team is (Gibson & Gibbs, 2006).

There do exist some essential differences of impact within ED, between written and verbal communication tools. Activities conducted through ED in a written fashion is often considered relatively static and highly based on one-way communication systems. The one-way communications make it more difficult for applicants or employees to ask immediate questions or gain advice. As a result, the technologies can be impersonal, inflexible, and can create an artificial distance between supervisors and employees (Stone & Deadrick, 2015). Gibson & Gibbs also supported these limitations through a study conducted back in 2006. The study showed that leaders who used written computer-mediated communication tended to apply a straightforward line of communication, with few social cues (Gibson & Gibbs, 2006). It was stated that written computer-mediated communication reduced non-verbal cues regarding interpersonal affections, such as warmth, tone, and attentiveness. These were considered essential contributors in terms of message clarity and communication richness (2006). Kruger and colleagues (2005) also elaborated on the challenges related to written communication through emails. It was highlighted that people tend to

be overconfident in their ability to communicate over emails. Individuals' overconfidence increased when communicating via email, rather than through voice-communication (Kruger, Epley, Parker & Ng, 2005). Over 15% of the initial meaning disappeared during the communication, which highlighted the importance of not solely relying on written communication alone (2005). However, to state that written ED has a negative influence regardless of context would also be in contrast to previous research. The research of Gibson and Gibbs (2006) showed that the applicability of ED was highly contingent. Here, it was emphasized that electronic communication should be used openly through networks or relationships to promote further collaboration (2006). The collaboration could improve learning and development through ED in a virtual sense, by connecting people across businesses, and making the content easier to access (2006).

However, when addressing the use of virtual reality and verbal communication, it has been related to more positive outcomes. Here, it may provide applicants with opportunities to attend virtual job fairs, give supervisors the ability to mentor subordinates, and offer trainees the chance to participate in virtual training simulations. Findings from Gibson and Gibbs (2006) showed that teams who engaged in more innovative processes, through frequent and verbal communication, were more indulged in succeeding. The success was summed up in the fact that the use of informal feedback platforms made it easier to interpret new knowledge (2006). All of these virtual environments have the potential to increase benefits related to technology-based HR processes in terms of being personal, flexible, interactive, engaging, and decrease the interpersonal distance between employees and supervisors. Additionally, a study by Kruger and colleagues (2005) showed that individuals who communicated verbally would do so more effectively than those over email.

The potential influence of an increased degree of electronic communication will further be elaborated on, concerning how leaders and their behavior are perceived at work. Previous research has highlighted the importance of recognizing how and what type of electronic dependence leaders may use to go about their daily interactions with their followers. However, the research area appears to be lacking sufficient research to argue for specific effects. Thus, ICB-outcomes related to applying written ED when focusing on

leader behavior seems to be a gap in the existing literature on the field. Whether the influence of ED when conducting TFL will facilitate or hinder follower ICB, is therefore not possible to conclude on at the moment. Previous research may indicate a direction in the relationship, since ED was related to potentially losing valuable information in the communication, and shows some negative influence on virtual team-collaborations (Kruger et al., 2005; Gibson & Gibbs, 2006). The lack of information may be of vital importance when addressing the relationship between self-rated and other-rated leader behavior (Stone & Deadrick, 2015). These highlighted pitfalls and success criterion related to different types of ED was considered relevant to elaborate further on for, concerning ICB. Based on the highlighted role of ED concerning communication biases and lack of social considerations, the following hypotheses have been formulated:

***H4a:** Electronic dependence moderates the other-rated IC when it mediates the relationship between leader's self-rated IC and task-oriented ICB.*

***H4b:** Electronic dependence moderates the other-rated IC when it mediates the relationship between leader's self-rated IC and person-oriented ICB.*

***H4c:** Electronic dependence moderates the other-rated IS when it mediates the relationship between leader's self-rated IS and task-oriented ICB.*

***H4d:** Electronic dependence moderates the other-rated IS when it mediates the relationship between leader's self-rated IS and person-oriented ICB.*

3.0 - Methodological Approach

The research design was chosen with a focus on answering the research question: *What influence does electronic dependence have on the relationship between the leader's self-rated behavior and employee's other-rated leadership behavior when addressing the outcomes of employees' interpersonal citizenship behavior?* To answer this, 94 - 117 respondents of leaders and employees participated in a cross-sectional study, which involved creating a mean of responses made by respondents over three different intervals of data gathering. The respondents have been part of a web-based study, where self-report questionnaires were completed. The questionnaire focused on how the perceived relationship between leader and follower is influenced by electronic dependence, and how it affected the follower's willingness to make an extra effort at work,

represented by ICB. The study tried to test the existing theory, describe its strength in terms of effect, as well as the study's trustworthiness and accuracy. Therefore, a quantitative approach was considered appropriate to answer the research question (Bryman and Bell, 2011). The choice was made over a qualitative approach. A qualitative approach would seek to give meaning to a phenomenon by explaining it rather than measuring it, which was not the purpose of this study (Defranzo, 2011).

The cross-sectional study design is a type of observational study design, where the investigator measures the outcome and exposures in the study participants at the same time (Setia, 2016). The participants are mainly selected based on the inclusion and exclusion criteria set for the study, which in this case has been employment in a given company and their belongingness to a team (2016). Once the participants were selected for the study, the investigator followed the study to assess potential exposures and outcomes (2016). In general, cross-sectional designs are used for surveys with a population-based scope. It aims to give us information about the prevalence of outcomes or exposures, which may be useful for designing other more extensive studies (2016). However, it is essential to be aware that the method is a static measurement of exposure and outcome, which makes it challenging to derive causal relationships from cross-sectional analysis (Ringdal, 2014). The challenge means that our study cannot hope to explain the direction of the influence. It can neither be certain that other external variables are not causing some, or all, of the identified impact (Setia, 2016). However, to aim for causality is not what we planned to do when we applied the method. This design's most significant contribution is how effective it can estimate the prevalence of existing relationships between variables (2016).

Furthermore, the study method also enabled the possibility to estimate the odds ratios to study the association between exposure and the outcomes in this design. This association was another important argument when choosing the method (2016). Based on the highlighted strengths of the design, its characteristics were considered appropriate when addressing our own study's goal. The goal was to map out potential relationships between leadership activities and electronic dependence (2016).

3.1 - Sampling Method

When conducting a cross-sectional study, there were two main methods for sampling, which needed to be considered. For this study, we chose to do a variant of non-probability sampling, known as convenience sampling (Madow, 1949). Convenience sampling is a type of non-probability or non-random sampling, where members of the target population that meet specific practical criteria. These criteria are easy accessibility, geographical proximity, availability at a given time, or the willingness to participate are included for the study. It is also referred to as the research subjects of the population that are easily accessible to the researcher (Etikan, Musa, & Alkassim, 2016). The respondents were sampled through their team-leaders, who were sampled by the top-management in each organization. At the time of data extraction, participating respondents systematically answer the survey one time each interval, which was in total three intervals over two weeks. The data for this analysis was gathered from four different companies located in Oslo and the surrounding areas. The companies belonged to recruitment, accounting, and auditing industries, and were dependent on electronic communication. The collection of responses varied from between 19 and 55 dyads from each organization.

Some challenges regarding the sampling method did exist, which was essential to be aware of when collecting the data (Madow, 1949). First, it was considered being near impossible for us to study the entire population of employees in Norway who are electronic dependent. We, therefore, had to choose a subset of the population, which could result in several types of error (1949). Secondly, there may be discrepancies between the sample and the population on specific parameters that are due to random differences. These discrepancies are known as sampling error and can occur despite no fault of the researcher. Far more problematic is a systematic error, which refers to a difference between the sample and the population that is due to a systematic difference between the two, rather than random chance alone (1949). The response rate problem refers to the fact that the sample can become self-selecting. It can also mean that there may be something about people who choose to participate in the study that affects one of the included variables. In our case, the response rate for leaders was, on average, 23 respondents, and 79 responses from the followers. Based on the presented response rate, it was vital for us to

be constantly aware of biases when choosing the population that would be included and how to sample that population (1949). It was argued that errors in the sampling could potentially be avoided by proper planning and careful considerations of the pitfalls.

3.2 - Translating the Questionnaire

It was considered essential to translate the questionnaire due to some complex and ambiguous formulations. Converting an existing survey into a different language is often considered a challenge, and might even be perceived as overwhelming. The problem originates in retaining the quality of the questionnaire, in terms of efficiency and effectiveness in research (Tsang, Royse, & Terkawi, 2017). A structural approach was applied when translating to maintain the quality of the survey. This approach contains four main steps: forward translation, backward translation discussion with an expert committee, and a pilot test (2017).

