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Availability Exceptions and Technology Use After-Hours and the Role of Boundary Control for Work-Life Outcomes

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Content

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Summary

Advancements in communication technology have led to a more boundaryless relationship between work and non-work life for contemporary workers. Technology use after-hours proposes a flexibility-paradox, where workers are granted with flexibility to perform work at their own convenience, but at the same time feel a constant pressure to be connected to the workplace. The individual's perceived control over work-life boundaries had been argued to determine whether technology use after-hours will be negatively or positively related to work-life outcomes. This thesis explores in particular the role of perceived boundary control in the relationship between work connectivity behavior after-hours, respectively, and job satisfaction, turnover intention, relaxation, and psychological detachment. Data has been collected from three Norwegian organizations through a self-completion questionnaire distributed in two waves. The analyses are based on data from 67 respondents. The results of this study found that when individuals feel that they have low control over work-life boundaries, they have lower job satisfaction, higher turnover intention, and are less able to psychologically detach from work than do individuals with high perceived boundary control. The results also indicate that individuals who frequently use technology after-hours find it harder to psychologically detach from work.

1.0 Introduction

Contemporary workers are heavy users of communication- and information technology, such as mobile phones, laptops, and e-mail (Park & Jex, 2011). Advancements in this technology have enabled employees to stay connected to family and work regardless of their physical location and normal working hours (Major & Germano, 2006; Olson-Buchanan & Boswell, 2006). Technology grants employees the ability to work more, from other places than at work and outside ordinary working hours. It is evident that the use of communication technology at home for work-related matters are extensive (Hoffman, Novak, & Venkatesh, 2004). Although it is not new that employees are working long hours and at home during their free time, communication technology has changed what it entails to be an employee today by making it easier to stay connected to the workplace (Fenner & Renn, 2004; Fenner & Renn, 2010). Workers that traditionally were not expected to stay connected to their workplace after-hours are now connected through communication technology, which contribute to a more boundaryless relationship between work and non-work life (Kossek, 2016).

In the research literature, communication technology is described as a double-edged sword, as technology use after-hours proposes a "flexibility-paradox" (Diaz, Chiaburu, Zimmerman, & Boswell, 2012; Milligan, 2016). On one hand, technology can grant more flexibility to the worker, since "work no longer is wholly defined by conventional boundaries of space and time" (Cole, 2016, p. 15). When workers feel that they gain increased flexibility or control of their work-life, technology can increase work satisfaction (Diaz et al., 2012). However, the constant connection to the workplace can become demanding for employees and they may feel a pressure to work more during rest time (Mellner, 2016). This experienced pressure may increase when informal norms about the use of communication technology after-hours are formed (Adkins & Premeaux, 2014; Fender, 2010; Fenner & Renn, 2010). Consequently, the physical, psychological and emotional efforts that are required from employees when working after-hours can make it more difficult to detach oneself from job demands (Cole, 2016; Mellner, 2016) and may result in "insufficient time for rest and recovery" (Kinnunen et al., 2016, p. 103).

Nevertheless, Piszczek (2016) argues that technology itself is not fundamentally beneficial nor harmful for employees, it is rather the perceived control over boundaries between work and non-work that can come to determine whether technology use after-hours will lead to negative or positive consequences. Piszczek (2016) found that higher boundary control leads to less exhaustion, while lower boundary control results in higher levels of exhaustion. Moreover, boundary control is regarded as a critical factor for employees' ability to experience psychological detachment from work, and has been argued to mitigate the potential damaging outcomes associated with a lack of psychological detachment, such as stress and burnout (Cole, 2016; Mellner, 2016).

This thesis explores the role of perceived boundary control by building on previous research on the concept and technology use. We aim to explore the role of perceived boundary control in the relationship between technology use after-hours and work-life outcomes, specifically job satisfaction, turnover intention, relaxation, and psychological detachment. Communication technology can be used at any time anywhere, and there are many perspectives that can be considered in the investigation of their role in an organization and how they affect both the work environment and the individual worker. Interruptions and delays caused by communication technology has previously been investigated (e.g. Rennecker & Godwin, 2005), as well as the effects of telecommuting (e.g. Kossek, Lautsch, & Eaton, 2006). However, in the present study we are interested in communication technology use for work-related tasks *after-hours*. As the boundaries between work and non-work have become more blurred, there may be a perceived pressure to always be connected. Fenner and Renn (2004) refer to this as the "anytime-anywhere" connectedness that employees have towards their work.

Our main aim for this study and our contribution to the research literature is to further explore the importance of perceived boundary control in the context of technology use after-hours. We want to explore if perceived boundary control can come to influence the consequences of technology use after-hours on various work-life outcomes. Consequently, the research question to be investigated in this thesis is:

Does perceived boundary control moderate the relationship between technology use after-hours and work-life outcomes?

Individuals may vary in their use of communication technology after-hours. Thus, we also explore two antecedents of technology use after-hours, namely after-hours electronic communication expectations and role integration preference. These have previously been investigated in the research literature (e.g. Richardson and Benbunan-Fich (2011)), and are consequently not the main focus in this thesis. However, we find it useful to replicate these findings for the sample in the current study both for practical and theoretical reasons.

Several researchers have studied the concept of boundary control (e.g. Kossek, Ruderman, Braddy, and Hannum (2012); Piszczek (2016)). However, the current research within the field has to a limited degree considered boundary control in the context of technology use after-hours. Mellner (2016) investigated the moderating effect of boundary control on the impact of after-hours electronic communication expectations and work-related smart phone use after-hours on psychological detachment. However, we further explore the moderating role of perceived boundary control for a wider range of communication technology, and in relation to additional work-life outcomes. Further, there are also an unclear distinction between boundary control and perceived boundary control in the current research literature. Some researchers talk about the actual control over boundaries rather than the perception of control. Our focus is on the latter. This thesis will therefore contribute to the literature on boundary control and technology use after-hours, by clearly exploring the perception of boundary control and several important work-life outcomes.

2.0 Literature Review and Hypothesis Development

2.1 Technology Use After-Hours

The increased use of technology in organizations has changed the demands that are placed on employees and their connectivity behaviors. Fenner and Renn (2004) refer to this as the “anytime-anywhere” connectedness that employees have towards their work. Communication technology has led to an increase in work-related communication that takes place between employees during personal

time (Schlosser, 2002), and has shifted the locus of control that individuals have regarding their work by introducing a flow of interruptions and a constant connection to the workplace (Rennecker & Godwin, 2005). At the same time, individuals' need for control will influence the nature of their communication technology use (Rennecker & Godwin, 2005). Nonetheless, technology has changed what is means to be an employee in todays work-life by providing the ability to work from anywhere at any time, especially outside of normal office-hours. The increased use of communication technology has therefore altered the concept of workplace connectivity, which refers to the ability to stay connected for organizational purposes through portable wireless technology (Schlosser, 2002). The paradox of flexibility is apparent; instead of granting employees increased autonomy, it may provide a pressure to constantly be available. Thus, technology invoke a disability to disconnect, rather than the flexibility to perform work at the employees' own convenience (Milligan, 2016).

There are different ways of defining technology use during non-work time. Fenner and Renn (2010) use the concept of technology-assisted supplemental work (TASW), which refers to work performed after regular working hours through the use of communication technology. This is different from remote work like telecommuting, since telecommuting is normally covered by a formal contract or compensation agreement, while TASW is not. TASW refer to a more loosely structured work that is performed in addition to normal work. However, it does not entirely cover what we explore in this present study. While TASW refer to work performed at home, we consider all work-related tasks performed anywhere, as well as any use of communication technology after-hours that are not covered by some formal compensation or contract. Thus, we use the concept of Work Connectivity Behavior After-Hours (WCBA) in order to capture all use of communication technology for work-related tasks after-hours.

Richardson and Benbunan-Fich (2011, p. 143) define WCBA as "an organization member's use of portable wireless enabled devices (laptop or handheld) to engage with work or work-related colleagues *during non-work time* (e.g. mornings before work, evenings after work, weekends, or vacations)". Wireless Enabled Devices (WED) are technology designed to make communication across boundaries easier. WED influence connectivity by potentially blurring the boundaries between the

two domains of work and non-work, and make employees feel a constant connection to their workplace (Kossek, 2016). We refer to WED as communication technology in the current study, in order to include all types of technology that allows employees to perform work-related task and stay connected to the work place. This includes, but is not limited to, mobile phones, smartphones, laptops and tablets.

Individuals tend to vary in the degree to which they display WCBA (Boswell & Olson-Buchanan, 2007). This thesis therefore explores availability expectations and role integration preferences as possible antecedents WCBA. We will start by presenting the literature on availability expectations to lay the groundwork for our first hypothesis. Then, we will present role integration preference as the second potential antecedent for WCBA.

2.2 Antecedents of Work Connectivity Behavior After-Hours

2.2.1 After-Hours Electronic Communication Expectations

Although communication technology can be advantageous and help employees be flexible and stay connected to the workplace, it can also place pressure and high demands on their time and attention (Diaz et al., 2012). The simple distribution of communication technology by an employer to its employees will encourage individuals to use communication technology to a higher degree, and may thereby contribute to an increased use of these devices (Sarker & Wells, 2003). Employees' use of communication technology in the home domain can thus be influenced by organizational norms and expectations. Companies that provide their employees with communication technology expect them to use these to stay in touch with their colleagues and customers, which might lead employees to work longer hours, often without formal compensation agreements (Fenner & Renn, 2010). Fender (2010) argues that work environments that utilize communication technology will place after-hours electronic communication (AEC) expectations on employees who possess these devices. AEC expectations is defined as *"the extent to which employees with electronic communication devices (i.e. cell and smart phones) believe that they are expected to be available and responsive to organizational demands after-hours via these devices"* (Fender, 2010, p. 26).

Richardson and Benbunan-Fich (2011) found that expectations placed on the employee to be available after-hours through technology are an important antecedent for WCBA. Mellner (2016) also found that availability expectations after-hours influence the use of WCBA. AEC expectations can be created through an organization's availability polices, which also include the distribution of communication technology to their employees. The distribution of communication technology have been found to more strongly influence individuals' WCBA, compared to when employees purchase such devices themselves (Richardson & Benbunan-Fich, 2011). The distribution of communication technology by the organization will also signal an expectation that individuals should exhibit connectivity behavior after-hours. Sarker and Wells (2003) suggest that the mere distribution and the availability of communication technology will encourage individuals to use it and thereby increase the usage to communicate with others.

AEC expectations can be reflected in subjective norms regarding the use of communication technology in the organization. Subjective norms is defined as "a person's perception that most people who are important to him think he should or should not perform the behavior in question" (Fishbein & Ajzen, 1975, p. 302, cited by Richardson & Benbunan-Fich, 2011). Venkatesh and Davis (2000) found that subjective norms could be a strong predictor for the intention to use communication technology, which is strongly correlated with actual usage behavior. Schlosser (2002) also found that the opinions of important others can influence an individual's decision to use communication technology. Subjective norms, including the knowledge and perception of other employees' usage of communication technologies after-hours, has been found to lead to a higher degree of WCBA (Richardson & Benbunan-Fich, 2011). Subjective norms held by important others concerning the use of communication technology after-hours may in fact influence the use of these devices. Thus, we propose the following hypothesis:

> H1: *After-hours electronic communication expectations will be positively related to work connectivity behavior after-hours.*

2.2.2 Role Integration Preference

The extent to which an individual exhibit WCBA can also be influenced by their preferred boundary management style. Boundary theory explains the bases of boundary management styles by suggesting that the work-to-home boundaries can be managed on a continuum, where workplace and family roles can be either clearly separated from each other or fully integrated (Nippert-Eng, 2008). Nippert-Eng's work has largely influenced the research literature in the effort to explain how individuals manage the boundaries between work and family life (Piszczek & Berg, 2014). Nippert-Eng (2008) uses the terms *segmentation* and *integration* to explain the different boundary management styles. Segmentation refers to a complete separation between the work and home domain, where roles and activities related to one domain is completely separated from the other, both temporally, mentally, behaviorally and physically. On the other end of the continuum we find integrators, who blur the lines between the home and work, and does not think of them as separate domains. For these individuals, work-related activities could be performed in the home domain as well as at work, and vice versa. Most individuals in real life will find themselves somewhere in the middle of the continuum (Nippert-Eng, 2008). However, where people are placed on the continuum might influence how likely they are to use communication technology after-hours.

Segmentors would want to limit the interruptions between domains, while integrators would prefer a higher level of overlap between the work and home domain. At the same time, segmentors seem to be more impressionable, and technology may therefore lead to a higher level of boundary permeability for those individuals. Permeability refers to the interruptions qualities that technology holds (Nam, 2014). However, we expect individuals high on integration to be more inclined to use communication technologies for work-related tasks after-hours, compared to individuals low on integration preferences. Olson-Buchanan and Boswell (2006) found that individuals with role integration preferences use communication technology after-hours to a higher degree than individuals with segmentation preferences. Integrators place fewer boundaries for when communication technologies are used and are unlikely to restrict this use after-hours, especially if there are no restrictions set by work (Olson-Buchanan & Boswell, 2006). Richardson and Benbunan-Fich (2011) found that boundary

management styles influence WCBA for handheld devices, and individuals high on role integration preference were found to use handheld devices more than individuals low on this boundary management preference. We expect that individuals who set fewer boundaries between work and non-work will be more inclined to use communication technology after-hours, and thus we purpose the following hypothesis:

> H2: *Role integration preference is positively related to work connectivity behavior after-hours.*

The two antecedents for technology use after-hours that are explored in this study are thus *after-hours electronic communication expectations* and *role integration preference*. We will now turn to the possible consequences of WCBA. First, we will present theory on possible work-life outcomes of WCBA. Then, in order to lay the groundwork for our third hypothesis, we explore the role of perceived boundary control for these relationships.

2.3 Work Connectivity Behavior After-Hours and Work-Life Outcomes

Technology use after-hours can be seen as a double-edged sword, leading to potential positive and negative outcomes for organizations and their employees. Some of these positive consequences can be found in relation to work-life outcomes such as job satisfaction and turnover intentions. Advances in technology has been argued to increase the flexibility of work arrangements so that employees can control when, where and how they perform their work, and thus give employees the experience of psychological flexibility in their work (Kossek et al., 2006). Flexibility polices are often associated with employer support for family, which have been found to influence employees' job satisfaction and turnover intention (Allen, 2001; Kossek et al., 2006). Diaz et al. (2012) found that technology use after-hours was positively related to work satisfaction, and suggested that it may be due to stronger perceptions of control and productivity, as communication technology enables employees to complete work at their convenience.

