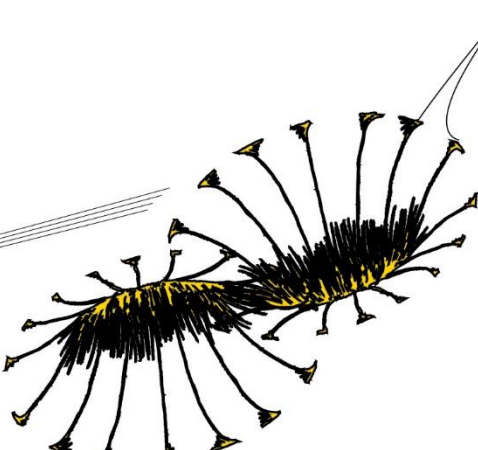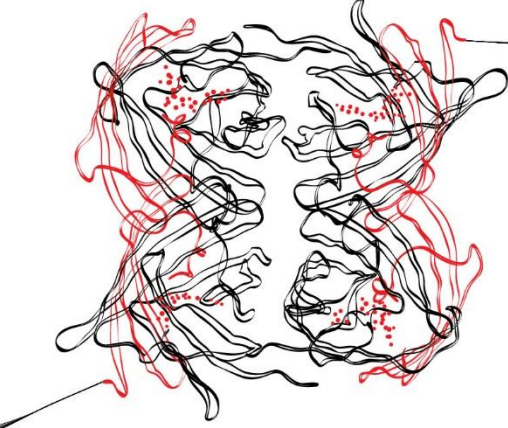Please, can I have your attention? An experimental study of the influence of response expectations, interruption frequency and interruption complexity on the level of workplace telepressure and negative emotions experienced by employees

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UNIVERSITEIT TWENTE.

Abstract

Aim. The aim of this research was to examine the influence of response expectations, interruption frequency and interruption complexity on the workplace telepressure and negative emotions employees experience when using an Instant Messaging system. The research question of this study was: *To what extent do the interruption frequency, the interruption complexity and the demand response expectations have an influence on the level of workplace telepressure and negative emotions experienced by an individual?*

Background. Previous research mainly focused on the influence of interruption frequency and interruption complexity on task performance. In this experiment, the influence of these dimensions and response expectations on employees' psychological well-being (workplace telepressure and negative emotions) was measured. Barber & Santuzzi (2014) introduced the phenomenon of workplace telepressure recently, which is the urge individuals experience to respond quickly to messages they receive. Until now, no experiments have been executed that included workplace telepressure as an outcome. In this research, the Personal Need for Structure scale was included as a moderator in the relationship between response expectations, interruption frequency and interruption complexity and the level of workplace telepressure and negative emotions such that the relationships would be stronger for individuals with a higher need for structure.

Design. The current research consisted of two different studies with a between-subjects 2(high vs. low) x 2(high vs. low) design. In study 1, the variables response expectations and interruption frequency were included. In study 2, the variables interruption complexity and interruption frequency were included.

Method. The used method is an experiment in which participants executed a work-related task. A total of 108 Dutch participants between 18 and 35 years old participated in the research: 60 participants in study 1 and 48 participants in study 2. During the task, which consisted of making a schedule for the service staff of a non-existing hotel, participants were interrupted by messages from an Instant Messaging system. After executing this task, an online survey was filled out by the participants.

Results. In contrast with the expectations, response expectations, interruption frequency and interruption complexity did not have a significant influence on the level of workplace telepressure and negative emotions experienced. However, perceived response expectations seemed to predict the level of workplace telepressure for 60%. Besides that, an interaction effect was found between the variables interruption frequency and interruption complexity

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and their influence on workplace telepressure. The highest scores on workplace telepressure could by observed for participants in the high interruption complexity and low interruption frequency condition.

Conclusion. The perceptions of the participants seemed to have an influence on the fact that the hypotheses were not supported. Both the interruption frequency and complexity were not perceived as high in the high interruption frequency and – complexity conditions. Also, the perceived response expectations seemed to predict the level of workplace telepressure to a great extent. Both in study 1 and in the interaction effect of study 2, participants in the low frequency conditions experienced higher levels of workplace telepressure. Perhaps, these participants were more surprised by the messages they received. This finding has not been mentioned in previous research. Because of the fact that the hypotheses were (partially) rejected, Instant Messaging systems seemed not to have an influence on psychological well-being as negative as hypothesized.

Practical implications. It seemed to be difficult to find differences between the different conditions by use of an experiment. Possibly, also other variables such as availability outside work and individual differences are of influence on experiencing stress and stress-related phenomena such as workplace telepressure. Organizations should always be alert on the difficulty of establishing the factors that are of influence on the positive and negative experiences of employees with Instant Messaging systems. Therefore, personal communication in an organization with the employees is essential.

Keywords: Interruptions, response expectations, workplace telepressure, negative emotions, personal need for structure

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1. Introduction

Due to an increase in computer use and the development of internet technology, computer-mediated communication has become more popular (To, Liao, Chiang, Shih, & Chang, 2008). Not only in our personal lives, but also in organizations computer-mediated communication technology receives more attention. Communication media such as email, teleconferencing, videoconferencing and Instant Messaging are nowadays used to a greater extent (Cameron & Webster, 2005). Besides the advantages of communication technologies such as easier information sharing (Rennecker & Godwin, 2005b) and control over work (Middleton, 2007), also the negative effects of these technologies should be taken into account because of the possible impact of these technologies on employees' well-being (Barber & Santuzzi, 2014; Diaz, Chiabur, Zimmerman, & Boswell, 2012). One of the second-order effects of the implementation of communication technologies in organizations is an increase in interruptions during work that might affect employees in a negative way (Rennecker & Godwin, 2005b). These interruptions, in the form of online messages, break employees' concentration and distract them from their main tasks (Coraggio, 1990). In the current study, it was addressed to what extent the frequency of interruptions, the complexity of interruptions and the response expectations from the environment had a negative influence on employees' well-being.