The initial stage was to translate the questionnaire from the original language to the target language, which should be done by at least two independent translators (Tsang, Royse & Terkawi, 2017). It was preferred that the translators should be translating the questionnaire into their mother tongue, to better reflect the nuances of the target language (2017). It is recommended that one translator is aware of the concepts the questionnaire intended to measure, while the other translator is not. The translator aware of the concepts will then provide a translation that more closely resembles the original instrument, while the unaware will contribute with an objective perspective of the questionnaire (2017). Following the recommended practice, we independently translated the questionnaires. Some disagreements were found, especially in regards to the ICB questions. However, the differences were resolved through discussions, where the meaning from third parties influenced the final decision (2017).

Secondly, the translation was conducted from the target language and back into the original language of the questionnaire. The purpose of this stage was to ensure the accuracy of the translation (Tsang, Royse & Terkawi, 2017). Misunderstandings or unclear wording in the initial translations may be revealed in the back-translation (2017). As with the forward translation, the backward

translation was performed by us, where both translated the questionnaire back into our native language (2017).

The third step entailed constituting a third-party committee for opinions, to present the prefinal version of the translation (Tsang, Royse & Terkawi, 2017). Members of the committee should include persons who are somewhat familiar with the construct of interest. For our part, this included student colleagues who are currently conducting similar processes in their master thesis. The committee reviewed all versions of the translations and determined whether the translated and original versions achieved equivalence (2017). Any discrepancies that needed to be resolved were decided through a discussion between the committee on all items and us to produce a pre-final version of the translated questionnaire (2017).

The final step was a pilot test of the pre-final version of the translated questionnaire, which was tested on a small sample (Tsang, Royse & Terkawi, 2017). The test-respondents were asked verbally to elaborate on what they thought of each questionnaire-item and what their corresponding response meant. This response allowed us to make sure that the translated items retained the same meaning as the original items, and ensured that there was no confusion in regards to the translated questionnaire (2017).

3.3 - Sample Size

When trying to answer a specific research question, two perspectives needed to be addressed, which was generalizability and statistical power. A large sample of participants *and* a large number of days were required to strengthen both perspectives (Ohly, Sonnentag, Niessen & Zapf, 2010). The more participants a study has, the less likely the study is to suffer from sampling error. According to Pallant (2010), the danger with too small sample size in a regression analysis is that the results do not generalize. However, Tabachnick and colleagues (2007) suggested a way to calculate an appropriate number of cases where they take the number of independent variables multiplied with eight and add 50. This formula suggests that we should have at least 82 cases, as our study included four independent variables. Since our sampling consisted of 94-117 respondents, we concluded that we could satisfy the criterion for sample size when conducting a cross-sectional study (Pallant, 2010). Additionally, the study included 72-92

dyads. A dyad is a partnership of sorts between two people working closely together (Bakker & Xanthopoulou, 2009; Ohly et al., 2010). In this study, the dyads were between an employee and their immediate leader.

Additionally, non-compliance needed to be taken into consideration, since participants had tended to drop out of the study. As part of the process of finding willing participants, this study focused on trying to find about 120 respondents. With the number of respondents, it means that if 20% were to drop out of the study, there would still be around 100 participants in this study, and well inside the parameters (Tabachnick, Fidell & Ullman, 2007). In the end, approximately 25-30 leaders and about 160 employees agreed to participate in the four companies. From these, responses were collected, where a single leader would participate in an actor/partner dyad relationship with as many as ten employees. The web-based questionnaires were filled out and gathered at the end of the business day, three times over two weeks, in February 2019.

3.4 - Data Collection

Before collecting the actual data, it was considered to be beneficial to have a meeting with the companies to explain the aims of the study, and stress the importance of complying and answering the questionnaire on time. We met with three of the four companies, and also made the point reasonably clear in many correspondences with the last company. The action was supported by Green and colleagues (2006), who emphasized the importance of collaboration and respect between researchers and participants.

The data was collected from a variety of organizations in the white-collar division. The companies were WEPE Accounting AS, the accounting services of the development- and competence department in Oslo municipality (UKE), and two additional companies that requested to be kept anonymous. White-collar refers to "*employees whose job entails, largely or entirely, mental or clerical work, such as in an office*" (Business Dictionary, 2018). Even though these companies work in different sectors, they operate in similar ways when addressing office ergonomics and organizational structure. They work on computers, in an office, in teams with designated supervisors or leaders. This way of working made them eligible to be part of the same study, without differentiating them based on the nature of their sector. The data collection

started in the four companies after February 14th, as both WEPE Accounting AS and UKE are working with accounting. The 14th of every second month in the accounting sector is the day value-added tax admissions are due. As the stress of the deadline could influence the answer compliance and the result, the data collection was to be held off until after the deadline. The data was collected via a web-based questionnaire from the 94-117 respondents three times over two weeks from the middle of February. The start of March was used to clean the dataset before the analysis commenced in late March 2019.

Bryman and Bell (2011) mention that cross-sectional design can be implemented either through a questionnaire or structured interviews. As this study focuses on the moderation of electronic dependence, web-based surveys were considered the most appropriate form of data collection. The choice of data collection meant that there was a need for internet access and computer knowledge. However, as this study focused on electronic dependence, it was safe to assume that the participants of the study would already have the necessary internet access and skills (Ohly et al., 2010). Compliance in web-based surveys is easy to track. Also, the data can be collected at the same time from everyone, and it eliminates the need for costly and error-prone data entry (Ohly et al., 2010; Green, Rafaeli, Bolger, Shrout, & Reis, 2006).

3.5 - Reliability and Validity

There were primarily two essential criteria to consider in the phase when operationalizing, but also throughout the entire study. These were validity and reliability (Bryman and Bell, 2011). *Reliability* refers to the consistency between the measures of a concept (2011). There are several types of consistency measurements, where one of these was more relevant for this particular study than the other, which were reliability across items (internal consistency) (Petty, Briñol, Loersch & McCaslin, 2009). The items in the study's questionnaire were tested by measuring the Cronbach's alpha, and assessing how reliable the surveys were (Tavakol & Dennick, 2011). The reliability test also showed the amount of measurement error in the test. The number of items in the survey could affect the Cronbach's alpha and make it smaller, as more questions could, in theory, explain more of the variance of the construct. The correlation analysis with Cronbach's alpha served as an essential tool before conducting the primary

research, which was to test for a linear relationship through regression analysis (Ringdal, 2014). The absolute threshold for being included further in the study has been stated to be loadings above 0.50. Field (2009) mentions that the fewer questions the concept consists of, the more the reliability will suffer. However, even though the Cronbach's alpha gets stronger with more questions, it does not automatically mean that the reliability is better (Field, 2009; Pallant, 2013). Therefore, the acceptable loadings will be above 0.50, as the number of questions totals so few (Field, 2009; Pallant, 2013).

When the constructs were operationalized, internal consistency was the primary type of reliability in focus. When it comes to the reliability of constructs, there are two main ways of measuring these. Either through single-indicators or by applying multiple-indicators. Using single-indicator measures can have some disadvantages. Especially when measuring complex constructs, it is possible that a single-indicator can incorrectly classify some of the respondents since they can, for example, misunderstand the question. Another challenge is that single-indicators only capture a dimension of the concept, rather than the entire picture. Multiple-indicator measurements, on the other hand, have more than one question to measure a construct, which creates the potential to capture the whole dimension of the construct. A challenge with multiple-indicators is that they are more likely to be exposed by common method bias. The common method bias may result in somewhat ambiguous results known as spurious correlations. There are pro's and con's mentioned for both single-indicators and multiple-indicators. For this study, the multiple-indicators was considered more reliable, based on their potential to capture a more substantial portion of the concept, and is, therefore, the chosen method (Bryman and Bell, 2011). A Cronbach's alpha test was then applied in order to ensure the internal consistency of each included construct. The Cronbach's alpha test was conducted to counter for some of the potential biases that several indicators may prevent (2011).

Validity implies research accuracy and elaborates on whether the intended objects are being measured (Bryman and Bell, 2011). There are several different measures of validity. The three most common kinds are face validity, content validity, and criterion validity (Petty et al., 2009). Measurement items from already existing literature related to each construct were included in the study to ensure a sufficient level of validity on all the different approaches. The

measurement indexes did already prove its accuracy through previous research (Bryman and Bell, 2011).

3.6 - Analyzing Procedure

The initial part of the analyzing process was to organize the data in labels, and remove data where the respondents had too many missing values (participants who had not completed a majority of the questionnaire). The next step was to clean the data by removing outliers (extreme data that distinguishes itself from the majority of the data set) (Ringdal, 2014). Then the items were reduced into several constructs through a principal component (PCA) factor analysis. After the PCA, we ran a reliability test, a Kaiser-Meyer-Olkin (KMO) Test, Bartlett's test of sphericity, and tested the eigenvalue.