However, there are also potential negative consequences by the increased use in technology after-hours. Diaz et al. (2012) argue that the increased flexibility that technology provides for when and how to perform work might be at the expense

of employees' need for recovery and leisure. Park and Jex (2011) found that the use of communication technology after-hours was negatively associated with psychological detachment. Kinnunen et al. (2016) argue that when employees cannot keep life domains separated, technology use-after hours may threaten their recovery from work stress, as they continue to work and be available for work-related inquiries at home. Lack of recovery may impose negative consequences on employees' well-being and health when experiencing job stressors (Kinnunen, Feldt, Siltaloppi, & Sonnentag, 2011).

Sonnentag and Fritz (2007) note that employees can achieve recovery from work stress through relaxation and psychological detachment from work-related matters. Relaxation is described as a state where individuals experience low activation and increased positive affect, which can be either deliberate (e.g. meditation) or less deliberate (e.g. reading a book) (Kinnunen et al., 2011; Sonnentag & Fritz, 2007). Sonnentag and Fritz (2007) found relaxation to be negatively related to outcomes such as sleep- and health problems, as well as emotional exhaustion (Kinnunen et al., 2011). Psychological detachment entails "to disengage oneself mentally from work", and implies both to not engage in work-related activities and to stop thinking about work during non-work time (Sonnentag & Fritz, 2007, p. 205). Psychological detachment helps individuals recover from job strain (Kinnunen et al., 2011), and may reduce damaging outcomes of work-related exertions, such as stress and burnout (Cole, 2016), as it enables employees to relax and recover from the effort expended at work through mentally distancing themselves from work-related thoughts during free-time (Mellner, 2016). Recovery from work during free time has been found to be important for employees' "well-being, health, and job performance" (Kinnunen et al., 2016, p. 100), and lack of recovery can impose negative consequences on employee well-being and health when experiencing job stressors (Kinnunen et al., 2011). Technology use after-hours may therefore be an important factor threating the ability to relax and psychologically detach from work.

Individuals' freedom to organize work at their own convenience may require increased control of the boundaries between employees' work and personal life in order to enable them to "mentally detach from work during free time" (Mellner, 2016, p. 146). Daniel and Sonnentag (2016) argue that boundary management should be considered both from the perspective of an individual's preference for

managing boundaries between work and family, and whether an individual perceive that supplies from the workplace facilitates their boundary control and help them to manage the physical and psychological boundaries between life domains. Kossek et al. (2006) found that employees who experienced greater psychological job control had lower turnover intention. Psychological job control is defined as the "degree to which an individual perceives that s/he can control where, when, and how s/he works" (Kossek et al., 2006, p. 350). Based on these findings, employees' boundary control can be considered as an important determinant for whether or not technology use after-hours will result in negative or positive consequences (Kossek et al., 2006). In this study we are therefore exploring the potential moderating role of boundary control in the relationship between WCBA and the work-life outcomes in question. Boundary control is a widely used concept, and the following chapter will therefore present the literature on boundary control that constitutes the foundation of our hypotheses.

2.3.1 Boundary Control

The concept of boundary control is an important part of boundary theory. Boundary control is the "perceived control over one's boundary environment" (Kossek et al., 2012, p. 114). This could refer to the degree to which employees can attend to personal matters at work, or chose whether or not to respond to work-related inquiries after-hours. Mellner (2016) propose that boundary congruence, which refers to the degree to which the *enacted* and the *preferred* boundary management style are in line, can be understood as a reflection of boundary control since congruence will reflect the feeling of being in control over the boundaries between work and home-life. However, the concept of boundary control may be more complex, as it has been found to add significant value to relationships between preferred and enacted boundary management style and different work-home interruptions. It has for instance been found that when boundary control is high together with a high degree of transition between domains, the degree of interference are reduced as a result (Mellner, 2016). Thus, boundary control cannot be understood as merely a reflection of boundary congruence. There are also two other concepts in the boundary theory literature that is important to distinguish in order to understand boundary control, namely flexibility and permeability.

2.3.2 Flexibility and Permeability

The extent to which different domains are segmented or integrated is determined by the *flexibility* and *permeability* of boundaries. Flexibility is defined as "the degree to which an individual is adaptable to when a particular role or domain is invoked", and refers to a boundary's "when" (Sundaramurthy & Kreiner, 2008, p. 417). Permeability is related to a boundary's "what", and is defined as "the degree to which a role allows elements of another role to integrate and assimilate with it" (Sundaramurthy & Kreiner, 2008, p. 417). Nam (2014) distinguishes between flexibility and permeability in a similar matter and suggests that integration is characterized by high flexibility and permeability, while separation is low on both flexibility and permeability. According to Nam (2014), permeable boundaries are characterized by uncontrollable interruptions from one domain into the other, while flexibility will let the individual blur the boundaries to meet demands of one domain while in another. An individual's perception of the flexibility and permeability in work- and home domains can be shaped by the use of technology. While communication technology may increase the employee's' boundary flexibility, it can also lead to higher degrees of boundary permeability.

Flexibility and permeability and perceived boundary control are related but separate concepts. Flexibility and permeability concerns the possible level of an individual's boundary integration and segmentation, by either being able to integrate between the domains (flexibility), or experience interruptions from one domain while in another (permeability). Perceived boundary control, on the other hand, is the *perception* of the individual's control over these boundaries. Kossek et al. (2006) argue that research need to distinguish between the descriptions of flexibility, which include the formal policy of communication technology use and the actual use of communication technology, respectively, and the psychological experience with flexibility. We are interested in the latter, which we refer to as *perceived* boundary control. Perceived boundary control draw similarities to the concept of psychological job control, which is defined as control over "when, where, and how one work, beliefs that one can choose to separate work-family boundaries" (Kossek et al., 2006, p. 348). However, in order to catch the concept that we are interested in, in particular the *perception* of control, we are using the following definition: the perception that one "can control the timing, frequency, and direction of boundary crossing" (Kossek et al., 2012, p. 115). This definition

excludes assumptions of the actual level of boundary control, while emphasizing the individual's perception of boundary control.

2.3.3 The Moderating Role of Perceived Boundary Control

As previously argued, perceived boundary control over work-life boundaries might change the relationship between technology use after-hours and work-life outcomes. Piszczek (2016) found that boundary control was negatively related to emotional exhaustion, and Mellner (2016) found that when boundary control was high, employees who used technology after-hours where better able to experience psychological detachment, arguing that employees' perception of control over the boundaries between work and free time might be crucial to their ability to mentally switch off from work-related matters. Based on the findings of the boundary control effects on outcomes of technology use after-hours, we argue that employees' flexibility of performing work at their own convenience is related to the perception that they can make their own decisions on whether to integrate or separate work and family-life boundaries, namely perceived boundary control, and that this will moderate the relationship between WCBA and work-life outcomes. Consequently, we propose the following hypothesis:

> H3*: The relationship between work connectivity behavior after-hours and (a) job satisfaction, (b) turnover intention, (c) relaxation and (d) psychological detachment, is moderated by perceived boundary control.*

We expect the direction of the relationship between WCBA and work-life outcomes to change with the level of perceived boundary control. In relation to job satisfaction, which has been defined as "the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs" (Spector, 1997, p. 2), a lot of research indicate that if individuals are in control of their work-life and have a certain degree of autonomy they will experience a higher degree of job satisfaction (e.g., Chung-Yan, 2010; Federici, 2013). We also expect that when individuals feel less control over the boundaries between work and home, and are heavy users of communication technology after-hours for work-related tasks, job satisfaction may be negatively affected. Thus, we purpose that with a high level of WCBA individuals need to have a feeling of perceived boundary control in order for job satisfaction to be high. We assume that the relationship would be the

opposite for turnover intention, which has been defined as "a conscious and deliberate willfulness to leave the organization" (Tett & Meyer, 1993, p. 262). If there are high levels of WCBA and the feeling of control is low, the employee's turnover intentions is expected to be higher, compared to when the feeling of control over boundaries are high. High degree of WCBA might also affect relaxation in a negative way. It might be hard for the worker to relax when constantly connected to work, an effect that would only be enhanced by a low feeling of control. However, we expect that with high levels of perceived boundary control, the individual's ability to relax would increase even with high levels of WCBA. The feeling of control over boundaries is also expected to affect the degree of psychological detachment from work. Even for individuals with a fair amount of WCBA, the feeling of being in control over when, where and how much they need to use technology for work related tasks after-hours, may in part reduce the negative effects that the use has for the ability to detach from work. Thus, the hypotheses are as follows:

H3a: *Under conditions of high levels of perceived boundary control there will be a positive relationship between WCBA and job satisfaction, but this relationship will be negative under conditions of low levels of perceived boundary control.*

H3b: *Under conditions of low levels of perceived boundary control there will be a positive relationship between WCBA and turnover intention, but this relationship will be negative under conditions of high levels of perceived boundary control.*

H3c: *Under conditions of low levels of perceived boundary control there will be a negative relationship between WCBA and relaxation, but this relationship will be positive under conditions of high levels of perceived boundary control.*

H3d: *Under conditions of low levels of perceived boundary control there will be a negative relationship between WCBA and psychological detachment, but this relationship will be positive under conditions of high levels of perceived boundary control.*

2.4 Proposed Research Model

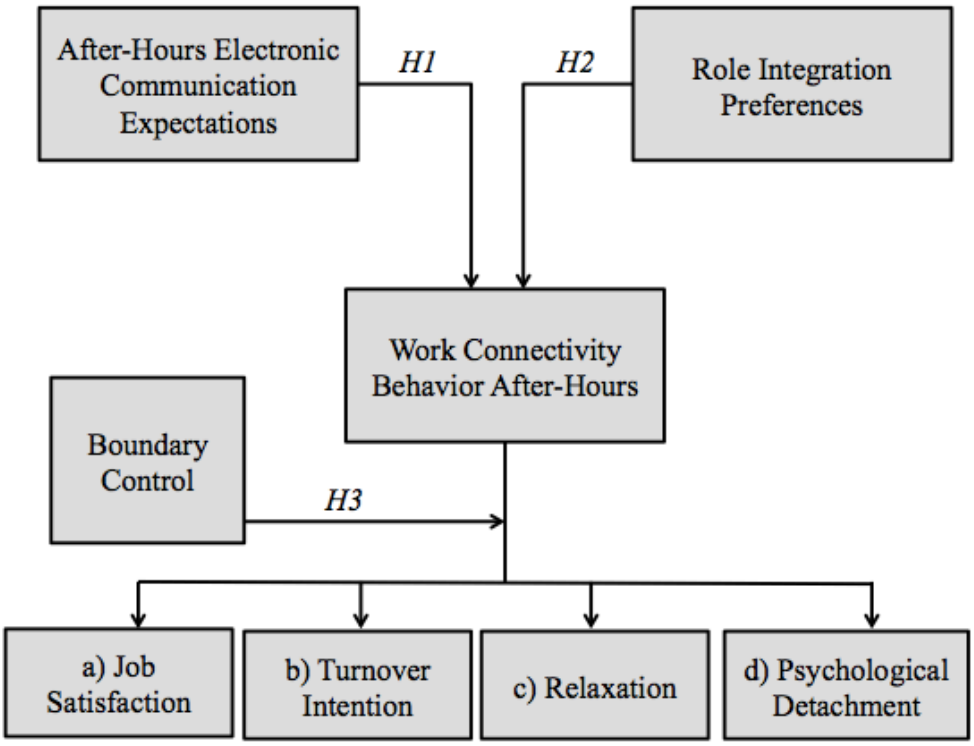

Figure 1: *Research model and hypotheses.*

The model illustrates how the proposed relationships between the variables are connected. High expectations to be available after-hours through the use of communication technology (AEC expectations) are thought to increase employees' communication technology after-hours (WCBA). In addition, the degree of use is also expected to be influenced by their preference to integrate between work and home-life. If individuals prefer to blur the lines between domains (role integration preference), they are expected to be more inclined to use technology for work-related tasks after-hours, and as a result their use will be higher than individuals with a low role integration preference. Further, we purpose that WCBA would have consequences for individuals' job satisfaction, turnover intention, relaxation and psychological detachment. However, whether this will be a negative or positive relationship will depend on individuals' degree of perceived boundary control. High perceived boundary control will increase the positive effects and decrease the negative effect of WCBA on work-life outcomes.

3.0 Method

3.1 Sample and Research Design

In this study we have used a cross-sectional research design, and the method for data collection was a self-completion questionnaire. Data was collected in the end of 2017 and beginning of 2018 via an online survey administered through email. We surveyed a total of 168 employees from three Norwegian organizations located in Oslo. The survey was distributed in two waves in order to mitigate common method variance, which refers to the variance attributed to the measurement method used, and are one of the main sources of measurement error (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). When it is not possible to obtain data from different sources, separating the predictor and criterion variables could be a good way to reduce common method variance. Thus, the survey was sent out in two waves one month apart, which can contract some of the common method biases. We assessed the independent variables and control variables in the first wave, and the dependent variables and moderating variable in the second wave. This could potentially reduce bias related to measurement context, by reducing short-term memory effects, making previous responses less salient, relevant or available (Podsakoff et al., 2003). In order to reduce the likelihood of another source of common method bias known as social desirable responding (Podsakoff et al., 2003), respondents were informed that participation was voluntary and anonymous, and that they were able to withdraw from the project at any point in time without stating a reason. To increase the response rate, 3-5 reminders were sent to participants at both measurement times.

From the first wave of data collection we received a total of 101 responses, corresponding to a response rate of 60%. In order to be included in the final analyses, respondents had to complete both surveys. The second survey was therefore distributed only to respondents who completed the first survey. From the second wave we received 76 responses, corresponding to a response rate of 75 % for the second survey and 44 % for the total sample. From the final sample we had to exclude 7 participants because they did not work full-time, which can influence how they relate to the use of technology after-hours. We also had to exclude two participants with incomplete responses on important variables. This gave us a final sample of 67 respondents to be included in the analyses.

The final sample represented 40,3 % female and 59,7 % male respondents. The average age of the sample was 41,9 years, ranging from 22 to 64. The average organizational tenure was 8 years and 2 months, and respondents reported that they work in average 42,9 hours weekly. 80,6 % of the respondents indicated that they are in a relationship, and 68,7 % of the respondents live together with their partner. 46,3 % of the respondents reported that they live with children that are under 18 years old.