An increase in use of modern information and communication technologies is seen as the main reason for the raise in divided and limited attention spans (Appelbaum, Marchionni, & Fernandez, 2008). Advancement in technology allows people to perform more activities at the same time, even though their cognitive capabilities have not increased (McFarlane & Latorella, 2002). If technology requires a change in cognitive capabilities, technology can have unfortunate effects (McFarlane & Latorella, 2002). Furthermore, the changing demands of the workplace seem to contribute to the fact that multitasking nowadays is unavoidable and essential (Freedman, as cited in Appelbaum et al., 2008). An example of these demands are the expectations of the environment of being constantly available, even outside work hours (Day, Paquet, Scott, & Hambley, 2012).

This study contributes to the existing literature in three ways. First, this study focused on the negative influence of Instant Messaging systems on employees' well-being, while previous research mainly focused on the influence of Instant Messaging systems on task performance. It is important to focus on employees' well-being to get a broader understanding of the influence of Instant Messaging systems on its users and because, when well-being

decreases, absence levels might raise and commitment and performance of employees might be affected (Bakker & Demerouti, 2007).

Second, this study contributes to the existing literature because workplace telepressure, a recently addressed phenomenon by Barber and Santuzzi, was included as a variable in this experiment. Until now only few articles in which a survey study was used, have included the phenomenon of workplace telepressure (Barber & Santuzzi, 2014). An experiment that incorporated workplace telepressure has not been executed yet. By the use of an experiment, external variables could be controlled such that the influence of these variables is minimized. In addition, by the use of an experiment a work environment could be simulated in which the workplace telepressure is measured right after the reception of the messages. In surveys, a more general feeling of workplace telepressure and negative emotions is incorporated. The importance of addressing this phenomenon in this study can be found in the relationship of workplace telepressure with stress-related outcomes such as physical and cognitive burnout and absenteeism and the fact that workplace telepressure is a result of the raise in ICT demands in organizations (Barber & Santuzzi, 2014).

From previous work, it appeared that one of the main predictors of workplace telepressure are prescriptive norms (Barber & Santuzzi, 2014). A third contribution to the existing literature is that in this experiment response expectations, conceptually similar to prescriptive norms, were included as a variable to measure its influence on the level of workplace telepressure and negative emotions. The perceptions of what an employee should do and what is required from the employee in certain possession might be more influential than the actual behavior of others, also described as the descriptive norms of the organization (Barber & Santuzzi, 2014). ICT-related forms of prescriptive norms are among others availability outside work and expectations regarding the response times within an organization (Barber & Santuzzi, 2014).

Besides the response expectations, also interruption frequency and interruption complexity formed part of this research, because mixed results regarding their negative influence on people's well-being have been established in previous literature. The idea that the interruption frequency and interruption complexity do not influence employees' well-being in a negative way or even have a facilitating nature has been indicated by some scholars (Mark, Gonzalez, & Harris, 2005; Zijlstra, Roe, Leonora, & Krediet, 1999). Other scholars argued that interruption frequency and interruption complexity do have a negative influence on employees' well-being because they distract employees from their main task (Cameron & Webster, 2005; Mark, Gudith, & Klocke, 2008). In this study, it was expected that

interruption frequency and interruption complexity have a negative influence on employees' well-being because of their contribution to a raise in the level of workload.

The process of how interruptions in the workplace, when using an Instant Messaging system, have a negative influence on employees' well-being was the practical relevance of this experiment. Statistics have showed that no less than one out of eight employees experience work-stress (TNO, 2014). In a survey study from the University of Amsterdam no less than 37% of the employees indicated to be hampered by work-related interruptions via mobile devices and one out of six employees became nervous as a result of these interruptions (Popma, 2012). In consequence of the tendency of a greater use of Instant Messaging systems nowadays (Cameron & Webster, 2005), organizations should be conscious of the effects these systems might have on their employees' psychological well-being and consider, if necessary, an adaptation in their organizational culture regarding the use of Instant Messaging systems. A decision might be made to discuss for example difficult topics face-to-face or to send a maximum of messages per day.

This experiment consisted of two different studies with both a between-subjects 2(high vs. low) x 2(high vs. low) design. In study 1, the variables response expectations and interruption frequency were included and in study 2, the variables interruption frequency and interruption complexity were included. The formal research question was as follows: *To what extent do the interruption frequency, the interruption complexity and the demand response expectations have an influence on the level of workplace telepressure and negative emotions experienced by an individual?*

2. Theoretical framework

Instant Messaging in organizations

Instant Messaging (IM) is a type of information technology to facilitate communication and has become one of the most popular applications for many internet users, both on a personal and organizational level (To et al., 2008). Employees who use IM can communicate with their colleagues who are logged on to the service by sending messages to each other (To et al., 2008).

Advantages of using IM in the organization might be an increased collaboration at a distance and decreased communication costs (Cameron & Webster, 2005). Time might be saved due to the presence awareness functionality (Herbsleb, Atkins, Boyer, Handel, & Finholt, 2002). This functionality is integrated in IM programs and shows who is online and offline and thus reachable to send a message to (Cameron & Webster, 2005; Herbsleb et al., 2002). On the one hand, a qualitative study among 20 workers showed that users view IM as less interruptive than face-to-face communication or communication by telephones, because IM enables you to "negotiate availability" (Nardi, Whittaker, & Bradner, 2000). Besides seeing other users' statuses, it is possible to have control over your own status of being online or offline. Users of IM also indicated that IM gave them greater control to choose with whom and when to communicate when comparing to a face-to-face conversation or telephone calls (Nardi et al., 2000).

On the other hand, in other studies, IM systems were viewed as more private but also more intrusive than public chatrooms. Compared to chatrooms, IM systems were considered more private because communication takes places between people that know each other (Cameron & Webster, 2005). The intrusive characteristics of IM systems seemed to be related to the process of sending messages, because when receiving a message, an IM window pops up on the screen, which automatically draws one's attention and often give people a pressure to respond to these incoming messages (Handel & Herbsleb, 2002).