The concrete tool that was applied to analyze the findings was the Statistical Package for Social Sciences (SPSS). To see the difference in self- and other-rating in the data that was collected, the answers from each supervisor for the three data collections, was linked with each team member. The analysis could, therefore, focus on the answers from employees and supervisors. It could also compare the answers to see if the tendency is to under- or over-rate their performances.

In the PCA factor analysis, the main goal was to uncover the commonalities of the underlying variables. Field (2009) states that if there are fewer than 20 variables to the construct, the values of the communalities needs to be higher than 0.40 as to minimize the possibility of different solutions. Commonalities were tested from 69 variables, spanning all questions from each of the three days, from both leaders and followers. The KMO test contributed by indicating how underlying factors could explain a large proportion of the variance. KMO ranges from 0 - 1, where close to 1 are high values, and below 0.50 are considered low values, and conducting a factor analysis won't be useful (IBM Knowledge Center, 2019; Field, 2009). The Bartlett's test of sphericity is a test to compare the level of the relevant variables to see whether they are related, and can test the hypotheses (IBM Knowledge Center, 2019). Suitable values in Bartlett's test are significance levels below 0.05, where acceptable values indicate the usefulness of factor analysis (2019). Eigenvalue can be tested in two different ways and contributes in general by explaining the variance of a

construct. First, we analyzed the eigenvalue by watching the scree plot, which showed low values. However, Field (2009) mentions that the scree plot might not be an appropriate way to check eigenvalue if the sample size is below 200 participants. As this study has between 90 and 120 participants, we have analyzed the eigenvalue through the PCA and assessed whether the chosen components explain more than 60 % of the variance (Hair, Black, Babin, & Anderson, 2010).

Before starting the linear regression analysis, we ran a correlation matrix to check for correlations between the focus variables and their correlations with the control variables. The significant correlations that were found from the control variables were then kept and added to the further regression analyses, where they had proven a significant influence. The reason for including control variables to the regression analysis was to clarify whether their initially proven correlation in the matrix would further influence the predicted regressions in the hypotheses (Ringdal, 2014).

The next step was then the linear regression analysis, which was based on the assumption that a linear relationship was existing between some of the included variables (2014). All hypotheses were tested two times to exclude potential external effects on the outcome. The first test only included the focus variables highlighted in each of the hypotheses, to state whether the underlying assumption proved further meaning. The findings from the first test were not to be presented in the result chapter but rather added as an appendix, which would further contribute to the discussion chapter. The last analysis included the control variables that had shown a significant correlation to the same outcome in the previously conducted correlation matrix, in addition to the focus variables. This analysis was considered as the final filter to see whether each hypothesis had a linear significance relationship and how they influenced the relationship between the focus variables. The analysis was done by adding the control variables in the regression model, on equal terms with the predictors. The findings from the second test will serve as final answers to each of the hypotheses.

The hypotheses included assumptions of either direct- or indirect relationships, where a moderator also was present in four out of sixteen hypotheses. The regression analysis is a statistical technique that attempts to

reveal an existing relationship between one dependent variable with one or more independent ones (Janssens, De Pelsmacker, Wijnen, & Van Kenhove, 2008). An equation had to be created with standardized variables, to conduct a linear regression. Standardized variables can be characterized as scale variables, where linear regression analysis is an appropriate statistical technique for testing hypotheses (Kutner, Nachtsheim, & Neter, 2004). A linear regression model is in its general form expressed as (Janssens et al., 2008):

$$Y = b_0 + b_1X_1 + b_2X_2 + \dots + b_nX_n +$$

Y = dependent variable

X_i = independent variable

b_i = parameter to be estimated, coefficient

= error term

Both the mediation- and moderation-analysis was conducted through a Sobel-test. The Sobel-test finds the direct effect between the independent variable, and the mediating variable, and between the mediating variable and the outcome. The significance level will then be calculated by using the estimates and standard error from the direct effects (Zhao, Lynch Jr. & Chen, 2010).

The testing of indirect effects in the mediation- and moderation-analyses were conducted through a bootstrap-method, also known as "nonparametric resampling" (Newsom, 2002). The bootstrap method may generally offer two options. One referred to as "percentile" bootstrap, which involves confidence intervals using regular sampling distribution cutoffs without explicit bias corrections (2002). The second is known as accelerated bias-corrected bootstrap estimates correct for bias in the average estimate and the standard deviation. Tofighi and MacKinnon found that the percentile bootstrap confidence intervals method provided useful tests with suitable Type I error rates and statistical power (2002). The accelerated bias-corrected bootstrap was applied for this study, based on the minimal emphasis on the difference between the two methods. It was also because bias-corrected has been observed more commonly than the percentile method (2002).

3.7 - Measures

3.7.1 - Individual Consideration (LTFLIC / TFLIC)

The measure consisted of two different forms, which served as two independently related variables. These were self-rated IC and other-rated IC. Both self-rated and other-rated IC has three items each. Here, a 5-point Likert scale has been applied for each item, where 1 = Strongly Agree, and 5 = Strongly Disagree.

The items for individual consideration were found in the article from Avolio and colleagues (1999), where a factor analysis had already approved the applied items. Additionally, we looked to Atwater and Yammarino (1992) to decide the framing of the questions when focusing on self-other agreement.

The measured Cronbach's alpha of LTFLIC was 0.68 on day one, 0.76 on day two, and 0.58 on day three. All measures were made with three items. TFLIC had a loading of 0.78 on day one, 0.84 on day two, and 0.85 on day three. All measures made with three items (Appendix 3).

3.7.2 - Intellectual Stimulation (LTFLIS / TFLIS)

The measure consists of two different forms, which serve as two independently related variables. These are self-rated IS, and other-rated IS. Both self-rated and other-rated IS has three items each. Here, a 5-point Likert scale has been applied for each item, where 1 = Strongly Agree, and 5 = Strongly Disagree.

The items for intellectual stimulation were found in the article from Avolio and colleagues (1999), where a factor analysis had already approved the applied items. Additionally, we looked to Atwater and Yammarino (1992) to decide the framing of the questions when focusing on self-other agreement.

The measured Cronbach's alpha of LTFLIS was 0.55 on day one, 0.87 on day two, and 0.60 on day three. All measures made with two items. TFLIS had a loading of 0.76 on day one, 0.80 on day two, and 0.86 on day three. All measures made with three items (Appendix 3).

3.7.3 - Electronic Dependence (ED)

Electronic dependence was the only measure that involved one item, where a 5-point Likert scale was applied with 1 = Strongly Agree, and 5 = Strongly

Disagree. The lack of items was considered appropriate, since the measured construct is relatively concrete, compared to highly subjective terms.

The items regarding electronic dependence were found in an article written by Gibson and Gibbs. Here, only one out of the three applied questions were deemed appropriate to continue in the study, as the others were later considered not to measure written ED (2006).

3.7.4 - Interpersonal Citizenship Behavior (task-oriented ICB/ person-oriented ICB)

The measure consists of two different forms, which serve as two independently related variables. These are task-oriented ICB and person-oriented ICB. Both task-oriented and person-oriented ICB have three items each. Here, a 5-point Likert scale has been applied for each item, where 1 = Strongly Agree, and 5 = Strongly Disagree.

Items regarding task-oriented- and person-oriented ICB were found in an article by Settoon and Mossholder (2002), where a factor analysis had already been performed.

The measured Cronbach's alpha of task-oriented ICB was 0.63 on day one, 0.74 on day two, and 0.78 on day three. All measures made with three items. Person-oriented ICB had a loading of 0.79 on day one, 0.86 on day two, and 0.86 on day three. All measures made with three items (Appendix 3).

3.8 - Ethical Considerations

Diener and Crandall (1978) state that four primary ethical considerations should be contemplated when conducting research. The *first (1)* is to consider whether a study can cause any harm to the participants, this includes physical- and psychological damage to the participants, and injury to their career prospects and future employment (Diener & Crandall, 1978). This study has not contained any elements that could put the informants of our research at risk for experience physical harm. Further, we believe it is unlikely that any of the participants will suffer from any psychological damage or injury to their future employment as a consequence of participating in this study. The reason for this is we made sure to inform the participants about the research so they could decide whether they felt comfortable to engage. Also, the informants were kept anonymous, so what

they said would not be connected to them personally. The *second* (2) is regarding whether there is a lack of informed consent from the informants (Bryman & Bell, 2011; Diener & Crandall, 1978). The principle of informed consent is that the participants of a research project are provided with enough information about the research project and whether they want to take part in the research (Crow, Wiles, Heath & Charles, 2006). The informants were provided with a detailed explanation of the research project before they were asked to participate. Besides, the informants had to read and sign a consent form, which included a description of the project, their rights to withdraw, anonymity, and how the data material would be stored and used. Therefore, we believe it is possible to say that there is not a lack of informed consent from the participants. *Thirdly* (3), Diener and Crandall (1978) believe it is essential to evaluate whether the research has involved an invasion of the privacy of the participants (Bryman & Bell, 2011). There was no reason to believe there have been invasions to any of the participants' confidentiality in our study. The *last* (4) is concerned with whether any deception has been involved (Diener & Crandall, 1978). Deception is when researchers claim their research is concerning something other than what is (Bryman & Bell, 2011). Since we have provided the participants with the research question and not held back any information for the participants, this research was not considered to involve any deception.