3.2 Measures

The first wave assessed the independent variables (AEC expectations and role integration preference) and control variables. The items for both AEC expectations and role integration preference were measured on a 5-point Likert scale, ranging from one (strongly disagree) to five (strongly agree). The second wave assessed the moderating and mediating variables (work connectivity behavior after-hours and perceived boundary control) as well as the dependent variables (general job satisfaction, turnover intention, relaxation and psychological detachment). The items for these variables were measured on a 5-point Likert scale, ranging from one (strongly disagree/very unlikely) to five (strongly agree/very likely). The questionnaires used in our research were first translated from English to Norwegian, before it was translated back to English in order to check the cross-cultural accuracy of the translation.

3.2.1 After-Hours Electronic Communication Expectations

After-hours electronic communication expectations was measured with a questionnaire developed by Richardson and Benbunan-Fich (2011), which assesses the subjective norms in regarding technology use after-hours. We adopted the items measuring subjective norms in order capture the behavior we are interested in. We used this measure as the operationalization of after-hours electronic communication (AEC) expectations. Sample items are “Most employees at my organization continue to use communication technologies after working hours to perform work related tasks” and “People at work whose opinions I value think that I should be available through communication technologies after hours”. According to Richardson and Benbunan-Fich (2011) their scale for subjective norms has a good internal consistency, with a Cronbach

alpha coefficient reported of .78. In the current study, the Cronbach alpha coefficient was .87.

3.2.2 Role Integration Preference

Role integration preference was measured with the scale developed by Richardson and Benbunan-Fich (2011). Examples of items are "I don't mind receiving work-related calls while I am at home" and "I don't like being stopped in the middle of my home activities to address a work concern". According to Richardson and Benbunan-Fich (2011), their scale for role integration preference has a good internal consistency, with a Cronbach alpha coefficient reported of .85. In the current study the Cronbach alpha coefficient was .67. Ideally, it should be above that of .7 (DeVellis, referred to by Pallant, 2013). However, we found through our analyses that item 4 negatively correlated with the other items in the scale, thus we chose to delete item 4. This increased the internal consistency to an acceptable level of .78.

3.2.3 Work Connectivity Behavior After-Hours

To measure work connectivity behavior after-hours (WCBA), the concept developed by Richardson and Benbunan-Fich (2011), we adopted Boswell and Olson-Buchanan (2007) measurement which asks their respondents to report the frequency of which they use communication technologies during non-work hours to perform their job. Our measurement asked respondents how much time they on average spend using communication technology in their non-work time during one week. Respondents had to indicate specific amounts of time (hours) they use on average in a typical work week (see Appendix C for specification of the question). We transformed the data into minutes for our analysis in order to obtain more variance in the sample.

3.2.4 Perceived Boundary Control

The scale used to measure perceived boundary control was adopted from the Boundary management scale developed by Kossek et al. (2012). We changed the wording from "I control" to "I feel that I can control" in order to catch the concept of interest. Sample items are "I feel that I can control whether I am able to keep my work and personal life separate" and "I feel that I can control whether I have clear boundaries between my work and personal life". According to Kossek et al. (2012) their scale for boundary management has a good internal consistency, with

a Cronbach alpha coefficient reported of .88. For our scale on perceived boundary control the Cronbach alpha coefficient was .84.

3.2.5 General Job Satisfaction

Job satisfaction was measured with the three-item general job satisfaction scale from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979). Example items from this scale are “All in all, I am satisfied with my job”, and ”In general, I don't like my job”. Cronbach alpha was not reported in Cammann et al.’s (1979) manuscript. In the current study the Cronbach alpha coefficient was .81.

3.2.6 Turnover Intention

Turnover intention was measured with the three-item turnover scale from the Michigan Organizational Assessment Questionnaire (Cammann et al., 1979). A sample item from this scale is “I often think about quitting my job”. Cronbach alpha was not reported in Cammann et al.’s (1979) manuscript. In the current study the Cronbach alpha coefficient was .93.

3.2.7 Relaxation and Psychological Detachment

To measure relaxation and psychological detachment we adopted the measurement developed and validated by Sonnentag and Fritz (2007). They measure recovery experience through psychological detachment, relaxation, control and mastery. The items measuring control is similar to that of perceived boundary control, while we found mastery to be less relevant to our survey. Thus, we used their subscale for relaxation, with a sample item being “When I am not at work I do relaxing things”, and the subscale for psychological detachment, a sample item being “When I am not at work I forget about work”. In this study, relaxation and psychological detachment operate as two separate variables and are analyzed separately. According to Sonnentag and Fritz (2007), their scale for relaxation and psychological detachment has a good internal consistency, with a Cronbach alpha coefficient reported of .84, and .85, respectively. In the current study the Cronbach alpha coefficient was .84 for relaxation and .75 for psychological detachment.

3.3 Analyses

In order to analyze the data, we conducted a standard multiple regression analysis to explore hypotheses 1 and 2. This let us enter all our independent (predictor) variables at the same time in order to evaluate their predictive power. We used this method because we wanted to explore how much variance in WCBA that can be explained by AEC expectations and role integration preference. This would also let us know how much unique variance in our dependent variable (WCBA) that either AEC expectations or role integration preference explained. In SPSS we did a Linear Regression with WCBA entered as the dependent variables, and AEC expectations and role integration preference as independent variables. Preliminary analyses were conducted in order to ensure that there were no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity.

To test hypothesis 3, we conducted a two-way between groups analysis of variance (ANOVA). This allowed us to test if there was an interaction effect, which is when the effect of one independent variable on the dependent variable depends on the level of the second independent variable. In our case we wanted to explore if the influence of WCBA on the difference work-life outcomes changed depending on the level of perceived boundary control. The two-way between groups ANOVA allowed us to both test for the effect of each of the independent variables on the depend variables, but also identify any interaction effect. In SPSS we entered in General Linear Model; Univariate. The work-life outcomes were entered as dependent variable and WCBA and Perceived Boundary Control were entered as fixed factors. Prior to this we had made WCBA and perceived boundary control into categorical variables with two groups; low WCBA and high WCBA, and low perceived boundary control and high perceived boundary control. To further explore the main effects, we conducted a standard regression analysis, performed as explained for hypotheses 1 and 2.

4.0 Results

4.1 Antecedents of Work Connectivity Behavior After-Hours

Our preliminary analyses show that AEC expectations are not normally distributed in our sample, but rather skewed to the right. However, role integration preference is acceptable in terms of normal distribution (Appendix A). The

relationship between WCBA and AEC expectations and role integration preference was first investigated using Spearman's rho. This was used because of the lack of normal distribution of AEC expectations in our sample, and Spearman's rho is a good alternative as a non-parametric technique to investigate correlations. There was a small positive correlation between the role integration preference and WCBA variables, $r = .28$, $n = 67$, $p < .020$, with high levels of role integration preference associated with higher level of WCBA. r^2 gives a shared variance of 8,1% for the two variables. The relationship between AEC expectations and WCBA reaches statistical significance, with a small positive correlation $r = .24$, $n = 67$, $p < .055$. Table 1 shows the correlations, means, standard deviations, and reliabilities for the variables.

Table 1 Means, standard deviations and correlations among variables predicting WCBA (N=67)

Variable	M	SD	1	2	3
1 WCBA	386.42	458.87			
2 AEC Expectations	16.31	3.85	.24		
3 Role Integration Preference	14.06	2.93	.28*	-.02	
Coefficient alpha			-	.87	.78

Note: * p<.05 (two-tailed)

We conducted a standard multiple regression analysis to assess the ability of AEC expectations and role integration preference to predict levels of WCBA. The results are presented in Table 2. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. Results of these were acceptable for the use of this method. No violation was done except some divergence seen in the Normal Probability Plot (P-P) of the Regression Standardized Residual (Appendix B), which deviated some from a straight diagonal line. However, the Scatterplot (Appendix B) showed that outliners were within the Tabachnick and Fidell (2007, referred to by Pallant, 2013) definition of outliners as standardized residuals more than 3.3 or less than -3.3. The model explains 4 % of the variance in the dependent variable (WCBA), however the model is not statistically significant (df = 2, F = 1.34, Sig. = .27). Neither of the variables were statistically significant; AEC expectations (*beta* = -.09, $p = < .49$) and role integration preference (*beta* = .17, $p = < .17$). The results, although not significant, could indicate that if we increased ACE expectations by one standard deviation (SD = 3,85), the WCBA scores would be

likely to drop by .09 standard deviation units. While an increase in role integration preference by one standard deviation (SD = 2,93), the WCBA scores would be likely to increase by .17 standard deviation units. The former is opposite of what we proposed in hypothesis 1 and the latter is in line with hypothesis 2.

Table 2 Summary of the standard multiple regression to assess the ability of AEC Expectations and Role Integration Preference to predict WCBA

Independent variables	Dependent variable: Work Connectivity Behavior After-Hours (WCBA)		
	β	R^2	Adjusted R^2
AEC Expectations	-.09		
Role Integration Preference	.17	.04	.01

Note: * p<.05 (two-tailed)

4.2 The Moderating Effect of Perceived Boundary Control on Work-Life Outcomes

We started by investigating the relationships between our variables using Spearman's rho. This technique was used based on the lack of normal distribution of the variables in our sample (Appendix A), and Spearman's rho is a good alternative as a non-parametric technique to investigate correlations. Correlations for all the variables are presented in Table 3. There was a medium positive correlation between perceived boundary control and job satisfaction, $r = .495$, $n = 67$, $p < .000$, with high levels of perceived boundary control associated with higher level of job satisfaction. r^2 gives a shared variance for Spearman's rho = 24,5 % of the two variables. There was also a small negative correlation between perceived boundary control and turnover intention, $r = -.286$, $n = 67$, $p < .019$, with high levels of perceived boundary control associated with low level of turnover intention. r^2 gives a shared variance for Spearman's rho = 8,2 % of the two variables. There was a medium, positive correlation between perceived boundary control and psychological detachment, $r = .366$, $n = 67$, $p < .002$, with high levels of perceived boundary control associated with high levels of psychological detachment. r^2 gives a shared variance for Spearman's rho = 13,4 % of the two variables. There was a medium, negative correlation between WCBA and psychological detachment, $r = -.334$, $n = 67$, $p < .006$, with high levels of WCBA associated with lower level of psychological detachment. r^2 gives a shared variance for Spearman's rho= 11,2 % of the two variables.

Table 3 Means, standard deviations and correlations among variables and outcomes of Perceived Boundary Control and WCBA (N=67)

Variable	M	SD	1	2	3	4	5	6
1 WCBA	386.42	458.87						
2 Perceived Boundary Control	11.9	2.42	.19					
3 Job Satisfaction	13.69	1.96	.12	.50**				
4 Turnover Intention	6.13	3.23	.17	-.29*	-.48**			
5 Relaxation	13.76	3.21	-.14	.17	.18	-.25*		
6 Psychological Detachment	11.52	3.10	-.33**	.37**	.21	-.15	.40**	
Coefficient alpha				.84	.81	.93	.84	.75

Note: * p<.05 (two-tailed); **p<.01 (two-tailed)

A two-way between groups analysis of variance was conducted to explore Hypothesis 3; the impact of perceived boundary control on the relationship between WCBA and work-life outcomes. Results are presented in Table 4. Participants were divided into two groups according to their level of perceived boundary control; low perceived boundary control = < 12 (N = 43) and high perceived boundary control = 13+ (N = 24). Perceived boundary control consists of three items measured on a five-point Likert scale, with a minimum score of 5 and maximum score of 15. Participants were also divided into two groups according to their level of WCBA; low WCBA = < 240 (N = 35) and high WCBA = 241+ (N = 32). WCBA is presented in minutes (per week).

Table 4 Summary of interactions and main effects of Perceived Boundary Control and WCBA on work-life outcomes

	df	F	Sig.	Partial Eta Squared
Job Satisfaction				
Interaction effect	1	.00	1.00	.00
WCBA	1	1.14	.29	.02
Perceived Boundary Control	1	12.13	**.00**	.16
Turnover Intention				
Interaction effect	1	.02	.89	.00
WCBA	1	1.15	.29	.02
Perceived Boundary Control	1	5.82	**.02**	.09
Relaxation				
Interaction effect	1	.43	.52	.01
WCBA	1	.00	.95	.00
Perceived Boundary Control	1	.74	.39	.01
Psychological Detachment				
Interaction effect	1	1.70	.20	.03
WCBA	1	5.12	**.03**	.08
Perceived Boundary Control	1	9.62	**.00**	.13

Note: Significant effects are marked in bold

Hypothesis 3a proposes an impact of perceived boundary control on the relationship between WCBA and job satisfaction. The interaction effect between perceived boundary control and WCBA was not statistically significant, F (1, 65) = .000, p = .995. There was a statistically significant main effect for perceived boundary control, F (1, 65) = 12.129, p = .001; however, the effect size was small (partial eta squared = .161). The main effect for WCBA, F (1, 65) = 1.143, p = .289, did not reach statistical significance. Figure 2 shows the relationship between perceived boundary control and job satisfaction for the two groups.

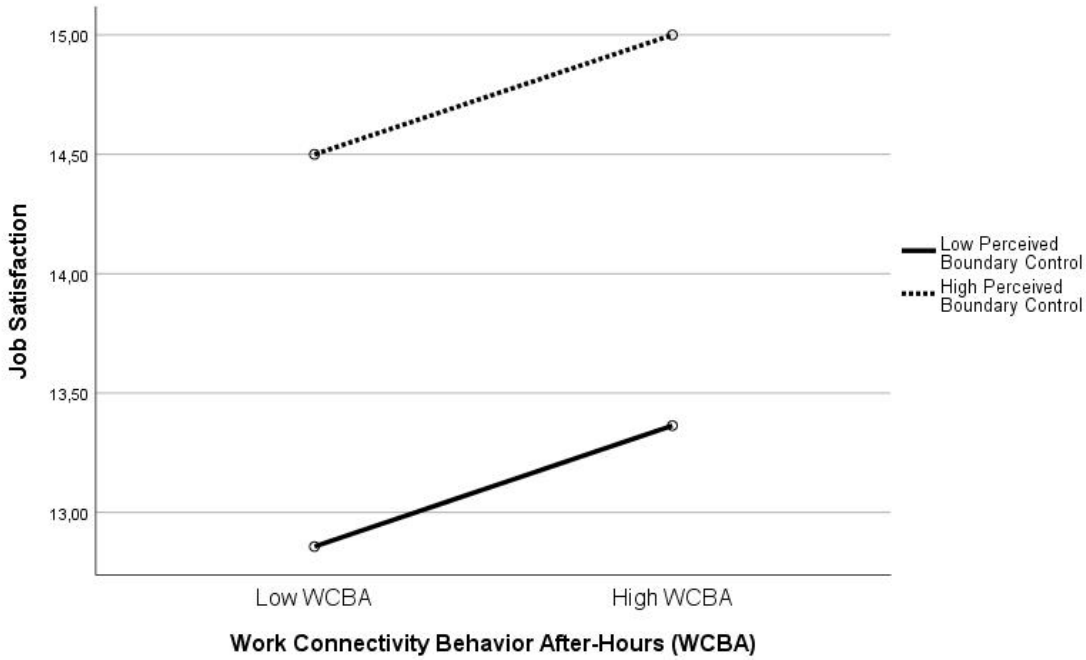

Figure 2: *Relationship between perceived boundary control and job satisfaction*

Hypothesis 3b proposes an impact of perceived boundary control on the relationship between WCBA and turnover intention. The interaction effect between perceived boundary control and WCBA was not statistically significant, F (1, 65) = .019, p = .891. There was a statistically significant main effect for perceived boundary control, F (1, 65) = 5.816, p = .019; however, the effect size was small (partial eta squared = .085). The main effect for WCBA, F (1, 65) = 1.149, p = .288, did not reach statistical significance. Figure 3 shows the relationship between perceived boundary control and turnover intention.