Rennecker & Godwin (2005a) conceptualized five different features of IM that contribute to the popularity of IM but also might contribute to second-order, negative, consequences for the users: presence awareness, "pop-up" recipient notification, within-medium polychronic communication , silent interactivity, and ephemeral transcripts (p. 138). "Pop-up" recipient notification refers to the process whereby the sent messages by an IM system automatically open in the screen, demanding the receiver's attention immediately (Rennecker & Godwin, 2005a, p.141). Within-medium polychromic communication refers to

the fact that within the IM system, it is possible to engage in different conversations with different people at the same time (Rennecker & Godwin, 2005, p.142). Silent interactivity refers to the possibility of the users to participate silently in a conversation, without getting noticed by others such as colleagues. Ephemeral transcripts refers to the fact that conversations are not saved automatically and disappear after closing the window (Rennecker & Godwin, 2005, p.142). These five features differentiate IM from other communication forms like chatrooms and face-to-face communication. In this study, a single conversation between colleagues was simulated whereby participants received messages during their task. Because of the focus on a single conversation whereby messages popped up on the screen, mainly pop-up recipient notification seemed to be an important feature in this study that contributed to the possible second-order negative consequences of IM systems. The other four features are more related to the functioning of the system and the organization in general.

IM systems are used as a synchronous or asynchronous form of communication. When users are online, IM systems are a form of synchronous communication, because a message pops up and an immediate response is required (Rennecker & Godwin, 2005b). When people are away from their computers or defer to respond to a message, IM systems can be considered an asynchronous form of communication. The intended advantages of an asynchronous form of communication are task executing without being interrupted and the flexibility for the user to respond to messages (Barber & Santuzzi, 2014). These intended advantages decrease when communication technologies are used as a synchronous form of communication whereby an immediate response is expected. Furthermore, the level of workplace telepressure arises when employees start to see communication technologies as synchronous forms such as face-to-face conversations (Barber & Santuzzi, 2014).

A synchronous form of communication indicates an increase in the amount of interruptions for the information provider who offers the information to the sender of the message and thus the person who needs to switch tasks to answer the incoming messages (Rennecker & Godwin, 2005b). An interruption is described as "a synchronous interaction which is not initiated by the recipient, is unscheduled, and results in the recipient discontinuing their current activity" (O'Conaill & Frohlich, as cited in Rennecker & Godwin, 2005b, p.250). The same sensory channel is used for both the interruption and the primary task (Speier, Vessey, & Valacich, 2003) and only looking at the incoming message can already be seen as interruptive because the user is distracted from the main task (Rennecker & Godwin, 2005b). A conflict arises for the user to stay focused on the task or to pay attention to the interruption (Gupta, Li, & Sharda, 2013), also described as the distraction conflict

theory (Gupta et al., 2013; Speier, Valacich, &Vessey., 1999). A positive result of this conflict is a raise of the arousal level of the user, which results in more alertness and eventually might facilitate the performance of simple tasks (Gupta et al., 2013; Speier et al., 1999). When executing complex tasks, the opposite occurs and interruptions will impair complex task performance (Gupta et al., 2013). Thus, interruptions might be perceived as disruptive or facilitating for the receiver of the interruption.

Interruptions and psychological well-being

Some scholars indicated that interruptions might be helpful (Hudson, Christenen, Kellogg, & Erickson, 2002; Mark et al., 2005). The helpfulness of interruptions can be linked to the fact that they might carry important information for the user and when being open to interruptions, it allows the receiver to be more flexible to respond (Hudson et al., 2002). In addition, task switching due to interruptions might be beneficial, because it can refresh one's thoughts (Mark et al., 2005). However, when interruptions require the employee to switch tasks too often, interruptions might be detrimental (Mark et al., 2005).

An interview study among 19 employees showed that IM systems can be seen as interruptive due to the tendency for IM messages to break one's concentration while focused on another task (Cameron & Webster, 2005). Interruptions in the form of messages from an IM system can increase the overall perceived workload by individuals, or the perception that one has too much to do (Gupta et al., 2013). Interruptions can cause more stress, a higher workload, higher levels of frustration and more time pressure (Mark et al., 2008). One of the explanations for the fact that these negative emotions are experienced is that people try to compensate and work faster when being interrupted (Mark et al., 2008). The current study focused on the experience of negative emotions such as stress and frustration by employees after being interrupted during a task.

Besides negative emotions, also workplace telepressure was included in this study as a variable. This phenomenon recently occurred in the literature and is related to the increased use of IM systems and online communication in organizations (Barber & Santuzzi, 2014). The message-based ICT demands of the organization seem to contribute to the existence of this phenomenon (Barber & Santuzzi, 2014). Workplace telepressure has been defined as "the levels of preoccupations with and urges for responding quickly to messages the workers may feel" (Barber & Santuzzi, 2014, p.1). When employees experience workplace telepressure, a feeling of responding quickly to online messages of others arises and this might explain why employees might prioritize ICT communications over other activities during work time and

tend to stay continuously connected with the organization, even outside office hours (Barber & Santuzzi, 2014).

Stress, recovery and e-mail responding behavior appeared to be related to workplace telepressure (Barber & Santuzzi, 2014). Stress tend to be caused because employees do not take a substantial break from work when being continuously connected and recovery has been linked to telepressure, because the overload of information can lead to the employee's need of recovery time. If employees experience higher levels of workplace telepressure, they might feel the pressure to respond more quickly to messages. If they indeed respond more quickly, their e-mail responding behavior changes (Barber & Santuzzi, 2014).

Prescriptive norms and techno-overload appeared to be the best predictors of workplace telepressure, followed by an individual's self-consciousness (Barber & Santuzzi, 2014). Prescriptive norms is a broad concept of which response expectations, availability outside working hours and learning new technologies are part and is described as expectations from the organization about the responding behavior of employees (Barber & Santuzzi, 2014). Also techno-overload, as a result of the information flow in the organization, seemed to contribute to a great extent to the level of workplace telepressure (Barber & Santuzzi, 2014). Workplace telepressure appeared to be mainly explained by demands of the work environment, rather than personality traits (Barber & Santuzzi, 2014).

In this study, the focus lied on the negative influence of interruptions on employees' well-being and was measured by the experienced negative emotions and workplace telepressure.