4.0 - Results

This section explains in detail which methods were applied and the produced results concerning the gathered data. Each test will be elaborated on, respectively, in the chronological order that the research process was conducted, to present a clear overview for the reader.

4.1 - Descriptive Statistics

After removing outliers and respondents with too many missing answers, an initial descriptive test was conducted. Here, to inspect the remaining dataset and address whether the data is more appropriate to explain tendencies for some of the included group segments more than others. The act focused on the included control variables, which were gender, age, tenure, and position. The table below

shows the number of respondents varied from 94 - 117 persons for each of the three days, combining the answers from both leaders and followers.

Table 1
Frequencies for the measured control variables

Control Variables	N
Day 1	117
Day 2	94
Day 3	98

Note. Included control variables were age, gender, role, and tenure.

As seen in table 2, approximately 96% of the respondents were between the age of 18 - 61 years old. The finding was accountable for all three days. The intervals between the age of 18 - 28, 29 - 39, 40 - 50, and 51 - 61 were evenly balanced. Despite their even distribution, the age interval of 40-50 had a lower frequency with 16.2 % on day 1, and 20.2 % on day 2.

Table 2
Age - Descriptive statistics

Answer options	Day 1	Day 2	Day 3
1=18-28	26.5	23.4	23.5
2=29-39	27.4	27.7	27.5
3=40-50	16.2	20.2	23.5
4=51-61	25.6	25.5	21.4
5=62+	4.3	3.2	4.1
Total	100	100	100

Notes. Answer options are presented in years. All frequencies for each day are presented in percentage (%).

Throughout the three different intervals for data gathering, the gender balance was represented by 35% males and 65% females for day 1, 70% males and 30% females for day 2, and 67% and 33% for day 3. These distributions are presented in table 3.

Table 3
Gender - Descriptive statistics

Answer options	Day 1	Day 2	Day 3
1=Male	35	70	67
2=Female	65	30	33
Total	100	100	100

Notes. All frequencies are presented in percentage (%).

In table 4, the distribution of role were 26 leaders and 91 followers for day 1, which constituted for a balance of 22% and 78%. For day 2, there were 20 leaders and 74 followers, with a balance of 21% and 79%. On day 3, leaders were represented by 23 and followers by 75, which equaled a balance of 23% and 77%. Table 4 shows that the representation of leaders and followers were evenly distributed throughout the three days.

Table 4
Role - Descriptive statistics

Answer options	Day 1	Day 2	Day 3
1=Follower	78	79	77
2=Leader	22	21	23
Total	100	100	100

Notes. All frequencies for each day are presented in percentage (%).

When addressing tenure in table 5, the intervals 1 (0 - 3 years) and 4 (12 + years) represented the majority of the respondents with a combined frequency

of 77.8 % on day 1, 73.4 % on day 2, and 69.5 % on day 3. Respondents with a tenure of 4-7 years had a distribution of 12 % on day 1, 12.8 % on day 2, and 13.2 % on day 3. Respondents with a tenure of 8-11 years represented 10.2 % on day 1, 13.8 % on day 2, and 17.3 % on day 3.

Table 5
Tenure - Descriptive statistics

Answer options	Day 1	Day 2	Day 3
1=0-3	41	37.2	33.7
2=4-7	12	12.8	13.2
3=8-11	10.2	13.8	17.3
4=12+	36.8	36.2	35.8
Total	100	100	100

Notes. Answer options are presented in years. All frequencies for each day is presented in percentage (%).

An additional descriptive test was conducted through a correlation matrix by comparing the p-value of included outcome variables in the study with the control variables. The control variables that were tested for a correlation were age, gender, role, and tenure. Age was significantly correlated to ICBOP (p-value = 0.050), with a correlation of -0.205, but not significantly correlated to ICBTO (p-value = 0.360). Gender was significantly correlated to ICBTO (p-value = 0.002), with a correlation of 0.320, but no significant correlation with ICBPO (p-value = 0.091). The opposite was the situation for tenure, in terms of significance. Here, ICBTO showed no significant relationship (p-value = 0.275), while ICBPO (p-value = 0.000) had a correlation of -0.325. Role was the only control variable proving no significant relation to either ICBTO (p-value = 0.545) or ICBPO (p-value = 0.959).

Table 6
Correlation matrix - control variables in relation to outcomes

Variables	M	SD	1	2	3	4	5	6
1. Age	2,55	1,208	1					
2. Gender	1,51	1,269	.057	1				
3. Role	1,76	0,425	.034	-.073	1			
4. Tenure	2,48	1,316	.784**	.092	.098	1		
5. ICBTO	4,08	0,434	-.096	.320**	-.064	-.115	1	
6. ICBPO	4,31	0,468	-.205*	.177	-.005	.325**	.516**	1

Notes. Mean: Age 1=18-28, 2=29-39, 3=40-50, 4=51-61, 5=62+. Gender men=1, women=2. Role 1=Leader, 2=Follower. Tenure 1=0-3 years, 2=4-7 years, 3=8-11 years, 4=12+ years. SD=Standard Deviation. Pearson's r coefficients are on the diagonal. *p<.05, **p<.01, two-tailed, N=92-117

4.2 - Reliability and Factor Analysis

The concept of TFL's facet, individual consideration, showed reliability with coefficients above 0.70 through all the days in the follower's questionnaire. In the leader questionnaire, the findings were not as strong, but still acceptable, as shown in table 7. The first day showed a coefficient of 0.68, while the third day showed a coefficient of 0.58. The second facet of TFL was intellectual stimulation, where the coefficient for the follower questionnaire for all three days was above 0.75 (Table 7). When testing the reliability of IS in the leader questionnaire, we found that the reliability of the construct on day 1 was significantly lower than that of the other two days. While day 1 showed a coefficient of 0.22, the other days showed 0.80 and 0.70 (Appendix 3). However, when question 12 and its related answers were removed, the reliability improved on day 1 to 0.55, 0.87 for day 2, and 0.60 for the remaining day. The decision was therefore made to remove the findings of question 12 from the construct intellectual stimulation, as the values seemed to influence the rest of the dataset negatively. For the two different constructs of ICB, task- and people-oriented, the reliability showed values above 0.74 for all three days, apart from ICBTO day 1, where the coefficient was 0.73 (Table 7). The reliability findings, in general, appeared to be satisfactory, although some might be questionable, but

acceptable. The last construct was electronic dependence and was not tested for reliability due to only containing one single item.

Table 7
Reliability testing

Variable	Day 1	Day 2	Day 3
LTFLIC	.678	.765	.585
LTFLIS	.551	.870	.596
TFLIC	.784	.841	.852
TFLIS	.759	.799	.861
ICBTO	.629	.743	.779
ICBPO	.793	.857	.864

Notes. Values are represented by Cronbach's α coefficients.

The Kaiser-Meyer-Olkin's (KMO) value in this study was also tested for each concept for each day (Field, 2009). As table 8 showed, there were six correlation values between 0.50 - 0.60, and the remaining 18 values were over 0.60. As 0.50 is considered the absolute threshold to accept, all correlations were deemed appropriate to apply further in the study (Field, 2009).

The next test was Bartlett's test of sphericity, where all the variables in our study were found to have values of below 0.05. These values were therefore considered appropriate, as the threshold for accepting variables is everything below 0.05, as shown in table 8 (Field, 2009).

A principal component analysis (PCA) was then conducted in SPSS (Field, 2009). The commonalities found in our study showed values over 0.40 on all variables, as shown in table 8. Only eight out of the 69 variables showed commonalities of below 0.60. When conducting the PCA of the different variables in SPSS, we also tested the eigenvalue of the questions. The constructs for leaders and followers, for each day, was found to have 22 of 24 explaining over 60 % of the variance. The last two showed over 58 % of the variance (Appendix 2).