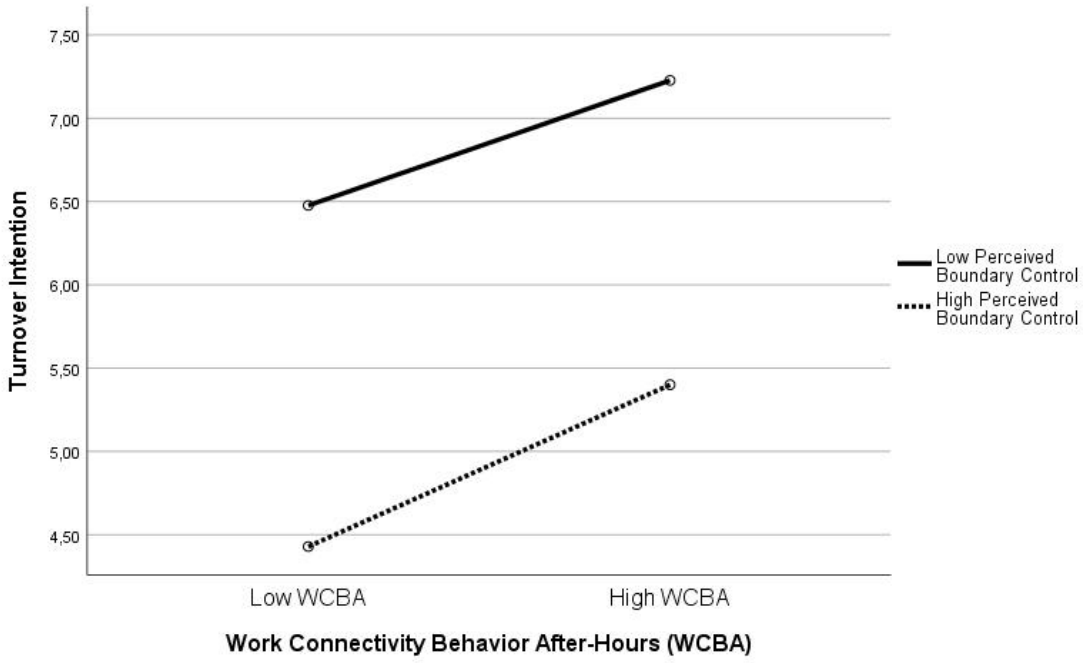

Figure 3: *Relationship between perceived boundary control and turnover intention*

Hypothesis 3c proposes an impact of perceived boundary control on the relationship between WCBA and relaxation. The interaction effect between perceived boundary control and WCBA was not statistically significant, F (1, 65) = .425, p = .517. There was no statistically significant main effect for neither perceived boundary control, F (1, 65) = .738, p = .394, nor WCBA, F (1, 65) = .004, p = .947.

Hypothesis 3d proposes an impact of perceived boundary control on the relationship between WCBA and psychological detachment. The interaction effect between perceived boundary control and WCBA was not statistically significant, F (1, 65) = 1.701, p = .197. There was a statistically significant main effect for perceived boundary control, F (1, 65) = 9.617, p = .003; however, the effect size was small (partial eta squared = .132). There was also a statistical significant main effect for WCBA, F (1, 65) = 5.108, p = .027, however, the effect size was small (partial eta squared = .075). Figure 4 shows the relationship between perceived boundary control, WCBA and psychological detachment.

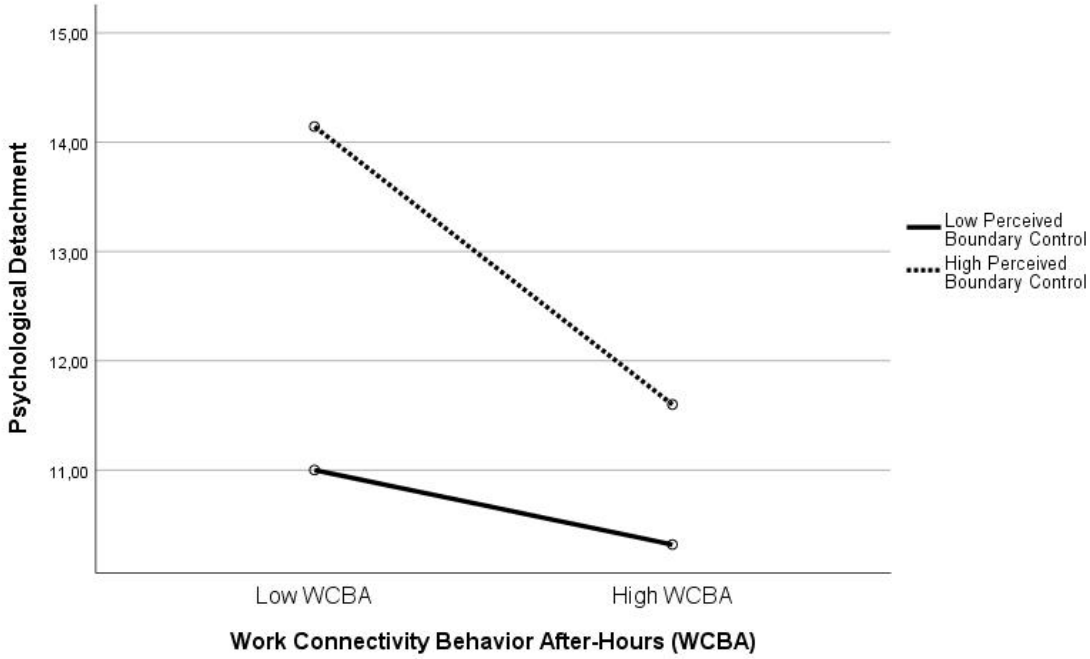

Figure 4: *Relationship between perceived boundary control, WCBA and psychological detachment*

We conducted a standard multiple regression analysis to assess the main effects of perceived boundary control and WCBA on the work-life outcomes. The results are presented in Table 5. First, standard regression was used to assess the ability of perceived boundary control and WCBA to predict levels of job satisfaction. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. Results of these were acceptable in terms of the use of method. The total variance explained by the model was 25%, F, (2, 64) = 10.59, p <.000. Adjusted R square is .23 = 23%. In the model, only perceived boundary control was statistically significant and with a beta value of .495, p = < .000 and a unique explanation of 24% of the variance in job satisfaction (Part^2 = .491^2 = .241). WCBA was not statistically significant (*beta* = .144, p = < .193). The results indicate that if we increased perceived boundary control by one standard deviation (SD = 2,42), the job satisfaction scores would be likely to increase by .50 standard deviation units.

Table 5 Summary of the standard multiple regression to assess the ability of Perceived Boundary Control and WCBA to predict work-life outcomes

	β	R^2	Adjusted R^2
Job satisfaction			
Perceived Boundary Control	.50**		
WCBA	.15	.25	.23
Turnover Intention			
Perceived Boundary Control	-.32		
WCBA	-.01	.10	.07
Psychological Detachment			
Perceived Boundary Control	.38**		
WCBA	-.21	.21	.18

Note: * p<.05 (two-tailed); **p<.01 (two-tailed)

The same procedure was done to test for the two predictors ability to assess turnover intention. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. Results of these were acceptable in terms of the use of method. The total variance explained by the model was 10%, *F*, (2, 64) = 3.555, *p* <.034. Adjusted R square is .072 = 7,2 %. In the model, only perceived boundary control was statistically significant and with a beta value of -.318, *p* = < .010) and a unique explanation of 9,9% of the variance in job satisfaction ($Part^2 = -.315^2 = .099$). WCBA was not statistically significant (*beta* = -.014, *p* = < .907). The results indicate that if we increased perceived boundary control by one standard deviation (SD = 2,42), the turnover intention scores would be likely to drop by .32 standard deviation units.

The last standard regression we did was to assess perceived boundary control and WCBA's ability to predict psychological detachment. Preliminary analyses were conducted again to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. The total variance explained by the model was 20,5%, *F*, (2, 64) = 8,265, *p* <.001. Adjusted R square .180 = 18 %. In the model, only perceived boundary control was statistically significant and with a beta value of .377, *p* = < .001 and a unique explanation of 14 % of the variance in job satisfaction ($Part^2 = .375^2 = .140$). WCBA was approaching statistically significant (*beta* = -.210, *p* = < .066), however the contribution was opposite as what would be in line with our hypothesis, WCBA reducing rather than increasing psychological detachment. The results indicate that if we increased perceived

boundary control by one standard deviation (SD = 2,42), the psychological detachment scores would be likely to increase by .38 standard deviation units.

5.0 Discussion

This study had two purposes. The first purpose was to investigate two antecedents of work connectivity behavior after-hours, more specifically after-hours electronic communication expectations and role integration preference. This also aimed to replicate previous findings on antecedents of technology use after-hours. The second and main purpose was to investigate the moderating role of boundary control on the relationship between work connectivity behavior after-hours and work-life outcomes, such as job satisfaction, turnover intention, relaxation, and psychological detachment.

The analysis revealed no significant results for the two antecedents of WCBA. However, the sample used in the analyses was small. Multiple regression should preferably not be used on very small samples that are highly skewed (Pallant, 2013). Tabachnick and Fidell (2007, referred to by Pallant, 2013) developed a formula that suggest an appropriate number of respondents depending on the number of independent variables, which in our case indicates that we would need 66 cases. However, more are needed in cases were the dependent variables is skewed, which was the case for the current study. The number of respondents in our research should preferably have been higher. Preliminary correlational analyses of the variables did however indicate connections between the variables, showing that WCBA and role integration preferences were positively connected.

Although our data did not reveal a significant relationship between the two antecedents and WCBA in our research, previous research has found a positive relationship. For example, Richardson and Benbunan-Fich (2011) found a positive relationship between subjective norms about after-hours work connectivity and WCBA, and between role integration preference and WCBA for handheld devices. However, they also investigated additional antecedents of WCBA to subjective norms, such as polychronicity and personal innovativeness with IT. This indicates a more complex relationship; the degree of WCBA can be influenced by several factors beyond an individual's subjective norms and role integration preference (Richardson & Benbunan-Fich, 2011).

The degree of WCBA may also be influenced by factors that have not yet been tested in previous research. For example, individuals may not perceive after-hours electronic communication expectations as norms, and may not be consciously aware that these influence their behavior. Piszczek (2016) argues that individuals might differ in their experiences and responses to AEC expectations, and that research needs to go in depth to understand why these different reactions occur and what consequences they have for both organizations and individual employees. There may also be a discrepancy between an individual's preferred boundary management style and its actual boundary management behavior, meaning that s/he for example integrates work-life domains even if s/he prefers to separate them.

We also tested for the interaction effect of boundary control on WCBA and work-life outcomes inn order to explore how individual differences in the perception of control over work-life boundaries can affect the consequences of technology use after-hours for the organization and individual employees. We were unable to find any significant results of this interaction effect for job satisfaction, turnover intention, relaxation, or psychological detachment. However, there are recent research that have found significant moderating effects of boundary control on the relationship between availability expectations and smartphone use, respectively, and psychological detachment (Mellner, 2016). This study had over 2000 respondents, compared to our final sample of 67 respondents.

We did however find results that indicate that perceived boundary control could be important for employees and organizations in various instances. In the current study, high levels of perceived boundary control were found to increase job satisfaction and psychological detachment, and reduce turnover intention. This supports previous research on boundary control effects on turnover intention (Kossek et al., 2006). Our results shed light on the important contribution of boundary control, as a significant result was found even for a small sample. Use of technology after-hours were found to negatively influence psychological detachment in the initial analyses, which may indicate that individuals that have a high use of communication technology after-hours have a harder time to detach and recover from work.

In our study we specifically focused on the perception of boundary control, which makes important assumptions about individuals' own perceptions of their ability

to control their work-life. Even though the interaction effect between technology use and boundary control was not found in the present study, it could in todays work-life be difficult to completely separate communication technologies from any work-life condition. We can assume that individuals' perceptions about their control over work-life boundaries will to a certain degree involve the use, or lack of use, of communication technology. There may also be a direct effect of technology use on the perception of boundary control. Piszczek (2016) found that technology use is associated with higher level of boundary control for individuals who prefer to integrate between domains, and lower boundary control for segmentors.

5.1 Managerial Implications

Based on the results from this study there are some practical implications for managers to consider. Perceived boundary control is evident to have important implications for the individual worker and the organization. Making sure that employees have a high perception of control over the boundaries between work and home can affect their job satisfaction, turnover intention and psychological detachment, which are of great concern for managers. How are managers' own behaviors affecting employees' feeling of control? Do employees feel that they have the ability to control whether or not they have to constantly be available through communication technologies after-hours based on what their managers signalize, or based on the general culture of communication technology behavior in the organization? How can managers create the feeling of control, but at the same time consider how individuals may vary in their preference to either separate or integrate work and non-work life? These are questions that mangers need to consider if they want to create high levels of perceived boundary control in their employees.