Response expectations

Research has shown that the use of communication technologies is mainly influenced by the organizational culture instead of the design of the technology or the intentions on the organization's part to use the technology (Fulk, Schmitz, & Schwarz; Markus, as cited in in Rennecker & Godwin, 2005b; Orlikowski, 2000). Besides characteristics in the organizational environment, also characteristics within messages might increase the response expectations.

Social dimensions of an interruption are characteristics that might affect how the decision maker responds to the interruption and include social expectations that exist in an organizational culture regarding the response behavior with respect to the interruptions (Speier et al., 2003). One of the social dimensions of an interruption that was included in this research is the variable response expectations that refers to expectations that guide what is appropriate response behavior in the organization (Barber & Santuzzi, 2014).

Response expectations are conceptually similar to prescriptive norms around message-based responding (Barber & Santuzzi, 2014) and are part of the social demands of the work environment (Day et al., 2012). If it is not allowed in an organization to be interrupted when executing a task, it is less likely that IM systems will be used. In contrast, when it is expected that employees carry wireless devices to stay continuously connected, the organizational norm appears to be to respond to messages from others (Rennecker & Godwin, 2005a). Morris, Teevan, & Panovich (2010) showed that for non-urgent information needs, waiting a few minutes or hours for an answer seems acceptable, which indicate lower response expectations. Day et al. (2012) established a correlation between the demand response expectations and perceived stress and thus a negative effect of high response expectations on the users of the IM systems. Furthermore, workplace telepressure appeared to be high when the perceived norm is to respond quickly, regardless of whether such norms are explicit in organizational policies (Barber & Santuzzi, 2014). The organizational environment can thus play an important role in experiencing workplace telepressure and other negative emotions.

Regarding the findings in previous literature, the following was expected:
Hypothesis 1: Individuals who experience high response expectations experience a higher level of workplace telepressure and more negative emotions compared to individuals who experience low response expectations.

Interruption frequency
Besides social dimensions, also cognitive dimensions can be distinguished within interruptions (Speier et al., 2003). Cognitive dimensions of an interruption include the duration, frequency or complexity of the interruption (Speier et al., 2003). This study focused on the cognitive dimensions interruption frequency and interruption complexity.

Interruption frequency is defined as "the number of tasks interrupting primary task performance" (Lee & Duffy, 2015, p.142). Different results exist regarding the influence of the frequency of an interruption on task performance and perceived overall workload (Gupta et al., 2013; Rennecker & Godwin, 2005a; Speier et al., 1999).

A negative relationship has been found between interruption frequency and primary task quality (Gupta et al., 2013). The more messages are sent that interrupt the user from the primary task, the greater the negative impact on primary task quality (Gupta et al., 2013). Speier et al. (1999) established that task performance was less accurately and executed in shorter time when people were interrupted more frequent. An explanation for the shorter performing time of the task is the fact that people tend to work faster when being interrupted

(Mark et al., 2008; Zijlstra et al., 1999). In contrast with the previous findings, Corragio (1990) found no significant effect of interruption frequency on task performance.

Besides the abovementioned findings that take into account the effect of interruption frequency on task performance, interruption frequency also seemed to influence people's well-being. Gupta et al. (2013) revealed a positive relationship between the interruption frequency and the perceived overall workload, which indicates that a higher perceived workload is experienced when an employee receives more messages. Zijlstra et al. (1999) found in their experiment when the interruption frequency is higher, the psychological costs of the individuals increase (Zijlstra et al., 1999).

Because of the influence of interruption frequency on people's well-being, the following was expected:

Hypothesis 2: Individuals who experience a high interruption frequency experience a higher level of workplace telepressure and more negative emotions compared to individuals who experience low interruption frequency.

Interruption complexity

Another important factor that might contribute to the disruptiveness of an interruption, besides the response expectations and interruption frequency, is the complexity of the interruption (Gillie & Broadbent, 1989). A high interruption complexity seemed to cause disruptiveness in the form of a decrease in task accuracy, regardless of whether a person had the opportunity to rehearse (Gillie & Broadbent, 1989).

Several descriptions exist regarding the term complexity. Aspects that form part of complexity are for example the number of actions to perform, the amount of information to be managed and the difficulty of executing the individual steps (Byrne & Bovair, 1997). Also, the different aspects of a task and the ability to manage all these different aspects should be considered when defining complexity (Hodgetts & Jones, 2006). Furthermore, interruption complexity is defined by the actual mental operators required to be able to complete the task (Cades, Werner, Trafton, Boehm-Davis, & Monk, 2008). Interruptions that require more mental operators and are as follows perceived as more difficult, are more disruptive than interruptions that require less mental operators (Cades et al., 2008). Interruptions that require more mental operators lead to greater primary task disruption (Cades et al., 2008). The harder the interruption during a task, the less opportunities for rehearsal during that task (Cades et al., 2008) and the slower resumption times (Cades, Trafton, Boehm-Davis, & Monk, 2007).

Cades et al. (2007) explained resumption lag as "a special type of inter-action interval taken by measuring the action time between the ending of the interrupting task and the first action back on the primary task" (p.3). In other words, when being interrupted by a complex interruption it takes longer to continue with the primary task.

Previous research showed that when being interrupted by simple interruptions, people were less distracted and could quicker continue with their primary task than people interrupted by more complex interruptions (Hodgetts & Jones, 2005). Zijlstra et al. (1999) also focused on interruption complexity in their study. For some participants, their emotional state improved after complex interruptions, while for other participants, their emotional state decreased when receiving complex interruptions (Zijlstra et al., 1999). The expectations regarding the task difficulty and the skills of the participants were found as an explanation for this effect.

The abovementioned findings resulted in the following hypothesis:

Hypothesis 3: Individuals who experience a high interruption complexity experience a higher level of workplace telepressure and more negative emotions compared to individuals who experience low interruption complexity.

Personal Need for Structure

Instant Messaging systems tend to be associated with confusion, because users try to follow multiple threads of conversation during their work and thus need to multitask (Voida, Newstetter, & Mynatt, 2002). Messages that are sent by IM systems could be perceived as unnecessary messages that obstruct the flow of the dynamic (Fuks, Pimentel, Pereira de Lucena, 2006).