Table 8
Factor Analysis - Independent and Dependent Variables

Variables	KMO & BTS			PCA		
	Day 1	Day 2	Day 3	Day 1	Day 2	Day 3
LTF LIC	.683**	.604**	.522*	.844, .728, .616	.818, .718, .333	.543, .727
TFLIC	.667**	.687**	.731**	.706, .778, .794	.804, .844, .852	.899, .755, .840
LTFLIS	.564**	.551**	.701**	.719, -.502, .566	.826, -.325, .743	.771, .355, .679
TFLIS	.634**	.705**	.722**	.772, .565, .877	.769, .599, .702	.711, .793, .762
ICBTO	.613**	.686**	.682**	.762, .861	.721, .812	.807, .879
ICBPO	.656**	.696**	.643**	.781, .805, .756	.843, .856, .784	.852, .863, .859

*Notes. KMO=Kaiser-Meyer-Olkin Measure. BTS=Bartlett's Test. *p<.05, **p<.01
PCA=Principle Component Analysis. PCA values are for each included item.*

4.3 - Regression Analysis

4.3.1 - Hypotheses 1a - 1d

The first set of hypotheses formulates a direct effect of the self-rated leader behaviors on the different interpersonal citizenship behaviors. While hypotheses 1a and 1b points at a positive relationship between a leader's IC behaviors and ICB, hypothesis 1c and 1d assume a negative relationship between the leader's IS behaviors and ICB. As shown in table 9, leader's IC behavior did not have a significant influence on neither task-oriented ICB ($\beta = -0.042$, p-value = 0.652) or person-oriented ICB ($\beta = 0.026$, p-value = 0.789), and were therefore not supported. Similarly to hypothesis 1a and 1b, Table 8 shows that Leader's IS behavior did not have any significant influence on either task-oriented ICB ($\beta = -0.011$, p-value = 0.908), or person-oriented ICB ($\beta = 0.158$, p-value = 0.087). These findings show that hypothesis 1c and 1d were also not supported.

The findings on the control variables showed that age did not have any significant effect on the direct relationship. However, gender had a significant impact on all four hypotheses (Appendix 4; Appendix 5). Tenure showed to have an evident, negative influence on the direct effect between leader's self-rated TFL behavior, and ICB, when considering person-oriented ICB (Appendix 4; Appendix 5).

Table 9*Regression - Direct influence of self-rated TFL on ICB*

Hypothesis	Independent Variable	Unstd. BC	Std. E.	P-value	Dependent variable
1a	LTFLIC	-.042	.094	.652	ICBTO
1b	LTFLIC	.026	.095	.789	ICBPO
1c	LTFLIS	-.011	.092	.908	ICBTO
1d	LTFLIS	.158	.091	.087	ICBPO

Notes. Unstd. BC=Unstandardized Beta Coefficient. Std. E.=Standardized Error.
P-value=sig.<.05.

4.3.2 - Hypotheses 2a - 2d

The second set of hypotheses formulates a direct effect of follower's perception of leader behavior on ICB. Hypothesis 2a and 2b predict a positive relationship between follower's perception of a leader's IC behavior and the different interpersonal citizenship behaviors. Hypothesis 2c and 2d, on the other hand, states a negative relationship between follower's perception of a leader's IS behavior and the different interpersonal citizenship behaviors. As shown in table 10, there was no significant effect for IC on person-oriented ICB (2a) ($\beta = 0.101$, p-value = 0.185), but there was a significant effect on follower's perception of leader's IC behavior for person-oriented ICB (2b) ($\beta = 0.224$, p-value = 0.003). Further, the results also showed a significant effect on follower's perception of leader's IS behavior on both task-oriented ICB ($\beta = 0.176$, p-value = 0.025), and person-oriented ICB ($\beta = 0.190$, p-value = 0.016). As the coefficient found when testing hypotheses 2c and 2d were positive, which was in contrast with the hypotheses, both hypotheses were not supported.

Age did not have a significant influence on the relation between other-rated TFL behavior and ICB. Gender was the only variable that showed a significant and positive effect on all four hypotheses (Appendix 4; Appendix 5). Tenure showed a significant and negative impact, but only when person-oriented ICB was considered (Appendix 4; Appendix 5).

Table 10
Regression - Direct influence of other-rated TFL on ICB

Hypothesis	Independent Variable	Unstd. BC	Std. E.	P-value	Dependent variable
2a	TFLIC	.101	.076	.185	ICBTO
2b	TFLIC	.224	.074	.003	ICBPO
2c	TFLIS	.176	.077	.025	ICBTO
2d	TFLIS	.190	.077	.016	ICBPO

Notes. Unstd. BC=Unstandardized Beta Coefficient. Std. E.=Standardized Error. P-value=sig.<.05.

4.3.3 - Hypotheses 3a - 3d

The third set of hypotheses formulates how follower's perception of leader behavior mediates the relationship between leader's self-rated behavior and the different interpersonal citizenship behaviors. Hypothesis 3a and 3b assume that the follower's perception of a leader's IC behavior has a mediating effect on the relationship between the leader's IC behavior and ICB. Hypothesis 3c and 3d argue that follower's perception of a leader's IS behavior has a mediating effect on the relationship between the leader's IS behavior and ICB. The Sobel-test made on self-rated IC in relation to task-oriented ICB (p-value = 0.263), and person-oriented ICB (p-value = 0.084), mediated by other-rated IC, did not show a significant effect, as shown in table 11. Additionally, the findings of the Sobel-test on self-rated IS concerning task-oriented- (p-value = 0.300), and person-oriented ICB (p-value = 0.270), mediated by other-rated IS, were also not supported. The results that none of the mediational hypotheses were supported.

There were no significant changes in the significance levels when the control variables were included in the analysis (Appendix 4; Appendix 5).

Table 11
Regression - Indirect influence of self-rated TFL on ICB, through other-rated TFL

Hypothesis	x - m	Unstd. BC	Std. E.	m - y	Unstd. BC	Std. E.	P-value for hypothesis
3a	LTFLIC - TFLIC	.219	.133	TFLIC - ICBTO	.089	.065	.263
3b	LTFLIC - TFLIC	.219	.133	TFLIC - ICBPO	.253	.067	.084
3c	LTFLIS - TFLIS	.141	.120	TFLIS - ICBTO	.154	.070	.300
3d	LTFLIS - TFLIS	.141	.120	TFLIS - ICBPO	.226	.074	.270

Notes. Unstd. BC=Unstandardized Beta Coefficient. Std. E.=Standardized Error. P-value=sig.<.05.

4.3.4 - Hypotheses 4a - 4d

The fourth and last set of hypotheses formulates a moderating effect of electronic dependence on the mediating result of follower's perception of leader behavior. The moderation was found by multiplying the predictor variable of either LTFLIC or LTFLIS with the variable ED. The multiplication was made through computations, where new predictors were created, which represented them both as a unified variable in the model. Hypothesis 4a and 4b predict that electronic dependence has a moderating effect on the relationship between the leader's IC behavior and ICB, mediated by a follower's perception of the leader's IC behavior. Hypothesis 4c and 4d predict the moderated effect that electronic dependence had on the relationship of leader's IS behavior and ICB, mediated by a follower's perception of the leader's IS behavior.

As shown in table 12, significant values were found towards hypothesis 4b, person-oriented ICB (p-value = 0.039). The coefficient was also shown to be negative ($\beta = -0.522$), represented in table 12. Here, it shows that hypothesis 4b was supported. Figure 2 has been presented below to illustrate the relation between LTFLIC and ED.

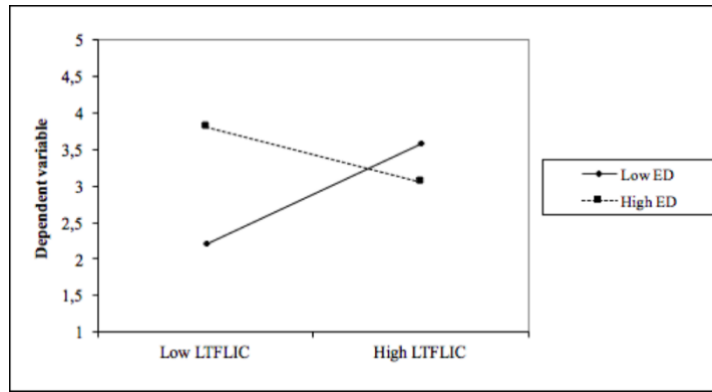


Figure 2: Moderating effect of ED on LTFLIC

Further, Table 12 showed that the results of the Sobel test did not find a significant moderating effect of electronic dependence on the relationship between leader's IC behavior and task-oriented ICB, mediated by other-rated IC (p-value = 0.230). Hypothesis 4a was therefore not supported. The results did not reveal a significant moderating effect of electronic dependence on either the mediation with IS on task-oriented ICB (p-value = 0.108) or towards person-oriented ICB (p-value = 0.060). Hypothesis 4c and 4d were therefore not supported. As for hypothesis 4, neither age, gender, nor tenure displayed any significant effect (Appendix 4; Appendix 5).