It is important that managers understand how technology influences the concept of workplace connectivity, and how technology use after-hours for work related matters can affect employees in the organization. In the present study we found a main effect of technology use after-hours on psychological detachment. Managers may want to take steps in order to reduce high use of technology after-hours in order to increase their employees' ability to detach from work during their free time. Managers may benefit from considering the availability expectations that are

in play at the workplace, their own behavior regarding technology use after-hours, as well as formal availability policies in the organization. Managers should also be aware that individuals differ in their preference of boundary separation and integration, which means that the same policies and practices may not be appropriate for every employee. This is also relevant when considering the perceptions of boundary control, as the feeling of control may vary from individuals high on separation preferences compared to those high on integration preferences. By facilitating openness and communication regarding the preferred boundary management style of employees in the organization, managers can be enabled to make individual adjustments. Since individuals vary in their boundary management style preferences, employees in an organization should be granted boundary control rather than being forced into a particular boundary management style. Employees' perceived control over work and non-work domains can be increased by establishing organizational norms that account for variations in individuals' preferences.

In order to capture some specific implications for the organizations participating in our study, we added an open-ended question section at the end of the survey asking respondents if they wished for anything to be different about the use of communication technology in their organization, and if there was anything their employer could do to optimize their work-life balance. Through these questions it became very clear that the participants differed in their preferred boundary management style. While some respondents commented that they appreciate the freedom and flexibility granted them by communication technology, other respondents called for their employer to establish clearer work-life boundaries through formal requirements and availability policies. One participant suggested that work outside of normal working hours should be compensated through a raise in the fixed salary, while other respondents wanted to register their work-related communication after-hours and be compensated correspondingly. We suggest that managers acknowledge WCBA as a natural part of modern work life, and that they recognize employees' WCBA through some form of compensation. In cases where work-related communication after-hours is not required in order for employees to perform their work, clear policies for availability should be implemented. In cases where the nature of the job requires employees to be available after-hours, or work connectivity through technology is necessary for

completion of work tasks, employees tend to be more willing to accept availability requirements (Piszczek, 2016). Therefore, it may be crucial to communicate such requirements in recruitment processes, in order to attract employees with integration preferences. For employees with segmentation preferences in these kind of positions, it could be useful to introduce "availability shifts" that rotates among employees, which gives them the opportunity to choose days or weekends they are expected to be available to deal with work issues, as suggested by Mellner (2016) based on the finding that boundary control influence individuals' ability to psychologically detach from work.

Some participants had comments on the tools used for work-related communication after-hours, and suggested that Facebook and private mobile phones should not be used in relation to work. Instead, they wanted work-related communication to take place at the company intranet and job e-mail, and argued that this would help them to gain more control over work-life boundaries. One respondent also suggested that all employees should be provided a company paid phone in the case of high expectations to be available after-hours. These suggestions may call for manages to consider which channels they use for work-related communication after-hours. In order to support employees with segmentation preferences, one should avoid using communication channels that employees use at their time off, such as social media, and ensure that work-related communication after-hours goes through job specific channels.

6.0 Limitations and Further Research

By the logic of cross-sectional design, the present study does not permit any causal interpretations to be made. Although we have operationalized job satisfaction, turnover intention and psychological detachments as outcomes, it may still be that the opposite is the case regarding our finding on the main effects of boundary control and WCBA on these outcomes. It might be that high job satisfaction can cause individuals to have a higher perception of boundary control, or that individuals who are not able to psychological detach from work will increase their use of communication technology after-hours. Although we cannot say that one *caused* the other, we can say that they are related to each other.

We collected data from three different organizations in Norway, but since the final sample is very small it limits the generalizability of the significant results we did find to other populations and contexts. Although we tried to limit common method variance by conducting the data collection at two separate times, we were not able to collect data from different sources, which further studies should try to do. We did not find any significant results for our main hypotheses; thus no additional analyses were done to check the effect of our control variables. Further research finding significant results should control for life situation, boundary management style, gender, and distribution of communication technology by the organization. We also based our discussion of the findings on perceived boundary control and WCBA in relation to work-life outcomes on the results from our two-way between groups ANOVA (Table 4). Although there were statistically significant effects here, the additional linear regression analysis, only shows significant result for two of the main effects found in the first analysis (Table 5). Here WCBA only approached statistical significance for its prediction of psychological detachment, but in the opposite direction of what we hypothesized. However, we had a small sample for our analyses, and more research is needed to explore these relationships.

An additional limitation could be placed on the measure of WCBA. Although we clearly specified which type of behavior we were interested in, it may have been confusion as to where the distinction goes. If a worker has to leave the office earlier one day to attend to personal matters, but brings with him communication technology to stay connected and attend to work-related matters, it may be harder to distinguish between after-hours and work-hours. It might be that the distinction between work and non-work time have become too entangled for contemporary worker to be able to clearly separate.

There are also other possible connections in our model that we did not test for. Further research should try to establish these. We would expect it to be a direct relationship between our independent variables (WCBA antecedents) and the work-life outcomes. It would be reasonable to expect that individuals high on role integration preference are less able to relax and psychologically detach from work, as they would be more inclined to use communication technology after-hours. It could also be the case that high AEC expectations placed on employees

will influence their level of job satisfaction and turnover intentions. There might also be a direct relationship between AEC expectations and perceived boundary control, and a possible moderation effect on this relationship by individual boundary management styles. An individual's level of perceived boundary control might be directly affected by the AEC expectations experienced. However, individuals high on role integration preferences might be less negatively influenced by these expectations in terms of their level of perceived boundary control as they are more inclined to blur between work-home boundaries themselves. Thus, it would be beneficial to test whether boundary management styles would influence individuals' level of perceived boundary control in instances of high AEC expectations compared to those of low AEC expectations. However, we were limited in our scope of study to explore these extensive relationships. Further research should also include additional antecedents of WCBA. Other possible work-life outcomes should also be considered to explore the same relationship as in the current study. These could be family-to-work conflict, employee stress and depression and performance outcomes.

7.0 Conclusion

The current study is highly relevant for contemporary work-life issues. It asks important questions about the relationship between expectations placed on employees to be available after-hours through communication technology, role integration preferences and perceptions of boundary control, respectively, and how these consequently affect job satisfaction, turnover intention, relaxation and psychological detachment. This study confirms the importance of perceived boundary control and the use of communication technology after-hours for job satisfaction, turnover intention, and psychological detachment, and thus brings into attention that more research is needed to further explore these relationships and other possible connections. Due to the fast development of technology and frequent use outside of normal working hours there are increased pressure placed on employees. The current study showed that a low feeling of being in control over the boundaries between work and home can reduce job satisfaction and psychological detachment, and increase turnover intention. Moreover, the use of communication technology after-hours was found to reduce individuals' ability to psychologically detach from work.