Personal Need for Structure (PNS) is associated with a preference for well-ordered situations and tasks (Rietzschel, Slijkhuis, & van Yperen, 2014) and is described as a "chronic desire for simple structure" (Neuberg & Newsom, 1993, p.113). Individuals scoring high on PNS are more likely to structure the information they receive in less complex ways (Neuberg & Newsom, 1993). PNS is an individual difference variable, which signifies that people differ in their personal need for structure (Neuberg & Newsom, 1993; Van Yperen, Rietzschel, & de Jonge, 2014), but PNS may also be situationally induced (in Rietzschel et al., 2014). Mark et al. (2008) found, in contrast with their expectations, that people who scored high on the PNS scale, were able to handle quicker interrupted work (Mark et al., 2008). Perhaps, those who need personal structure are better able to manage their time when being interrupted (Mark et al., 2008).

Other studies based their research on related concepts. It has been expected that people who score high on the Personal Need for Control scale, conceptually similar to PNS, initiated more communication in synchronous forms and respond more asynchronously (Rennecker & Godwin, 2005b). Individuals who score high on the Personal Need for Control scale tried to control their work by minimizing the interruptions they receive. Besides the main research questions, also the following research question will be addressed: *To what extent will Personal Need for Structure moderate the effect of the frequency of interruptions, the interruption complexity and response expectations on the levels of workplace telepressure and negative emotions experienced by an individual?*

Because of the influence of the response expectations, interruption complexity and interruption frequency on the cognitive workload of individuals, PNS was included as a moderator in the relationship between the independent and the dependent variables in the current research:

Hypothesis 4a: The Personal Need for Structure moderates the relationship between response expectations and the level of workplace telepressure and negative emotions such that the relationship will be stronger for individuals with a higher need for structure.
Hypothesis 4b: The Personal Need for Structure moderates the relationship between interruption frequency and the level of workplace telepressure and negative emotions such that the relationship will be stronger for individuals with a higher need for structure.
Hypothesis 4c: The Personal Need for Structure moderates the relationship between interruption complexity and the level of workplace telepressure and negative emotions such that the relationship will be stronger for individuals with a higher need for structure.

Figure 1 shows the relationships between response expectations, interruption complexity and interruption frequency on the one hand and workplace telepressure and negative emotions on the other hand.
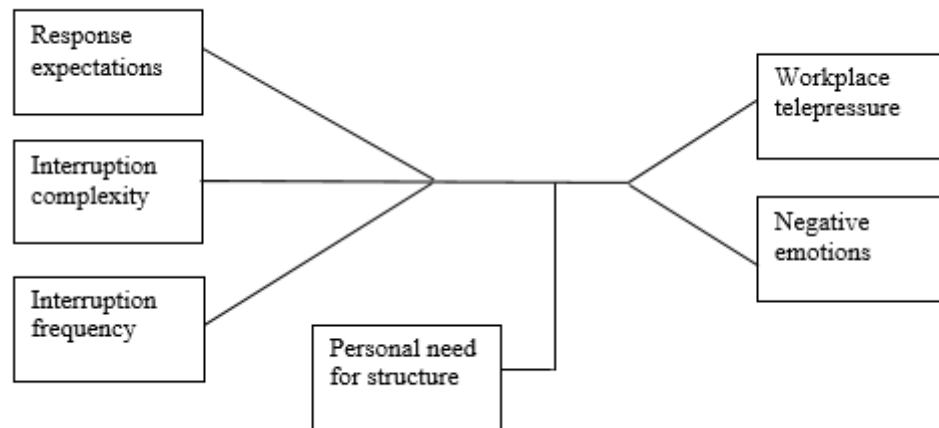
Figure 1. Underlying model of the current experiment, displaying the relationship between the independent and dependent variables

3. Method

An experiment was conducted to address the research questions. Previous research in the field of workplace telepressure and the negative outcomes of interruptions mainly have used questionnaires or interviews in their studies (Barber & Santuzzi, 2014; Cameron & Webster, 2004; Nardi et al., 2000). In this study, an experiment was conducted to be able to control external variables and to measure only the influence of the independent variables on the dependent variables. By performing an experiment, the variables are manipulated systematically to see their effects on the outcomes (Field, 2009). A controlled environment was created in which the influence of external factors is limited. In addition, previous studies mainly focused on the influence of interruptions on task performance and few experiments have focused on the psychological state of participants after using Instant Messaging systems. Until now, no experiments have been conducted that include the phenomenon of workplace telepressure as an outcome. In this study, it was aimed to measure the influence of interruptions on people's psychological state (workplace telepressure and negative emotions) by the use of an experiment.

Performing an experiment also gave the possibility to simulate a work-related environment whereby participants were assigned to a particular profession. The participants were randomly assigned to one of the experimental conditions to minimize individual differences in the experiment. Randomization makes sure that if there is any systematic variation between the various experimental conditions, this variation is caused by the independent variables that were manipulated. The risk that groups differ on other variables than the manipulated variables, is minimized (Field, 2009).

The main study consisted of two different studies with both a 2(high vs. low) x 2(high vs. low) between-subjects design in which different groups were compared. Participants were not able to compare their condition with a prior condition, because they were only assigned to one condition. In this way, a carry-over effect was ruled out (The Pennsylvania State University, 2015). An overview of the two studies with their research design is presented in Table 1 and Table 2.

Table 1

Research Design of Study 1, including the Variables Response Expectations and Interruption Frequency

		Response expectations	
		High	Low
Interruption frequency	High	Condition1	Condition2
	Low	Condition3	Condition4

Table 2

Research Design of Study 2, including the Variables Interruption Complexity and Interruption Frequency

		Interruption complexity	
		High	Low
Interruption frequency	High	Condition5	Condition6
	Low	Condition7	Condition8

3.1 Stimulus material

For the experiment, messages, a scenario and different files that the participants needed to complete the task were designed by the researcher. The task that the participants had to execute was the completion of a schedule for the service staff of the non-existing hotel 'Hotel Twente'. A hotel was chosen, because it is generally a well-known company and individuals should be able to easily identify themselves with a hotel. During task executing, the participants were interrupted by messages from an Instant Messaging system, which were sent by the researcher. These messages were manipulated by the researcher to obtain a difference in the level of response expectations and interruption complexity.