Table 12
Regression - Moderated effect of ED on the measured indirect influence on ICB

Hypothesis	x*mod - m	Unstd. BC	Std. E.	m - y	Unstd. BC	Std. E.	P-value for hypothesis
4a	LTFLIC*ED - TFLIC	-.522	.213	TFLIC - ICBTO	.089	.065	.230
4b	LTFLIC*ED - TFLIC	-.522	.213	TFLIC - ICBPO	.253	.067	.039
4c	LTFLIS*ED - TFLIS	-.414	.176	TFLIS - ICBTO	.154	.070	.108
4d	LTFLIS*ED - TFLIS	-.414	.176	TFLIS - ICBPO	.226	.074	.060

Notes. Mod=Moderator. Unstd. BC=Unstandardized Beta Coefficient. Std. E.=Standardized Error. P-value=sig.<.05.

4.4 - Revised Conceptual Model

As a result of the analysis, only hypothesis 2b-d and hypothesis 4b were supported. The results of the study formulate a revised conceptual model, where only the hypotheses with significant values were included. This is illustrated below in figure 3.

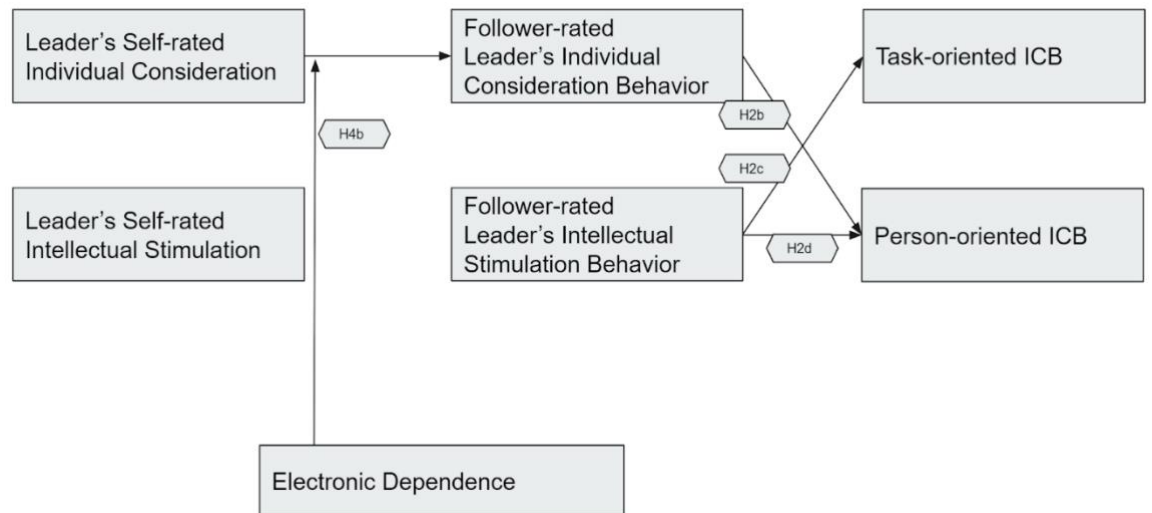


Figure 3: Revised Conceptual Model

5.0 - Discussion

This chapter will start by addressing the theoretical implications of each hypothesis concerning the applied literature, presented descriptive statistics, and the included control variables for each hypothesis. Based on the discussion, a final paragraph will be presented with a focus on clarifying the practical implications of the study.

The results showed that the direct effect of other-rated IC on person-oriented ICB was supported for both direction and significance level. The direct effect of other-rated IS on both person- and task-oriented ICB was only supported for its significance level, but not for its contrasting outcome of coefficient direction. This meant that the two hypotheses were eventually found not supported. Lastly the moderation of ED on self-rated and other-rated IC, when influencing person-oriented ICB was supported.

5.1 - Descriptive Assessment of the Participants

It was previously addressed that the recommended threshold for participants was around 82 cases, based on the number of variables included in the conceptual model. With respondents varying from 94-117 for each variable, it is safe to assume that the gathered data may present some generalizability, in the scope of pure quantity. However, it was an imbalance represented in tenure. This data highlights that the study should be cautious when attempting to generalize for an entire population of the workforce, regardless of tenure. Based on the statistics, it was considered that the study was most applicable to a specific part of the

respondents. These were employees at the start of their career until four years of tenure, or if they had high seniority of 12 years + of tenure, where their age would range from 18 - 50 years. The study will not exclude the fact that the findings from the study may apply to the other tenure categories as well. However, it will instead have an extra emphasis on the outcomes in relation to the highlighted focus group.

5.2 - Direct Effect of Self-Rated Leader Behavior

The findings indicated that there was no significant relation between leaders' self-rating of their TFL behavior and employees' ICB behavior. Whether these outcomes may be related to a gap in the SOA is too early to assume, since the gap has not yet been addressed concerning employees' other-rating of leader TFL. However, the lack of consistency did indicate that if leader behavior influences follower ICB, it may require supplementation of variables to explain the relationship. The assumption that IS would have a negative impact on ICB was not supported either, since the coefficient value was positive and therefore indicated a positive relationship. The finding was in contrast to the research of Podsakoff and colleagues (1990), who stated that the activities could promote role ambiguity, conflicts, and stress. These negative employee outcomes were considered being potential barriers for follower ICB. Here, the focus would be on improving the negative situation instead of focusing on performing beyond one's job description (1990).

Smith and colleagues (1983), amongst other researchers, showed promising findings on both IC and IS concerning ICB, which indicated that they both served essential roles on the outcomes. Therefore, it may be natural to assume that the importance of IC and IS was higher than what the findings from our hypotheses with direct effect on ICB gave them credit for. The assumption was made by Carpenter and colleagues (2014), that the effect would not necessarily be direct, but rather indirect through a mediation, which was in accordance with the research. The lack of support in the initial hypotheses may contribute to further discussion since it highlights a gap in the direct linkage between the predictors and the outcomes.

5.3 - Direct Effect of Other-Rated Leader Behavior

Employees' perception of leader behavior and ICB showed significant findings for three out of four hypotheses. These findings enforced the assumption in the literature stating that the way we experience leader activities influences the way we act (Wang et al., 2005). However, only one out of four hypotheses were supported, due to contrasting findings in the direction of the coefficients. Whether the perception of leader behavior is directly linked to the actual leader activities, has not yet been addressed. This means that it is premature to assume a linkage between self-rated and other-rated leader behavior. How followers perceive leader activities were acknowledged by Wang and colleagues (2005) to vary greatly, as perceptions may be influenced by other external factors, besides the actual activity itself.

The followers' perception of a leader's activities related to IC were supported for its effect on the people-oriented ICB, which was in accordance with Podsakoff and colleagues (1990). They argued that an increase in IC would promote trust and satisfaction from the followers since they perceived being heard and seen by their leader (Podsakoff et al., 1990). The importance of increasing confidence and satisfaction may, therefore, be considered a goal in itself when conducting IC-related behavior, based on the promising positive influences they have on ICB. An appropriate work environment was therefore considered an essential prerequisite to increase follower's perception of the leader's IS behavior (1990).

The hypotheses regarding IS were not supported. This was due to the positive linear relationship with ICB, which was in contrast with our assumption of a negative relationship. Both self-rated and other-rated IS showed through hypotheses H2c and H2d that the argument made by previous articles was not supported. Therefore, the discussion that IS may foster role ambiguity, stress, and conflict does not appear to be applicable for our participant group. A possible explanation for the contrasting findings could be the difference in the level of experienced IS. As our respondents showed a positive relationship between their ratings on IS and ICB, it may indicate that they perceived the IS-related activities as comprehensible. The contextual differences would also be logical, as the majority of the respondents were accountants and were not in the middle of a hectically working period. Since previous research has found IS

being related to harming the level of employee outcomes, it may have been explained by the perceived comprehensibility of the addressed challenges. Since a comparison between participant groups and applied items from each survey has not been conducted, the possible solution may only serve as a speculation to the assignment. The findings showed a positive relationship, which meant that IS would be considered to have a positive influence on ICB, and leaders should strive towards obtaining the behavior in general.

5.4 - The Mediating Effect of Follower Perception

None of the hypotheses showed significant findings, where the relationship between self-rated leader behavior and employee ICB was mediated by employee's other-rated leader behavior. The findings could, therefore, not identify any relation between leader's own perception of performance and how followers perceive their leader's performance.