8.0 References

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Appendices

A First Appendix

Normal Distribution of the Variables

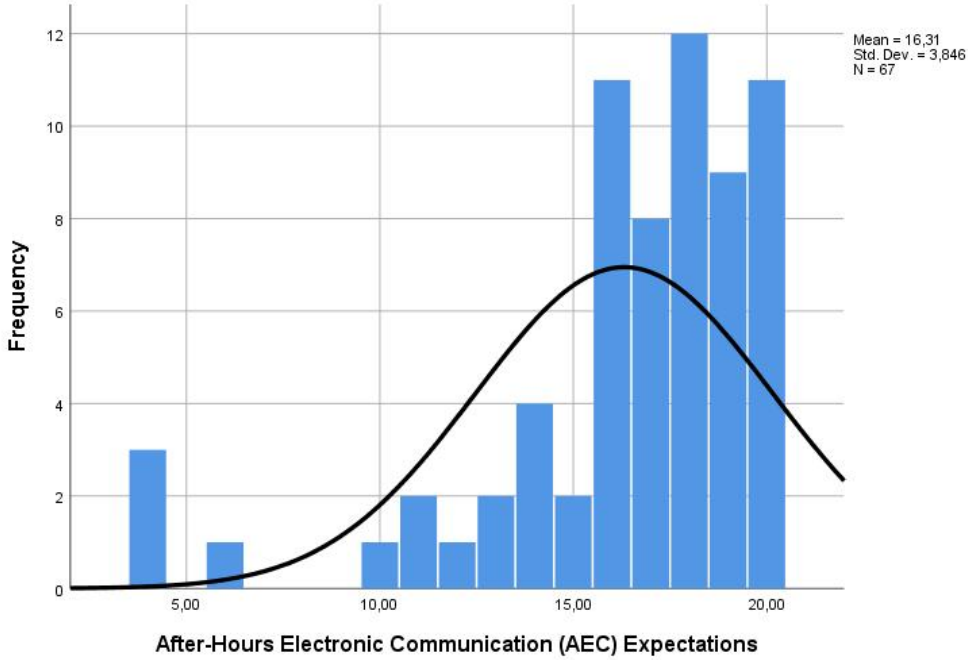

Figure 1: *After-Hours Electronic Communication (AEC) Expectations*

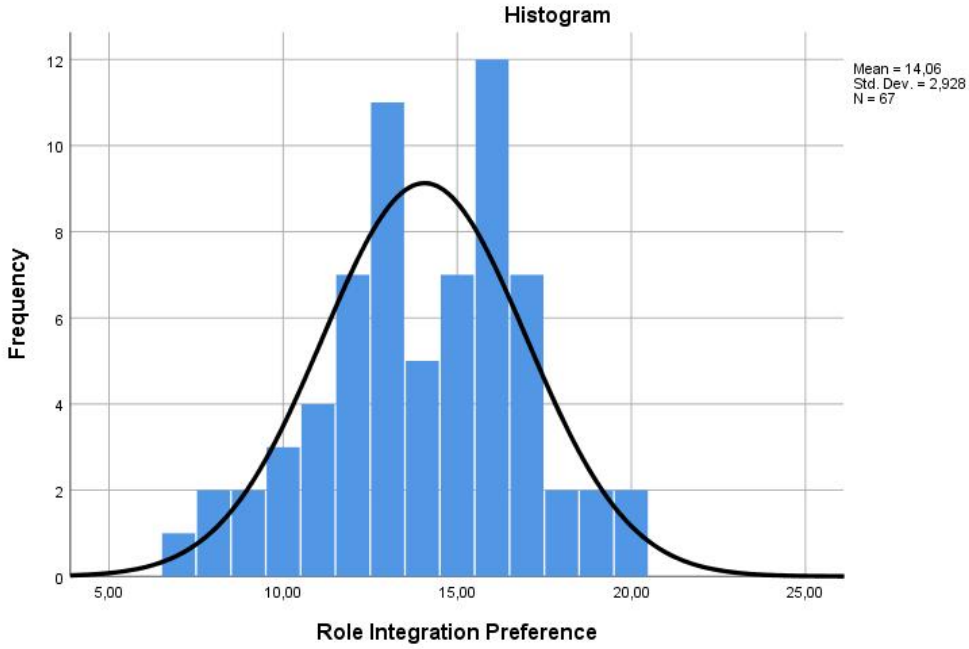

Figure 2: *Role Integration Preference*

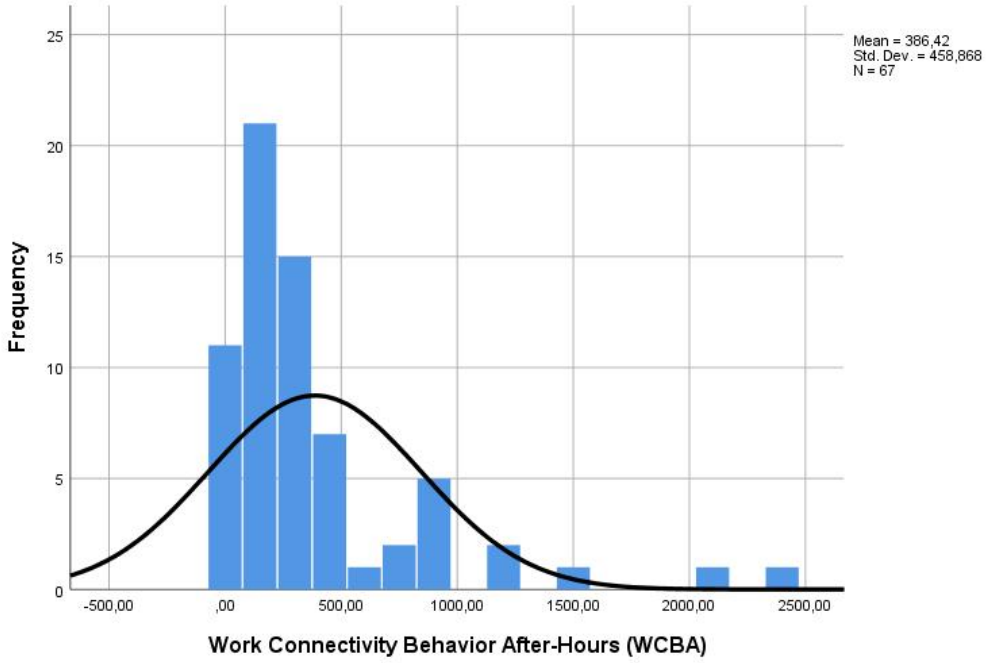

Figure 3: *Work Connectivity Behavior After-Hours (WCBA)*

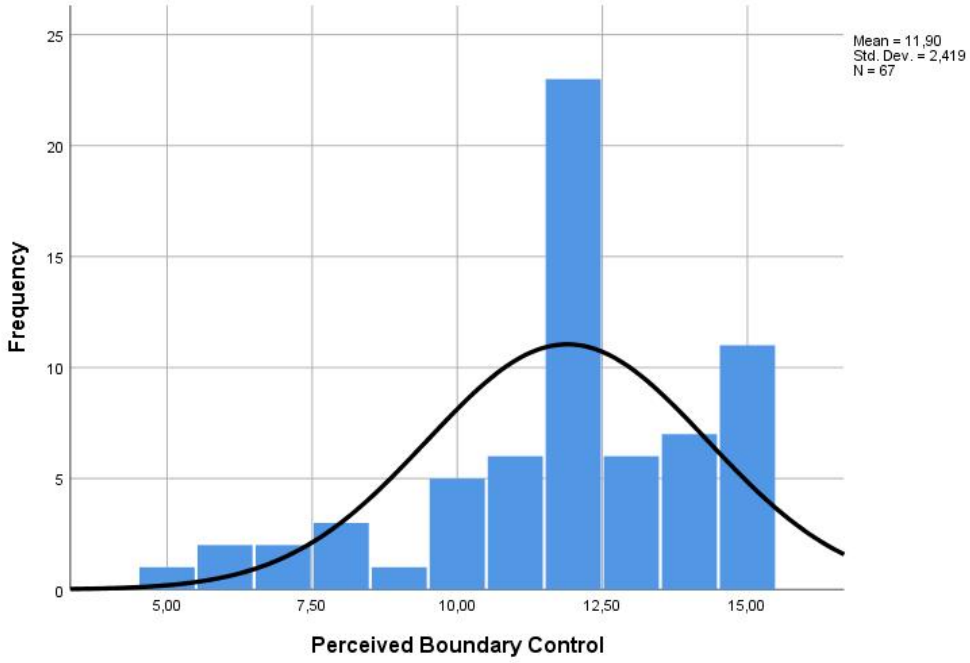

Figure 4: *Perceived Boundary Control*

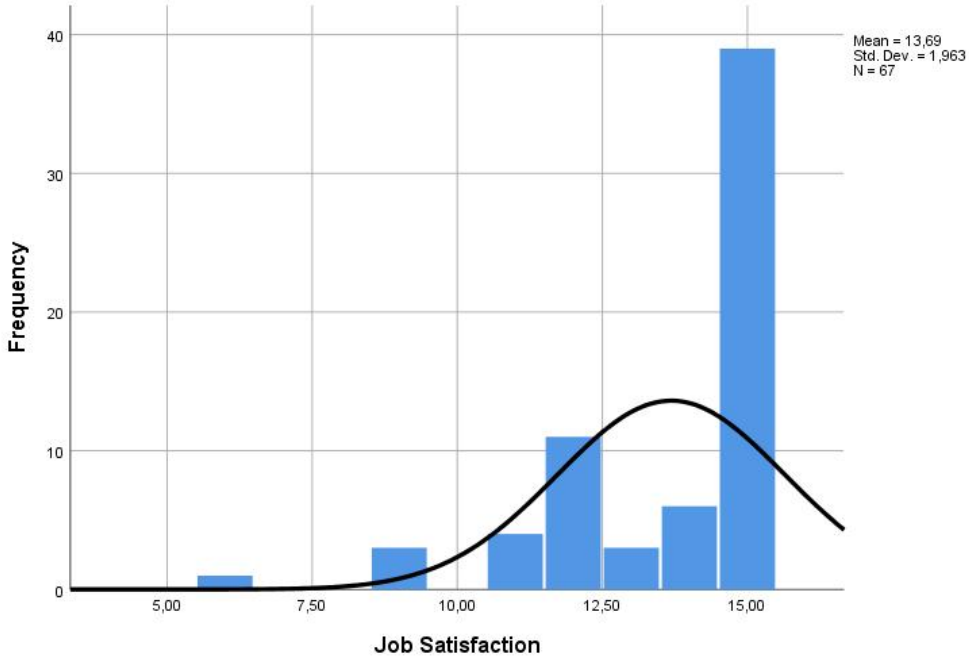

Figure 5*: Job Satisfaction*

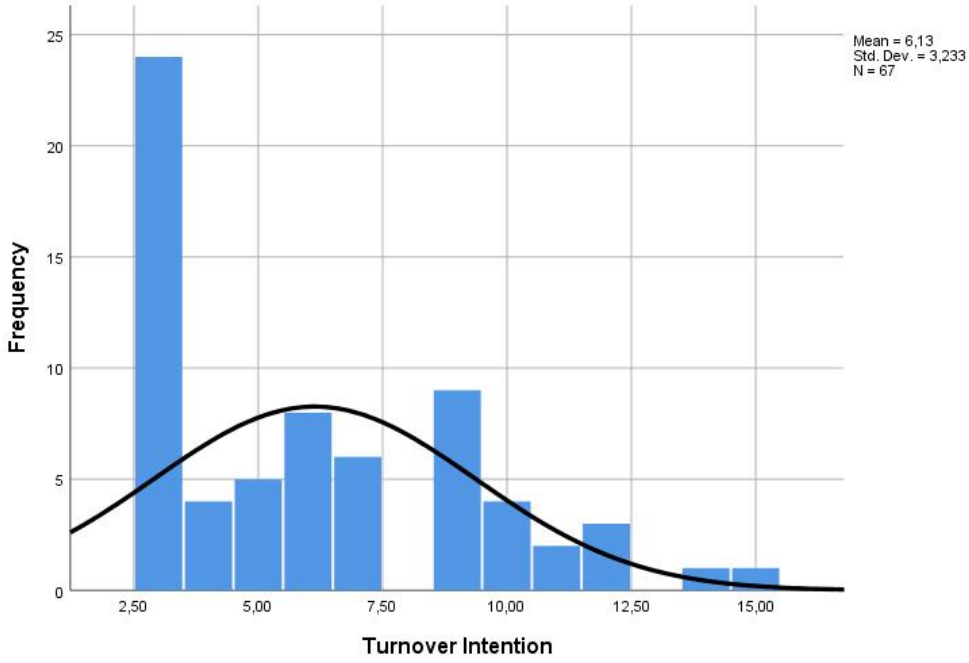

Figure 6: *Turnover Intention*

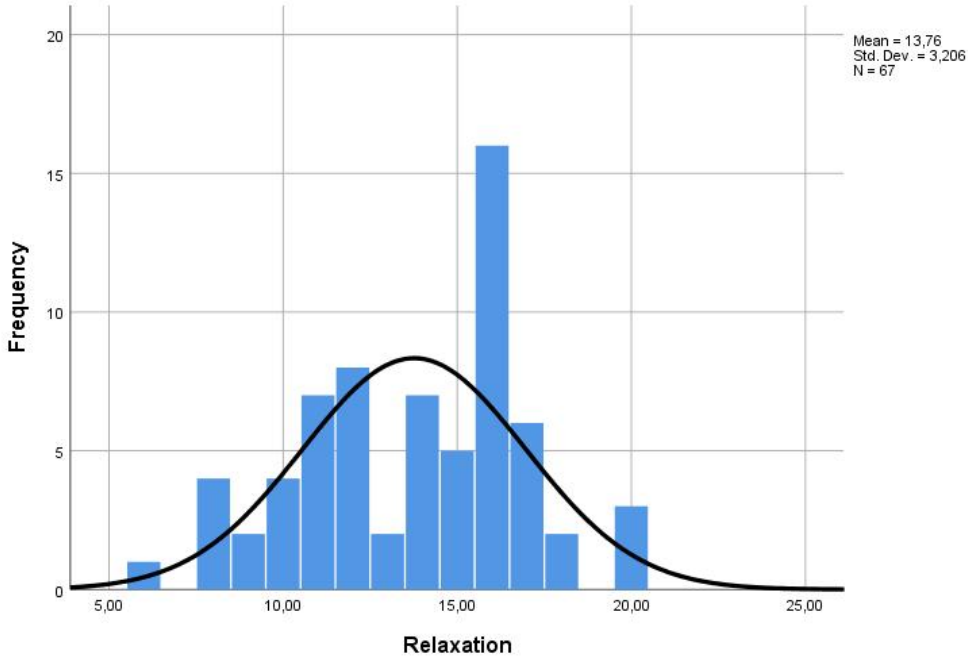

Figure 7: *Relaxation*

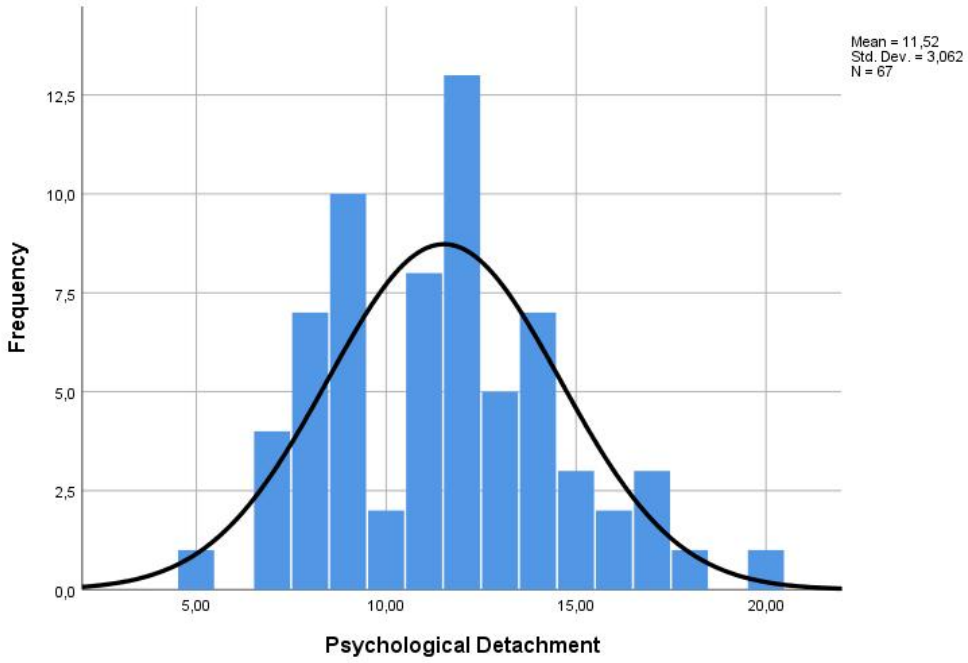

Figure 8: *Psychological Detachment*

B Second Appendix

Preliminary Analyses for Hypotheses 1 and 2

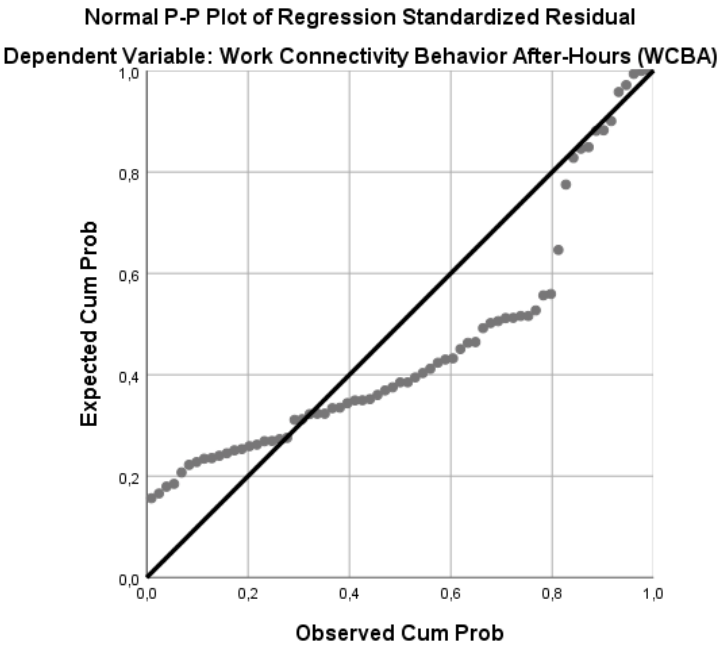

Figure 1: *Normal P-P Plot of Regression Standardized Redidual*

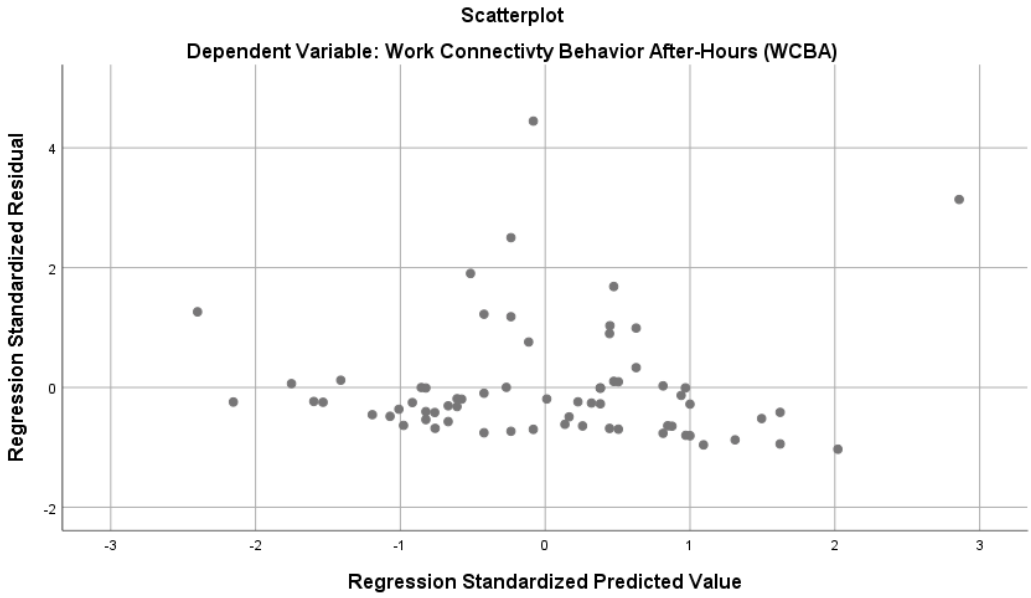

Figure 2: *Scatterplot*

C Third Appendix

Questionnaire

Socio-Demographics

What' your gender?	( ) Male ( ) Female
Indicate your age	____
What's your marital status?	( ) Married/Cohabiting ( ) In a relationship ( ) Single or separated
If married/cohabiting, does your spouse/partner work?	( ) Yes, fulltime ( ) Yes, part-time ( ) No, he/she doesn't work ( ) Not applicable
Do you have children under age of 18 living at home?	( ) Yes ( ) No

Organizational Information

How long have you been employed at your present organization?	Years: ____ Months: ___
What is your percentage of employment?	____%
Do you have a supervisory position?	( ) Yes, I am supervising ___ number of people ( ) No
How many hours are you contracted to work per week?	( ) Contracted working hours: ____ ( ) Not applicable

How many hours do you actually work per week? *Indicate actual working hours for an average working week, including overtime (paid or unpaid) but not commuting time, bank holidays or annual leave.*	On average ____ hours per week
What type of salary are you contracted to receive?	( ) Fixed salary ( ) Hourly wage
Does your workplace have an availability policy?	( ) Yes ( ) No ( ) Don't know

Control Variables

Have you accepted an offer of a phone or other types of communication technologies by your employer?	( ) Yes ( ) No ( ) Have not received such an offer
If **yes**, please specify which type of communication technology	( ) Mobile phone/smart phone ( ) Tablet ( ) Laptop ( ) Other: _____ ( ) Not applicable

After-Hours Electronic Communication Expectations

Subjective Norms

Most employees at my organization continue to use communication technologies after working hours to perform work related tasks	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

At my organization, it is normal to be reachable through communication technologies after-hours	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
The people at my organization whose opinions I value are available through communication technologies after-hours	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
People at work whose opinions I value think that I should be available through communication technologies after hours	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

Workplace Policies

Does your employer expect you to be connected to the workplace through communication technologies after-hours	( ) Yes ( ) No ( ) Don't know