Response expectations

In the messages of the high response expectations conditions a sentence or indication was included that the message was urgent and a quick response was needed. In the messages of the low response expectations conditions, such indications and sentences were not given and questions were asked without giving any indication about response behavior.

An example of a message in the high response expectations condition was:

Hello [...],

Can you give me the name of the kitchen intern? I need this name immediately to complete his internship evaluation. I am waiting for your answer!

An example of a message in the low response expectations condition was:

Hello [...],
Can you tell me how many employees the technical service department has (interns excluded)?

Interruption complexity

Messages in the high interruption complexity conditions were aimed at causing a higher mental workload and required more effort of the participants. These messages were longer and had a more difficult use of language. Participants were expected to search in different files and perform various actions to answer the question. The amount of information to be managed, the number of actions to perform and the difficulty of execution of the steps form all part of the complexity (Byrne & Bovair, 1997). An example of a message in the high interruption complexity condition was:

Hello [...],
Since about a year, we are working with the new conditions of employment for the hospitality industry. I have found the KHN conditions of employment on https://www.khn.nl/arbeidsvoorwaardenreglement. I have received a question from one of our interns about compensation during the Christmas days. Job Pieters is employed since 1-8-2015 as intern service. If he works during the Christmas days, what compensation does he receive? Can you check this for me in the regulations?

Messages in the low interruption complexity conditions were less complex. This was expressed by means of an easier use of language and the questions the participants had to answer. Participants had to find easily accessible data in existing files such as names and phone numbers of people. An example of a message in the low interruption complexity conditions was:
Hello [...],
Can you tell me if in the folder 'Conditions of employment' the conditions of employment of KHN are saved?

Before executing the experiment, a pre-test was designed and performed to validate the stimulus material.

3.2 Pre-test of stimulus material

Before the pre-test was executed, one independent person tested the task. The purpose of this test was to verify if the scenario was clear and to determine if the task was achievable within a time frame of 45 minutes. As in the main experiment, a schedule for the service staff of the fictional Hotel Twente was made. The person received a hardcopy of all the files that were needed to complete the task from the researcher; a file with the capacity needed, an overview of the employees and the hours they work per week and a file with the availability of the employees. It took the participant around 30 minutes to complete the entire task, without receiving any interruptions. Therefore, a time limit of 45 minutes to complete the task seemed to be a good indication. After this test, the scenario was adapted and several instructions were added to make the scenario more clear and the pre-test was executed.

A total of 21 participants participated in the pre-test whereby the network of the researcher was approached to take part in the pre-test. The criterion the participants had to meet was being Dutch, because the complete pre-test and the messages were written in Dutch. In addition, an age above 18 years old was required, so that all the participants could understand the messages and were able to answer the questions. In the pre-test, age varied from 22 to 62 years old.

Pre-test procedure

The participants of the pre-test received three different files: a file with the questions of the pre-test (see Appendix 1), a file with the scenario that would be used in the experiment (see Appendix 2) and a file with the 24 different messages, created by the researcher (see Appendix 3).

In the survey, questions were included about the scenario, the task, the messages in general, the response expectations, the interruption complexity and the interruption frequency. Response options ranged from 1 (totally disagree) to 5 (totally agree), unless otherwise mentioned. Questions about the scenario were included to verify if the scenario was sufficient clear. An example question was: "The scenario that I received was clear." The following question about the task was included to determine the perceived complexity of the task: "The task that is described in the scenario, seems difficult to me". Questions about the messages in general had the purpose to verify if the questions in the messages were clear. An example question was: "It is clear what is asked from me the in the messages".

Questions about the response expectations, interruption complexity and interruption frequency were also part of the survey because these variables were manipulated in the experiment. By asking questions about these variables, the stimulus material could be validated. In addition, participants were asked to prioritize the messages regarding their response expectations and interruption complexity, to verify if the messages were manipulated correctly.

Manipulation checks.

Response expectations. To measure the response expectations in the messages, one of the two-item scale from Day et al. (2012) regarding response expectations was adapted and used. In the original scale, response expectations regarding e-mail messages were addressed instead of messages from an Instant Messaging system. The question that was included in the survey was: "After reading the messages, I would have had the feeling to respond immediately". Also, an extra question was added by the researcher based on the previous question: "After reading the messages, I would have had the feeling to respond quickly".

Interruption complexity. To measure the interruption complexity of the messages, the four-item scale from Gupta et al. (2013) was adapted and used. An adaptation was made regarding the terminology of the scale, because in the original scale task complexity was included instead of complexity of the messages. An example question was: "The messages were mentally demanding".

Interruption frequency. To measure the interruption frequency of the messages, a scale was designed in which the general interruption frequency was addressed. An example question was: "When I am disturbed twice during a task of 45 minutes, I perceive that as a lot".

Results of the pre-test

Task complexity. The following question about task complexity was included in the survey of the pretest: "The task that is described in the scenario, seems difficult to me". Scores ranged from 1 (totally disagree) to 5 (totally agree) on a 5-point Likert scale. The aim was to obtain a score on task complexity of at least 3 on a 5-point Likert scale. The task had to be complex enough so that it was mentally demanding for the participants and enough time could be spent on the task, but it should be executable for people with different backgrounds and levels of education. The mean score of the complexity of the task was 3.29 on a 5-point Likert scale, which indicates a just above average score on task complexity.

Besides task complexity, the manipulations of the independent variables in the messages were analyzed. An overview of the results is presented in Table 3.

Response expectations. The reliability of the variable response expectations was found to be high (2 items, α= 0.83). A Wilcoxon Signed Rank Test indicated that the mean of the manipulated messages (*M*=4.33) was higher than the mean of the non-manipulated messages (*M*=2.50) with Z=-3.84, p<0.01. The manipulated messages were the messages including high response expectations, while the non-manipulated messages were the messages including low response expectations.