As stated by previous research, the direct effect did not seem to be enough to create a significant impact on ICB (Carpenter et al., 2014). There needed to be a mediational effect from the other-rating, as mentioned by Kuvaas and Dysvik (2010). However, the overall reason for why the mediation did not exist in hypothesis 3a-d, was arguably based on two ideas. First, it was in close relation to the findings in hypotheses 1a-d and 2a-d, where a clear gap was found between the effect that self-rated TFL and other-rated TFL had on ICB. Additionally, it was based on the lack of covariance between self-rated and other-rated leader behavior. A leader's inaccurate perception of their own performance in relation to employee's other-rating may contribute to explaining why the direct effects in hypothesis 1a-d were found to be non-significant. The highlighted gap is in accordance with the research conducted by Atwater and Yammarino (1992). Here, they argued for an existing relationship where the higher the overestimation is from the leader, the lower the other-rating will be from the subordinates. This meant that the behaviors portrayed by leaders to their employees were not necessarily in accordance with what they are trying to achieve (1992). This could have a pronounced effect on the outcome for the employees, as the extent to which a person is self-aware might influence the relationship between TFL and performance (Sosik & Megerian, 1999).

The comparison made in table 13 below showed the mean ratings between the relationship of self-rated and other-rated TFL. Here, it was clear that leaders tend to overrate their performance with approximately 11-13% on average. These indications were further supported, where none of the leaders had a rating below 3.00, while other-ratings showed scores as low as 1.67 (Appendix 6). The findings were consistent with the research conducted by Atwater and Yammarino (1992), which pointed out that individuals have the same tendency to overestimate their performance. These findings are in accordance with the research of Kruger et al. (2005), who stated that around 15 % of the original meaning would disappear when communicating. As the communication in this study was, for the most part, verbally focused, it could explain why there does not seem to be a more massive gap in the rating (Appendix 7).

Table 13
Comparison of Means

Variable 1	Mean	Variable 2	Mean	Diff. in means	Diff. In percent
LTFLIC	4.608	TFLIC	3.939	.669	13.4%
LTFLIS	4.324	TFLIS	3.767	.557	11.1%

Notes. Diff=Difference.

The reasoning for the gap in the ratings of SOA between self-rated and other-rated could further be based on the influence of attribution theory as a potential antecedent (Taylor & Brown, 1988). The approach was considered applicable for this study, since leaders may be inclined to overestimate their attributes in accordance with their followers' high scores on ICB-related behavior. The theory stated that individuals are more inclined to relate themselves and their performance to positive outcomes, and distance themselves from adverse outcomes (1988). The strong ratings found of self-rated TFL would be expected, as it would highlight the leader's participating role in achieving a high degree of follower ICB. The rationale for attributing these positive scores to their behavior may be explained by the potential for gain (Kelley & Michela,

1980). This gain could be related to work settings, like the potential for promotion or monetary benefits (1980). By overestimating themselves and the outcome of their followers, leaders will, therefore, have the opportunity to highlight their team's performance in accordance with their influence. The attribution theory, therefore, seemed appropriate to include as an antecedent to the outcome of the gap in SOA. The argument was further enforced as the leaders overestimated their performance on the level with their over-rating of follower's task-, and person-oriented ICB (Taylor & Brown, 1988)

It is important to note that the SOA-theory highlights in general that people tend to overestimate their performances (Atwater & Yammarino, 1992). Therefore, we also need to consider the fact that employees could also overrate their own ICB performances (1992). However, the findings from table 14 showed that there was no apparent overestimation of ICB ratings from the employees, in comparison with ratings from the leaders. Additionally, since there was no relation between leader's TFL and follower's ICB, it may indicate that leaders tend to overestimate their TFL behavior, as well as their follower's ICB behavior. Therefore, the gap between ratings made by leaders and followers may be a possible explanation as to why the direct effect from the leader's TFL on ICB was not found. Lastly, a relation was found between other-rated TFL and follower ICB, which was both rated consistently lower by followers than leaders (table 13 and 14). These discoveries may indicate why there was not found any significant relationship between self-rated and the mediating variable other-rated TFL.

Table 14
Comparison of Means

Variable 1	Mean	Variable 2	Mean	Diff. in means	Diff. In percent
LICBTO	4.276	ICBTO	4.080	.196	4%
LICBPO	4.552	ICBPO	4.314	.238	4.8%

Notes. Diff=Difference.

5.5 - The Moderated Mediation-Effect of Electronic Dependence

Electronic dependence showed a significant influence on only one out of the four hypotheses. The supported hypothesis assumed that ED influenced the relation between self-rated and other-rated IC, which further influenced person-oriented ICB. The findings on IC, concerning person-oriented ICB, appeared to be in accordance with the literature. Here, Stone and Deadrick (2015) stated that the influence of ED would have a dominant negative effect on social factors, such as perceived degree of personal considerations and flexibility.

The hypotheses regarding IS were not supported, which indicated that ED might not play a significant part in IS, concerning either task- or person-oriented ICB. The relation between employee performance and IS has been stated in applied literature to have an existing positive relationship with visual and verbal ED, but not related to written ED. Existing literature was therefore in accordance with our findings. These previous relations have been highly associated with electronic methods facilitating learning outcomes through virtual communication and simulations, which would mainly entail task-oriented behavior. The findings regarding IS concerning ED, therefore, appeared logical, as these activities were not linked to the measure of our chosen ED (Gibson and Gibbs, 2006).

As previously shown in figure 3, the inclusion of ED created a tendency for ED to influence the relationship between self-rated and other-rated leadership negatively. Here, an increase in ED would entail a decrease in LTFLIC. The findings on the coefficient of ED concerning IC were in accordance with the applied literature, where it had been predicted that the influence of ED would create a negative impact on leader behavior (Gibson & Gibbs, 2006; Dulebohn & Hoch, 2017). Given that our findings are valid; it may enforce already existing assumptions from the literature on ED. Here, the dominant use of written, electronic communication was associated with a lack of positive interpersonal affections and overconfidence in communication accuracy (Gibson & Gibbs, 2006; Dulebohn & Hoch, 2017). If the written ED hinders the frequency of existing verbal communication, it may potentially prompt the potential for pitfalls mentioned in the literature (Gibson & Gibbs, 2006; Dulebohn & Hoch, 2017). A decrease in flexible interaction and engagement would then be the

situation, which further would entail that a team would have poorer prerequisites for success (Gibson & Gibbs, 2006).

When comparing with the meditations from hypothesis 3a-d, the effect of self-rated in hypothesis 4b-d appears to have improved, since one of the hypotheses now got supported (Appendix 4). The inclusion of ED on a relationship that was not supported initially may indicate that written ED plays a particularly important role when assessing IC. Since the moderation was negative, the influence may, therefore, be interpreted as having a decreasing effect on already existing communication. A decrease would be rather than functioning as a promoter for influencing the other-rated leader behavior. The influence ED had in hypothesis 4b may therefore rather be seen as a good fit, as it clarifies the relationship from 3b instead of obscuring it.

When addressing the findings concerning our research question, the importance of ED when conducting leadership appeared prominent, especially in the scope of IC concerning person-oriented ICB. Here, the findings were both significant and with a negative coefficient, which indicated that written ED would have a decreasing effect on IC-related behavior. No hypotheses from the mediation in 3a-d were supported, but 4b was, which was only an extension of hypothesis 3b, where ED was included as a moderator. The inclusion entailed that ED had a significant, negative effect on self-rated IC when influencing other-rated IC-related behavior. However, as the coefficient in hypothesis 4b was twice as strong as 3b, it built on the interpretation that the role of ED contributed by explaining a larger dimension of the gap between self-rated and other-rated TFL.

The findings appear highly interesting; as previous research has not highlighted how ED may contribute to explaining the existing gap in SOA. As companies become more electronically dependent, future research in the field of SOA and TFL should include the concept of ED, as it explains the relationship more thoroughly. This will imply that any research conducted in the area, where ED is excluded, may struggle to cover the entire gap of SOA. Findings on the coefficient may also contribute, as it proved both stronger and in the opposite direction, compared to hypothesis 3b. Altogether, the results may add to the argument of including ED, as it may explain a greater dimension of the gap in

SOA. The effect may further be seen in relation to why employees become reluctant to take on additional responsibilities outside their job description.

5.6 - Practical Implications

The results from the current study have practical implications for leaders and their organizations, in terms of highlighting the success criterion that should be strived towards obtaining. The findings also identified potential pitfalls when conducting leadership that should be avoided in the attempts of increasing employee ICB.