Role Integration Preference

I don't mind receiving work-related calls while I am at home	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
I don't like having work-related items at my home (R)	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor

	disagree ( ) Agree ( ) Strongly agree
I am willing to hear from people related to my work while I am at home	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
I don't like being stopped in the middle of my home activities to address a work concern (R)	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
I am willing to take care of work-related business while I am at home	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

Work Connectivity Behavior After-Hours

How much time do you spend using communication technology for work related matters during non-work time throughout 1 week? E.g before work, after work, or during days off	On average____ hours per week

Perceived Boundary Control

I feel that I can control whether I am able to keep my work and personal life separate	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree

	( ) Strongly agree
I feel that I can control whether I have clear boundaries between my work and personal life	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
I feel that I can control whether I combine my work and personal life activities throughout the day	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

General Job Satisfaction

All in all, I am satisfied with my job	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
In general, I like working here	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
In general, I don't like my job	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

Turnover Intention

How likely is it that you will actively look for a new job in the next year?	( ) Very unlikely ( ) Unlikely ( ) Neither unlikely nor likely ( ) Likely ( ) Very unlikely
I often think about quitting my job	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
I will probably look for a new job in the next year	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

Relaxation

When I am not at work I kick back and relax	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
When I am not at work I do relaxing things	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

When I am not at work I use the time to relax	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
When I am not at work I take time for leisure	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

Psychological Detachment

When I am not at work I forget about work	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
When I am not at work I don't think about work at all	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree
When I am not at work I distance myself from my work	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

When I am not at work I get a break from the demands of work	( ) Strongly disagree ( ) Disagree ( ) Neither agree nor disagree ( ) Agree ( ) Strongly agree

Open-Ended Questions

Is there anything you wish that were different about the use of communication technology in your workplace?	_____
In what ways may your employer contribute to optimize your the balance between work and free time?	_____
Is it something you want to add was not shed light on in this survey?	_____

Questionnaire in Norwegian

Socio-Demographics

Oppgi ditt kjønn	( ) Mann ( ) Kvinne
Oppgi din alder	____
Oppgi din sivilstatus	( ) Gift/samboer ( ) Fast partner ( ) Singel/separert
Er din ektefelle /samboer i arbeid? *Hvis du valgte "fast partner" eller "singel/separert" på forrige spørsmål, huk av på "ikke relevant"*	( ) Ja, fulltid ( ) Ja, deltid ( ) Nei, han/hun er ikke i arbeid ( ) Ikke relevant
Bor du sammen med barn under 18 år?	( ) Ja ( ) Nei

Organizational Information

Hvor lenge har du vært ansatt i nåværende organisasjon?	År: ____ Måneder: ___
Hvilken stillingsprosent er du ansatt i?	____%
Har du lederansvar?	( ) Ja, jeg har ansvar for følgende antall personer ___ ( ) Nei
Hvor mange timer tilsier arbeidskontrakten din at du skal arbeide per uke? *Hvis din arbeidskontrakt ikke spesifiserer antall timer, kryss av på "Ikke aktuell"*	( ) Antall timer: ____ ( ) Ikke aktuell
Hvor mange timer arbeider du i realiteten i løpet av en uke? *Indiker faktiske arbeidstimer, inkludert overtid (lønnet og ulønnet), ekskludert pendlertid, helligdager og ferie.*	____

Hva slags lønnsordning er inngått gjennom arbeidsavtalen din?	( ) Fastlønn ( ) Timelønn
Har organisasjonen din egne retningslinjer for når ansatte skal være tilgjengelig?	( ) Ja ( ) Nei ( ) Vet ikke

Control Variables

Hvis du svarte ja på forrige spørsmål, vennligst spesifiser hvilke typer kommunikasjonsteknologi. *Velg "Ikke relevant" om du svarte "nei" eller "jeg har ikke blitt tilbudt dette"*	( ) Mobiltelefon/ smarttelefon ( ) Nettbrett ( ) Bærbar datamaskin ( ) Annet: _____ ( ) Ikke relevant

After-Hours Electronic Communication Expectations

Subjective Norms

De fleste ansatte i min organisasjon bruker kommunikasjonsteknologi etter arbeidstiden for å utføre jobbrelaterte oppgaver	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
I min organisasjon er det vanlig å være tilgjengelig via kommunikasjonsteknologi etter arbeidstid	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Personer på jobb, som jeg verdsetter meningene til, er tilgjengelig gjennom kommunikasjonsteknologi etter arbeidstid	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Personer på jobb, som jeg verdsetter meningene til, mener at jeg burde være tilgjengelig gjennom kommunikasjonsteknologi etter arbeidstid	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig

	( ) Delvis enig ( ) Helt enig

Workplace Policies

Har din arbeidsgiver gitt deg eller betalt for et teknologisk kommunikasjonsverktøy? *Vennligst spesifiser hvilke typer teknologisk kommunikasjonsverktøy du har mottatt i tekstfeltet*	( ) Ja, jeg har mottatt:_____ ( ) Nei
Forventer din arbeidsgiver at du skal være tilgjengelig etter arbeidstid gjennom kommunikasjonsteknologi?	( ) Ja ( ) Nei ( ) Vet ikke

Role Integration Preference

Jeg har ikke noe i mot å motta jobbrelaterte telefonsamtaler når jeg er hjemme	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Jeg liker ikke å ha ting som minner meg om jobb i mitt hjem (R)	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Jeg er villig til å bli kontaktet av mennesker relatert til jobben min når jeg er hjemme	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Jeg liker ikke å bli avbrutt midt i aktiviteter hjemme for å håndtere jobbrelaterte anliggende	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig

Jeg er villig til å håndtere arbeidsrelaterte oppgaver når jeg er hjemme	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig

Work Connectivity Behavior After-Hours

Hvor mange timer bruker du kommunikasjonsteknologiske verktøy *(smarttelefon, nettbrett, laptop/PC)* til arbeidsrelaterte formål *(e.g. svare på/sjekke e-post, jobb-relaterte samtaler)* utenom normal arbeidstid i løpet av en uke? For eksempel før jobb, etter jobb og på fridager (**ikke** inkludert overtid på jobb, eller timer som det foreligger en avtale om eller det blir kompensert for, vi er interessert i bruken **utenfor** kontoret/arbeidstid).	Indiker gjennomsnittlig antall timer i løpet av en uke (vi er interessert i hvordan en typisk uke vil se ut):____

Perceived Boundary Control

Jeg opplever at jeg kan kontrollere i hvilken grad jeg separerer jobb og privatliv	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Jeg opplever at jeg kan kontrollere hvorvidt jeg har klare skiller mellom jobb og privatliv	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Jeg opplever at jeg kan kontrollere hvorvidt jeg kombinerer arbeidsoppgaver knyttet til jobb og privatliv i løpet av dagen	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig

General Job Satisfaction

Alt i alt er jeg fornøyd med jobben min	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
På generell basis liker jeg å jobbe her	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
På generell basis er jeg misfornøyd med jobben min	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig

Turnover Intention

Hvor sannsynlig er det at du aktivt vil se etter en ny jobb i løpet av det neste året?	( ) Helt usannsynlig ( ) Delvis usannsynlig ( ) Hverken sannsynlig eller usannsynlig ( ) Delvis sannsynlig ( ) Helt sannsynlig
Jeg tenker ofte på å slutte i jobben min	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Jeg vil antakelig se etter en ny jobb i løpet av det neste året	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig

Relaxation

Når jeg ikke er på jobb lener jeg meg tilbake og slapper av	( ) I svært liten grad ( ) I liten grad ( ) I verken liten eller stor grad ( ) I stor grad ( ) I svært stor grad
Når jeg ikke er på jobb gjør jeg avslappende ting	( ) I svært liten grad ( ) I liten grad ( ) I verken liten eller stor grad ( ) I stor grad ( ) I svært stor grad
Når jeg ikke er på jobb bruker jeg tiden til å slappe av	( ) I svært liten grad ( ) I liten grad ( ) I verken liten eller stor grad ( ) I stor grad ( ) I svært stor grad
Når jeg ikke er på jobb tar jeg meg tid til å ha fritid	( ) I svært liten grad ( ) I liten grad ( ) I verken liten eller stor grad ( ) I stor grad ( ) I svært stor grad

Psychological Detachment

Når jeg ikke er på jobb klarer jeg å koble av fra jobben	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig

Når jeg ikke er på jobb tenker jeg ikke på jobben i det hele tatt	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Når jeg ikke er på jobb distanserer jeg meg selv fra jobben	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig
Når jeg ikke er på jobb får jeg en pause fra kravene på jobb	( ) Helt uenig ( ) Delvis uenig ( ) Verken enig eller uenig ( ) Delvis enig ( ) Helt enig

Open-Ended Questions

Er det noe du skulle ønske var annerledes ved bruken av kommunikasjonsteknologi på din arbeidsplass?	_____
På hvilke måter kan din arbeidsgiver bidra til å optimalisere balansen mellom jobb og privatliv for deg?	_____
Er det noe du vil tilføye som du føler ikke kom frem i undersøkelsen?	_____

BI Norwegian Business School - campus Oslo

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Master Thesis

Component of continuous assessment: Forprosjekt, Thesis MSc

Preliminary Thesis Report:

Availability Exceptions and Technology Use After-Hours and the Role of Boundary Control for Work-Life Outcomes

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Content

Summary

The use of communication technology as work related tools are becoming increasingly more common in organizations. Technology blurs the lines between work and family-life, as it gives flexibility to employees' decisions on when and where they perform their work, and thus stay connected to their workplace even when they are not physically present at work. Individuals may differ in their preferences of integrating or separating work from their family-life. Whether these individual preferences are compatible with expectations imposed by the organization, may have both positive and negative consequences for individuals and organization. Thus, it is important to be aware of the possibilities and restrictions communication technology use can inflict on employees and organizations.

Our master thesis aims to contribute to research on boundary management, by exploring factors like after-hours communication expectations (AEC), work connectivity behavior after-hours (WCBA) and boundary control in relation to various work-life outcomes. More specifically, our thesis will explore the relationship between ACE and WCBA in relation to job satisfaction, turnover intentions, and psychological detachment and relaxation. Boundary control is proposed to be an important moderator for the relationship between ACE, WCBA and the abovementioned work-life outcomes.

Our research will be conducted in two Norwegian organizations in different industries. We are performing a cross-sectional study, where quantitative data is collected through structured questionnaires via an online survey. The survey is split and distributed in two waves, where the first wave includes independent variables and control variables, and the second wave includes dependent variables and moderating variables.

1.0 Introduction

Contemporary workers are heavy users of communication and information technologies such as smart- and mobile phones, e-mail, laptops, etc. (Park & Jex, 2011). Advancements in these technologies enable employees to stay connected to family and work regardless of their physical location, causing blurred boundaries between work- and home domains (Major & Germano, 2006; Olson-Buchanan & Boswell, 2006). Information technology use can enable employees to coordinate work and family roles, by increasing their flexibility. However, use of such devices might also lead to greater work and family distractions. These interruptions may cause a desire to establish clearer boundaries in relation to technology use, meaning that work-home boundary management of technology use is becoming a growing issue for both organizations and employees (Park & Jex, 2011). However, creating these boundaries may be hard in today's work context. Organizations may place pressure and expectations on employees to constantly be available through communication technologies. Employees' perceived control over work-life boundaries and their use of communication technology after-hours may have significant impact on various work-life outcomes. We would therefore like to explore the role of after-hour availability expectations and the use of communication technology after-hours and the role of boundary control for various work-life outcomes. Outcomes that would be explored are turnover intentions, job satisfaction, and psychological detachment and relaxation.

2.0 Importance of Study

The emergence of technology as a work-related tool requires awareness of the possibilities and restrictions it can impose on both organizations and individual employees. The presence of laptops, tablets, smart phones and other communication technologies contribute to a more boundarylessness relationship between work and non-work life (Kossek, 2016). Rising degrees of work-life customization allow for the individual employee to further decide when and where work is to be done. However, increased opportunities to structure our own work does not necessarily lead to higher job autonomy and control, but rather impose a pressure to work after hours and always be available to customers and colleagues. Individuals have different preferences for how they wish and need to integrate their work and family-life. The individual preferences, organizational

expectations and changes in work-home boundaries can have many different consequences for the organization and the individual. Therefore, availability after-hours expectations, boundary control and technology use after-hours is important to investigate through research.

3.0 Literature Review

3.1 After-hours Electronic Communication Expectations

The use of communication technologies has become more and more common both for individuals and organizations. Technology gives individuals the ability to stay connected to their work outside office hours, and the use of communication technology at home for work-related matters are extensive (Hoffman, Novak, & Venkatesh, 2004). Although communication technologies can be advantageous to help employee be flexible and stay connected to the workplace, it also place pressure and a high demands on their time and attention (Diaz, Chiaburu, Zimmerman, & Boswell, 2012a). The simple distribution of communication devices by the company to their employees will encourage individuals to use communication technology to a higher degree, and thereby contribute to increase its use (Sarker & Wells, 2003). Employees' use of communication and information technologies in the home domain can thus be influenced by organizational norms and expectations. Companies that provide their employees with information technology devices expect them to use these to stay in touch with their colleagues and customers, which might lead to employees working longer hours, often without formal compensation agreements (Fenner & Renn, 2010).

Fenner and Renn (2004) talk about the "anytime-anywhere" connectedness that employees have to their work, and modern technologies blur the traditional separation between work and non-work time. Fender (2010) argues that work environments that utilize information technology devices will place some after-hours electronic communication expectations (AEC) on the employees who possess these technologies. AEC is defined as *"the extent to which employees with electronic communication devices (i.e. cell and smart phones) believe that they are expected to be available and responsive to organizational demands after-hours via these devices"* (Fender, 2010, p. 26). Piszczek (2016) argues that individuals might differ in their experiences and responses to AEC, and that

research needs to go in depth to understand why these different reactions occur and what consequences they have for both organizations and individual employees.

3.2 Boundary Theory

Boundary Theory explores the management of work-family roles. Nippert-Eng (2008) suggests that the work-to-home boundaries can be managed on a continuum, where the roles can be either clearly separated from each other or fully integrated. Nippert-Eng's theory can be seen as a groundwork for much of the literature and research in the effort to explain how individuals manage the boundaries between work and family (Piszczek & Berg, 2014). Nippert-Eng (2008) uses the terms *segmentation* and *integration* to explain boundary management. Segmentation refers to a complete separation between the work and home domain, where the role and activities related to the one domain is completely separated for the other, both temporal, mental, behavioral and physical. On the other end of the continuum we find integrators, which have a more blurred line between the home and work, and does not think of them as separate domains. Here work-related activities could be performed in the home domain as well as at work, and vice versa. However, most individuals in real life will find themselves somewhere in the middle of the continuum (Nippert-Eng, 2008).