Interruption complexity. The reliability of the variable interruption complexity was found to be high (4 items, α=0.88). The greatest increase in alpha appeared when item 4 was deleted (α=0.93). In the main study, item 4 was therefore deleted and not included in the survey. A Wilcoxon Signed Rank Test indicated that the mean of the manipulated messages (*M*=2.68) was higher than the mean of the non-manipulated messages (*M*=1.75) with Z=-3.84, p<0.01. The difference between the manipulated messages and the non-manipulated messages in complexity was small. An explanation therefore is that the interruption complexity could not be too high, because the messages were designed by the researcher. The manipulated messages were the messages including high complexity, while the non-manipulated messages were the messages including low complexity.

Interruption frequency. A Wilcoxon Signed Rank Test indicated that the mean score of high frequency of messages (*M*=4.14) was higher than the mean score of the low frequency of messages (*M*=2.29) with Z=-4.01, p<0.01. People perceived receiving six messages during a task of 45 minutes as a higher frequency than receiving two messages during a task of 45 minutes.

Table 3

Results Overview regarding mean Scores on the manipulated and non-manipulated Messages (N=21)

	M (manipulated)	*M* (non-manipulated)	*Sig.*
Response expectations	4.33	2.50	0.00
Interruption frequency	4.14	2.29	0.00
Interruption complexity	2.68	1.75	0.00

Notes: scored on a 5-point Likert scale. Manipulated messages included high levels of response expectations, interruption frequency or interruption complexity. Non-manipulated messages included low levels of response expectations, interruption frequency or interruption complexity.

Prioritizing. Also prioritizing was part of the pre-test to verify if the messages were manipulated correctly. Participants prioritized the first 12 messages on response expectations, starting with the message they would respond first and ending with the message they would respond last. The first six messages were the manipulated messages in which a sentence was added that the participant should respond quickly. It appeared that the first six messages were prioritized to answer first and the last six messages were prioritized to answer last, in concordance with the manipulation of the messages by the researcher. Results of the prioritization are presented in Table 4.

Table 4

Output of prioritizing Messages on Response Expectations (N=21)

		N	*M*	*M condition*
High	Message5	21	1.67	
	Message4	21	2.71	
	Message3	21	4.14	
	Message6	21	4.67	3.93
	Message1	21	4.86	
	Message2	21	5.05	
Low	Message11	21	6.76	
	Message12	21	8.57	
	Message7	21	9.33	9.15
	Message10	21	9.38	
	Message8	21	10.33	
	Message9	21	10.52	

Note: Scale ranged from 1 (answer first) to 12 (answer last)

Furthermore, 12 messages were prioritized regarding their complexity, starting with the message the participants considered least complex and ending with the message they considered most complex. The first six messages were manipulated by the researcher as more complex and the last six messages as less complex. The results showed that, with exception of messages 6 and 9, the scores were in concordance with the manipulations. Results are presented in Table 5.

Table 5

Output of prioritizing Messages on Interruption Complexity (N=5)

		N	*M*	*M condition*
	Message12	5	1.60	
	Message11	5	3.00	
Low	Message7	5	4.20	
	Message10	5	4.40	4.13
	Message8	5	5.60	
	Message6	5	6.00	
	Message9	5	6.20	
	Message1	5	6.80	
High	Message5	5	7.80	8.87
	Message3	5	10.40	
	Message2	5	10.60	
	Message4	5	11.40	

Note: Scale ranged from 1 (least complex) to 12 (most complex)

  Conclusion. The score on task complexity was just above average (*M*=3.29), which indicates that the task was not perceived as extremely easy nor extremely complex. The stimulus material was validated and in particular the differences within the stimulus material of the variables response expectations and interruption frequency were obvious. In addition, after prioritizing the messages regarding their response expectations, the scores were in concordance with the manipulations of the researcher. The differences between the manipulated messages and non-manipulated messages and the scores on interruption complexity were less obvious, which also appeared after prioritization of the messages. An explanation for this result is that the messages could not be extremely complex, because they were designed by the researcher. However, after executing the pre-test, no changes were made in the messages that were used in the different conditions. The reason therefore was that the results of the pre-test showed significant differences between the manipulated and the non-manipulated messages.

3.3 Main study

The experiment consisted of two different studies: in study 1 the variables interruption frequency and response expectations were included and in study 2 the variables interruption frequency and interruption complexity were included.

3.3.1 Participants

A total of 108 participants were included in this experiment. To obtain a reliable research, it was aimed to include 15 participants in each group. An overview of the different groups is displayed in Table 6. In study 1, 15 participants were included in each group and in study 2, 12 participants were included in each group. The Sona system of the University of Twente was used to reach participants who matched the criteria of the research. This system includes a pool of students who are willing to participate in an experiment for which they receive credits. Also many participants, who participated voluntarily, derived from the researcher's own network. After all, 23 participants derived from the Sona system and 85 participants derived from the researcher's network. The target group of the experiment consisted of Dutch individuals between 18 and 35 years old. A focus lied on this target group because in the experiment a work-related environment was simulated in which the participants needed to work with a computer. Young people, in general, know how to work with technology and have integrated several mobile devices into their daily lives (Carroll, Howard, Vetere, Peck, & Murphey, 2002). Furthermore, this narrow target group was more homogeneous than when there would have been a greater variance in age. The criterion of being Dutch was included to be sure that misunderstandings regarding language did not occur.

Table 6

Overview of Conditions distributed over two different Studies. Condition Number of Study 1 (N=60) was 15 , Condition Number of Study 2 (N=48) was 12

	Condition	Number of participants	Number of interruptions	Response expectations	Interruption complexity
	1	15	6	High	-
Study 1	2	15	6	Low	-
	3	15	2	High	-
	4	15	2	Low	-
	5	12	6	-	High
Study 2	6	12	6	-	Low
	7	12	2	-	High
	8	12	2	-	Low

Several variables such as age, education and gender tended to have an influence on individuals' ability to multitask (Floro & Miles, 2003). These variables were analyzed in both studies using a Chi square test of which the results are mentioned below.