The fact that none of the hypotheses from 1a-d were significant highlights that the way leaders view their performance does not necessarily coincide with the follower's performance. Our findings showed that leaders have the inclination to over-rate their performances, which is in accordance with Atwater and Yammarino (1992). These findings seem relevant to emphasize when attempting to understand the relationship between leaders and followers.

Other-rated TFL was highly promising in its relationship to employee ICB. These findings may serve as essential contributions for leaders when attempting to conduct an appropriate behavior, knowing that the way their followers perceive them may influence how they perform. One way of conducting leader behavior is, therefore, not necessarily applicable to everyone. It does not even need to apply for the same person on different occasions, due to different contexts that the activity is conducted in (Kruger, Epley, Parker & Ng, 2005). Their assumption stresses the importance of being increasingly open-minded and aware of the context when doing individual-oriented leader activities, such as IC and IS. The importance of context has been highly related to work-environment, which may clarify a critical role that leaders should consider taking. Here, the focus should be emphasized on communicating suitable values and norms to their teams to shape a work environment that fosters trust and satisfied followers. Also, an imbalance between conducted IS, and an experienced lack of comprehensiveness was identified. This may highlight the importance of combining a focus on both IS with IC so that each IS-related activity is given sufficient individual consideration.

Our research showed indications of no relation between self-rated and other-rated ICB, while consistent and positive relationships between follower's

ratings of TFL and extra effort, satisfaction, and effectiveness. The findings enforce the importance of addressing a leader's tendency to make inaccurate perceptions of their behavior (Sosik & Megerian, 1999). As hypotheses 2b-d were supported, and there was still no significant mediational effect found, leaders' inaccurate over-rating of own performance was therefore evident. The findings should, therefore, be taken into consideration when analyzing a follower's performance at work.

Communication through ED should mainly be applied verbally, to the extent, it is possible to avoid written ED. This was considered appropriate since verbal communication was found being the dominant communication method, and written ED had a negative coefficient (Appendix 7). However, verbal communication often requires more dedicated time and planning, rather than sending an email where the receiver can answer when the time is suitable. Thus, written ED is considered almost inevitable to entirely avoid in today's IT-dependent society (Gibson & Gibbs, 2006).

As the comparison between the mediation hypotheses and the moderated mediation hypotheses showed (hypothesis 3 and 4), the inclusion of ED strengthened the significant relationship, concerning IC behavior when influencing person-oriented ICB. The findings raise an argument that the leader activity in itself can be more accurately understood from including ED when focusing on person-oriented ICB.

6.0 - Limitations and Future Research

There were several limitations related to the findings, which should be addressed with future research. The choices related to the method could all be argued to have potential pros and cons, depending on the context they have been applied in (Ringdal, 2014). It has therefore been essential to highlight these characteristics to clarify how findings from this study may contribute, and what additional research should be conducted to compensate for the limitations.

The first limitation was related to the issue of self-filling questionnaires. Both leaders and followers have rated themselves, in addition to their counterparts. It was, therefore, essential to be aware that social bias could have played a role in the study (Loo & Loewen, 2004). A comparison between the self-rated and other-rated ICB was therefore conducted, with the intent of

revealing potential differences. Here, the comparison showed minor differences, which indicated that social biases were not particularly prominent concerning the outcomes.

A second limitation was related to common method bias (Ringdal, 2014). The inclusion of several variables in each regression could potentially influence each other and obscure the results (2014). With that being said, the number of variables was restricted to only four predictors at most. Therefore, the limitations were considered surmountable, and all the hypotheses were still regarded as appropriate for further interpretations.

The third limitation was that the items found in journal articles for the questionnaire were all English and quite technically formulated. As the respondents were Norwegian, it was deemed necessary to translate the questionnaire to Norwegian. The rewriting from a reasonably technical language to a less technical one, as well as being translated into a new language, could influence what the specific items measure. This potential limitation highlights a further need for additional testing of the items to assess whether they are suitable or not. As communalities and reliability were found at acceptable levels in this study, the translation was deemed ideal for this study.

The fourth limitation was focused on ED. As there were few articles on the phenomenon of ED, the number of questions related to the concept were scarce. In the absence of these items, we had to create them ourselves, which resulted in a total of three items. When the analysis was conducted, we saw that the scaling of one of the items (Q7) was considered inappropriate for the variable. It could therefore not be part of the restructure with the other items regarding ED. Additionally, a second item (Q6) was eventually considered not appropriate, since it did not measure the same dimension of ED as the study elaborated on. ED would, therefore, have to be analyzed independently from the main ED question (Q5). Even though we still got a significant relationship between ED and the other variables, multiple items could potentially have explained a more substantial part of the concept. Future research should, therefore, conduct a qualitative study on ED, to map potential new items for measuring the construct. A qualitative study could contribute by exploring what ED consists of and why these factors are relevant, which could further establish new items.

A further focus regarding future research when conducting qualitative research could be on how high degrees of electronic dependence may affect the relationship between leader and follower. Also, it could elaborate on how a leader's strategy, direction, and motivational approach comes across the communication tools. The issue of electronic dependence is severely lacking in both the literature surrounding leadership theory and general research. Today's modern society has shown us how crucial electronic communication tools are for most workplaces, but how that affects us is not yet clear. Our research showed that there were minimal differences between the effects of verbal and written electronic dependence.

The fifth highlighted limitation was related to factor analysis. Here, the findings showed that the factor analysis and reliability testing might be influenced by the small number of items for each concept. By having fewer items, a smaller part of the concept might be measured, which could influence the reliability and communalities (Ringdal, 2014). Even though we used items already factor analyzed in other journal articles, we found that one of the items had such low reliability that it needed to be removed for the leader questionnaire (Q12) (Appendix 3). This could influence the findings and should be regarded for future studies.

A sixth limitation was related to a cross-sectional study in general. These limitations are described as the potential for assuming causality, which is to reveal an absolute truth (Ringdal, 2014). This is commonly known to be decided based on three criteria, which is: covariance, the direction of influence, and isolation of influence (2014). Since a cross-sectional study may only fulfill the first criteria, it is not possible for this study to conclude the actual direction of the influence between the independent and dependent variables. Here, it could as well be an increase in ICB that influences the other-rated TFL, rather than the opposite. The criteria regarding isolation will neither be possible to conclude on, based on the fact that other variables could as well have created the identified relationship between the included variables. Future research should, therefore, consider using a variety of methods to investigate our model. Here, we especially encourage researchers to use a longitudinal design or experiments to test all three mentioned criteria for causality. These methods would allow for a more rigorous investigation of causality, especially in terms of directionality and isolation

(2014). It would then be possible to investigate whether our hypotheses are structured in the correct direction. Also, it would reveal on a greater scale if other unidentified variables may have created the revealed effect found in the study (2014).

7.0 - Conclusion

The study has attempted to explore whether the inclusion of electronic dependence may influence the relationship between leader and follower when trying to promote interpersonal citizenship behavior. More specifically, we first measured the direct effect of self-rated TFL, and other-rated TFL on follower ICB. We then tested the mediating role of other-rated TFL on the relation between self-rated TFL and ICB. Lastly, we investigated how these interactions were influenced by the amount of communication that occurred as written ED. This was conducted through a quantitative cross-sectional study, where 16 hypotheses together did provide an answer to the research question. In sum, the study added to the literature by including the influential role of ED when addressing the relationship between TFL and ICB, mediated by SOA.

When testing the direct effects of self-rated and other-rated TFL on ICB, as well as the mediation, it was clear that the influence of the SOA was existing. This assumption was enforced, based on the significant findings from the direct effect on other-rated TFL concerning ICB. However, regardless of the considerable impact of the other-rated TFL, it was not strong enough to work as a mediational effect between leader's self-rating and the outcome of ICB. This highlighted the gap between self-rated and other-rated TFL, in which the SOA was seen as an explanation.

The moderated influence suggested that ED played an important role when leaders conducted certain leader activities, specifically aimed at providing followers with the perception of social support (Settoon & Mossholder, 2002). The relation entailed a negative linear relationship on other-rated IC, which indicated that an increase of ED would promote a follower's negative perception of their leader. The findings of the coefficients also showed that the relationship between self-rated and other-rated TFL was approximately twice as strong when ED was included. This indicated that ED appeared to have a strong, negative

influence on the relationship between self-rated IC leader behavior and person-oriented ICB, mediated by follower-rated IC leader behavior.

8.0 - References

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Consent Form

Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet, *The Moderating Role of Electronic Dependence on the Self-Other Agreement, when Influencing Interpersonal Citizenship Behavior*, og har fått anledning til å stille spørsmål. Jeg samtykker til:

- å delta i *spørreskjema*

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet, ca. *15. desember 2019*

(Signert av prosjektdeltaker, dato)