3.2.1 Boundary Control

As part of boundary management styles, the behavior Nippert-Eng (2008) associate with either separating or integrating the two domains of work and family-life, is the concept of boundary control. Boundary control is the "perceived control over one's boundary environment" (Kossek, Ruderman, Braddy, & Hannum, 2012, p. 114). This refers to the degree in which individuals feel that they are in control over the boundaries between work and non-work life. Mellner (2016) propose that boundary congruence, which refers to the degree in which the *enacted* and the *preferred* boundary management style are in line, can be understood as a reflection of boundary control. However, the concept of boundary control may be more complex. It has been found that when boundary control is high, the degree of interference between domains are influenced as a result

(Mellner, 2016). Thus, boundary control cannot be understood as merely a reflection of boundary congruence.

3.2.2 Flexibility and Permeability

The extent to which different domains are segmented or integrated is determined by the *flexibility* and *permeability* of boundaries. Flexibility is defined as "the degree to which an individual is adaptable to when a particular role or domain is invoked", and refers to a boundary's "when" (Sundaramurthy & Kreiner, 2008, p. 417). Permeability is related to a boundary's "what", and is defined as "the degree to which a role allows elements of another role to integrate and assimilate with it" (Sundaramurthy & Kreiner, 2008, p. 417). Nam (2014) distinguish between flexibility and permeability in a similar matter and suggest that integration is characterized by high flexibility and permeability, while separation is low on both flexibility and permeability. According to Nam (2014, p. 1020), permeable boundaries are characterized by uncontrollable interruptions from one domain into the other, while flexibility will let the person blur the boundaries to meet demands of one domain while in another. An individual's perception of the flexibility and permeability in work- and home domains can be shaped by the use of technology. While communication and information technology devices may increase the employee's' boundary flexibility, it can also lead to higher degrees of boundary permeability. Flexibility and permeability can thus be closely related to perceived boundary control.

Flexibility and permeability and perceived boundary control are related but separate concepts in the literature. Flexibility and permeability concerns the possible level of boundary integration and separating, by either being able to integrate between the domains (flexibility) or experiencing interruptions from one domain, while in another (permeability). Boundary control on the other hand, is the *perceptions* of the individuals' control over these boundaries.

3.3 Work Connectivity Behavior

Technology has changed the concept of connectivity. Workplace connectivity, refers to the ability to stay connected for organizational purposes through portable wireless technology (Schlosser, 2002). In order to explore the use of communication technology after-hours, Richardson and Benbunan-Fich (2011, p.

143) defines the concept of Work Connectivity Behavior After-hours (WCBA): "an organization member's use of portable wireless enabled devices (laptop or handheld) to engage with work or work-related colleagues *during non-work time* (e.g. mornings before work, evenings after work, weekends, or vacations)". Wireless Enabled Devices (WED), are technology designed to make the communication across boundaries, such as time and space, easier. WEDs influence connectivity by potentially blurring the boundaries between the two domains of work and non-work, and make employees feel like they are always connected (Kossek, 2016).

4.0 Hypotheses

4.1 After-hours Electronic Communication Expectations and Work Connectivity Behavior After-hours

Richardson and Benbunan-Fich (2011) explored the antecedents of WCBA and found that the expectations to be available and use technology after-hours placed on the employees in an organization play an important factor. After-hours electronic communication expectations can be created through the company's availability polices. This involves the distribution of communication technology devices to their employees, where it has been found that this more strongly influences individuals WCBA, compared to when employees purchase such devices themselves (Richardson & Benbunan-Fich, 2011). The distribution of communication technology devices by the organization will also signal an expectation that individual should show connectivity behavior after-hours. Sarker and Wells (2003) suggest that the mere distribution and the availability of communication technology will encourage individuals to use it and thereby increase the usage to communicate with others.

ACE is also influenced by subjective norms. Subjective norms is defined as "a person's perception that most people who are important to him think he should or should not perform the behavior in question" (Fishbein & Ajzen, 1975 p. 302 cited by Richardson & Benbunan-Fich, 2011). Venkatesh and Davis (2000) found that subjective norms could be a strong predictor for the intention to use technology, which is strongly correlated with actual usage behavior. The influence of important others has also found to influence the decision to use communication technologies (Schlosser, 2002). Subjective norms, including the knowledge and

perception of other employees' usage of communication technologies after-hours, and if individual feel that it is normal in their company, have been found to lead to a higher degree of WCBA (Richardson & Benbunan-Fich, 2011). Thus, subjective norms held by persons important to the employees concerning the use of WED after-hours also influence the use of these devices. Mellner (2016) also found that availability expectations after-hours influence the use of WCBA. Thus, we propose the following hypothesis:

H1:
After-hours electronic communication expectations will be positively related to work connectivity behavior after-hours.

ACE is explored through three main factors; workplace policies concerning availability after-hours displayed by distribution of communication technologies, subjective norms of the behavior, and expectations of other employees.

4.2 Role Integration Preferences and Work Connectivity Behavior After-hours

Individual have been found to differ in their boundary management styles (Nippert-Eng, 2008). Separators would want to limit the interruption between domains while integrator would prefer a higher level of overlap between the home and work domain. However, separators seem to be more impressionable, and technology can here lead to a higher level of boundary permeability (Nam, 2014). Olson-Buchanan and Boswell (2006) found that individuals high on role integration are more inclined to use communication technology after-hours. Integrators place less boundaries for when communication technologies are used and are unlikely to restrict this use after-hours. This is especially strong if there are no restrictions set by work (Olson-Buchanan & Boswell, 2006).

Richardson and Benbunan-Fich (2011) explored the role of boundary management style in relations to WCBA, more specifically the integrating preferences. Their results are mixed; it was not found to be related to WCBA in the overall relation to WEBs, however when they separated laptop from handheld devices, it was positively related to the latter. Thus, we want to explore this relationship by formulating the following hypothesis:

H2:

Role integration preferences is positively relation to WCBA.

By the emergence of tablets, the line between handheld devices and other communication technologies have become harder to distinguish. The authors explain the different results they found by the fact that handheld tools more easily enable those individual with integration preferences to integrate between domains. Thus, we will take this into account when conducting the analysis, but expect the relationship to be strong jointly because of the frequent use today of both smartphones, tablets as well as laptops and the blurred definitions of what can be considered handheld devices.

4.3 The Moderating Role of Boundary Control

Technology advances has been argued to increase the flexibility of work arrangements so that employees can control when, where and how they perform their work, and thus give employees the experience of psychological flexibility in their work (Kossek, Lautsch, & Eaton, 2006). Flexibility policies are often associated with employer support for family, which have been found to have positive effects on employees' behaviors and attitudes when perceived as high (Kossek et al., 2006). Kossek et al. (2006) suggested that such benefits also could lead to lower turnover intentions as employees value flexibility and are willing to stay with employers who provide them with this. They found in their research that users of work-family benefits and employees that experienced greater psychological job control did in fact have lower turnover intentions.

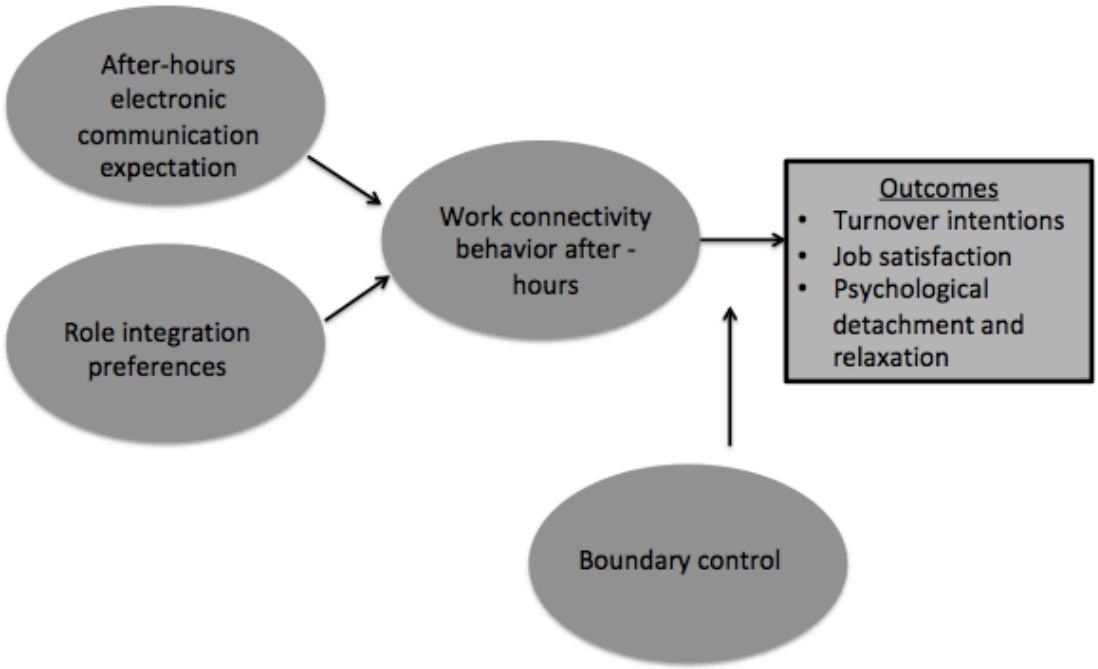
Diaz, Chiaburu, Zimmerman, and Boswell (2012b) found that communication technology use after-hours was positively related to work satisfaction, and suggested that that may be due to stronger perceptions of control and productivity as it enables employees to complete work at their convenience. They further argued that the increased flexibility in when and how to perform work might be at the expense of employees' need for recovery and leisure. Mellner (2016) found that boundary control was positively related to psychological detachment, and argued that employees' perceptions of their control over the boundaries between work and free time might be crucial to their ability to mentally distance themselves from work.

We argue that employees' flexibility of performing work at their own convenience is related to the perception that they can make their own decisions on whether to integrate or separate work and family-life boundaries, namely boundary control. Considering this, we expect boundary control to have effects on employees' turnover intentions, job satisfaction, and psychological detachment and relaxation that are similar to those that have been related to psychological flexibility experiences. Consequently, we suggest the following hypothesis:

H3*:*

The ACE and WCBA relationship with (a) turnover intention, (b) job satisfaction, (c) psychological detachment and relaxation, is moderated by boundary control.

4.4 Proposed Research Model



5.0 Method

5.1 Sample

For this thesis, we use a cross-sectional research design conducted in two waves. The data is collected using the web-based questionnaire tool Qualtrics. The survey

is distributed to employees in two Norwegian organizations in different industries. The respondents are invited to participate in the survey though an e-mail that in addition emphasize that participation is voluntary, that respondents are free to withdraw from the project at any point in time without stating a reason, and that their responses are fully anonymous.

In order to reduce the occurrence of common method bias, the survey is distributed in two waves. Half of the survey is administrated at one point in time, while the second half of the survey is administrated approximately one month later. The rationale behind this time interval is to reduce the likelihood that respondents will be affected by previous answers when answering following questions.

5.2 Measures

The first survey assesses the independent variables and control variables. The items are measured on a 5-point Likert scale, ranging from one (strongly disagree) to five (strongly agree).

5.2.1 After-hours Electronic Communicating Expectations

After-hours electronic communication expectations is measured with a questionnaire developed by Richardson and Benbunan-Fich (2011), which assesses the subjective norms of the respondents in relation to AEC. Sample items are “Most employees at my organization continue to check email and voicemail even when they are not at work” and “It is normal to be reachable throughout the day and evening at my organization”. Further, the workplace policies related to AEC is measured, by asking the respondents if their employer has provided them with or paid for a communication technology device, and if their employer expect them to be connected to the workplace after-hours by communication technologies.

We also want to explore if the distribution of communication technology and subjective norms create an explicit signal from the company that employee’s need to stay connected after-hours by asking if the employees think that their employer expect them to be connected to the workplace after-hours through communication technologies.

The second survey assesses the moderating and mediating variables; work connectivity behavior after-hours, and boundary control variables, as well as the dependent variables; turnover intention, general job satisfaction, organizational citizenship behavior, and psychological detachment and relaxation. The items are measured on a 5-point Likert scale, ranging from one (strongly disagree/very unlikely) to five (strongly agree/very likely).

5.2.2 Work Connectivity Behavior After-hours

To measure work connectivity behavior after-hours, we adopted Boswell and Olson-Buchanan (2007) measurement who asked their respondents to report the frequency with which they use communication technologies during non-work hours to perform their job. In addition we use the concept of WCBA developed by Richardson and Benbunan-Fich (2011), and draw on their measure of this concept. Our measurement asks respondents how much time they spend using communication technology in their non-work time during one week. Respondents have to indicate their use of smart phone, laptop computer, desktop computer, and tablet, on a 5-point scale indicating specific amounts of time, ranging from “none” to “ more than 2 hours”.

5.2.3 Role Integration Preferences

Role integration preferences is measured with the scale developed by Richardson and Benbunan-Fich (2011). Examples of items are “I don’t mind receiving work-related calls while I am at home” and “I don't like being stopped in the middle of my home activities to address a work concern”.

5.2.4 Boundary Control

The scale used to measure boundary control is based on the Boundary management scale developed by Kossek et al. (2012). Sample items are “I control whether I am able to keep my work and personal life separate” and “I control whether I have clear boundaries between my work and personal life”.

5.2.5 Turnover Intention

Turnover intention is measured with the three-item turnover scale from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1979). A sample item from this scale is “I often think about quitting my job”.

5.2.6 Job Satisfaction

Job satisfaction is measured with the three-item general job satisfaction scale from the Michigan Organizational Assessment Questionnaire (Cammann et al., 1979). Example items from this scale are “All in all, I am satisfied with my job”, and ”In general, I don't like my job”.

5.2.7 Psychological Detachment and Relaxation

To measure psychological detachment and relaxation we have adopted the measurement developed and validated by Sonnentag and Fritz (2007). They measure the recovery experience by measuring psychological detachment, relaxation, control and mastery. The items measuring control similar to that of boundary control, while we found mastery to be less relevant to our survey. Thus, we use their subscale for psychological detachment, a sample item being “I forget about work”, and the subscale for relaxation, with a sample item being “I do relaxing things”.

6.0 Plan for Progression

	January	February	March	April	May	June
Data collection						
Submit preliminary thesis report						
Finish literature review						
Data analysis						
Write first draft						
Write second draft						
Finish final draft						
Submit thesis						

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