Study 1

In total, 60 participants were included and divided over four different conditions. Participants were 13 men and 47 women. Age of participants ranged from 18 till 30 (*M*=24.1, *SD*=3.04). Most participants had an HBO background (33%). The participants were randomly assigned to one of the four groups.

After conducting Chi square test, it appeared that there were no associations between the different conditions and gender ($X^2(3)$=.30, *p*=.961), age ($X^2(9)$=7.91, *p*=.544), and level of education ($X^2(9)$=15.47, *p*=.637). These results showed that the different characteristics of the participants were randomly assigned to the conditions and an equal distribution was maintained. An overview of the demographic characteristics of the participants in study 1 is given in Table 7.

Study 2

In total, 48 participants were included and divided over four different conditions. Participants were 15 men and 33 women. Age of participants ranged from 18 till 35 (*M*=23.8, *SD*=4.22). Most participants had an VWO background (31.3%). The participants were randomly

assigned to one of the four groups.

  After conducting Chi square tests, it appeared that there were no associations between the different conditions and gender ($X^2(3)=3.39$, $p=.335$), age ($X^2(48)=7=52.20$, $p=.314$), and level of education ($X^2(21)=22,32$, $p=.381$). These results showed that the different characteristics of the participants were randomly assigned to the conditions and an equal distribution was maintained. An overview of the demographic characteristics of the participants in study 2 is given in Table 8.

Table 7

Demographic Characteristics of the Participants as a Percentage of the Sample for Study 1 (N=60) and Distribution over the four Conditions

Demographic characteristic	Condition 1 N=15	Condition 2 N=15	Condition 3 N=15	Condition 4 N=15	Total (N=60)	Total percentage
Gender						
Male	3	3	4	3	13	21.7
Female	12	12	11	12	47	78.3
Age						
(*M*=24.1, *SD*=3.04)						
18-21	1	2	4	2	9	15.0
22-25	10	10	8	6	34	56.7
26-29	4	3	3	6	16	26.7
30-33	0	0	0	1	1	1.7
34-35	0	0	0	0	0	0
Level of education						
VMBO	0	0	1	0	1	1.7
HAVO	0	1	3	4	8	13.3
VWO	3	2	3	1	9	15.0
MBO	1	3	2	0	6	10.0
HBO	6	4	4	6	20	33.3
WO Bachelor	2	3	1	2	8	13.3
WO Master	3	2	1	2	8	13.3
Anders	0	0	0	0	0	0

Table 8

Demographic Characteristics of the Participants as a Percentage of the Sample for Study 2 (N=48) and Distribution over the four Conditions

Demographic characteristic	Condition 5 N=12	Condition 6 N=12	Condition 7 N=12	Condition 8 N=12	Total (N=48)	Total percentage
Gender						
Male	2	4	6	3	15	31.3
Female	10	8	6	9	33	68.8
Age						
(*M*=23.8, *SD*=4.22)						
18-21	4	2	7	3	16	34.8
22-25	3	5	2	4	14	30.4
26-29	3	3	2	4	12	26.1
30-33	0	1	0	1	2	4.3
34-35	1	0	1	0	2	4.3
Level of education						
VMBO	0	1	0	0	1	2.1
HAVO	1	0	2	1	4	8.3
VWO	5	2	5	3	15	31.3
MBO	0	2	0	1	3	6.3
HBO	1	2	3	2	8	16.7
WO Bachelor	1	1	1	4	7	14.6
WO Master	3	4	0	1	8	16.7
Anders	1	0	1	0	2	4.2

3.3.2 Procedure

The procedure for study 1 and 2 was the same, except for few differences in the survey regarding the independent variables because these variables varied by study.

After participants signed up in the Sona System or consented voluntarily to take part in the experiment, they were randomly assigned to one of the eight groups whereby a balance in sample size over the different groups was obtained. The experiment took place in two separate rooms: one room for the researcher and one room for the participant. During the experiment two laptops were used, a laptop for both the researcher and the participant. On the laptop for

the participants, several files were saved that could be used during the experiments to answer the questions that were inserted into the messages.

After entering the room and taking place behind the laptop, participants were told that they were employees of the non-existing hotel 'Hotel Twente' in which they worked as administrative assistants. The work-related task consisted of making a schedule for the Christmas holidays for the service staff. In consequence of the fact that the data collection of study 2 took place in January, the holidays were adapted from Christmas holidays to holidays in May. Before starting the task, participants received further instructions from the researcher about the experiment (see Appendix 4). It was also mentioned that if the participants finished the task earlier, they had to start another task that was included in the folder with printed files. This extra task was included to be sure that the participants were still working on a task when they would receive a message. After finishing the instructions, the participants received a folder with several printed files they had to use to complete the task (Appendix 5) and they were asked to fill out an informed consent form.

The duration of the experiment was to the utmost 60 minutes. In this time frame, the instructions about the experiment, the task executing and the completion of the online questionnaire were included. A duration of 45 minutes for executing the task was determined to give the participants the opportunity to complete the task and to be able to send up to six messages to interrupt the participants. In the high frequency conditions of the experiment, participants received a total of six messages while executing the task, every six minutes. An amount of six messages was chosen to obtain a high interruption frequency, while still maintaining a realistic situation. A time frame of six minutes was maintained to be sure that within executing the task, the different messages could be send. In the low frequency conditions, participants received two messages during executing the task: one after 15 minutes and one after 30 minutes. This time frame was chosen to be sure that the participants still worked on the task and to distribute the messages equally. The researcher sent the messages from her laptop with the use of an Instant Messaging programme. After 45 minutes, the researcher entered the room of the participant and the participant was asked to fill out an online questionnaire.

3.3.3 Instrument

In the low frequency conditions, participants received two messages. These messages were selected after prioritization of the messages in the pre-test. For the response expectations and the interruption complexity, the second and fourth message of the first six messages were

chosen and the eighth and tenth message were chosen of the last six messages. This procedure was chosen to be sure that every participant was exposed to the same messages and that extreme messages were excluded from the research.

In the low frequency and low response expectation condition the messages were as follows:

Hi [...],
It still takes a while, but I am choosing a date for our staff party, so that it can be blocked in our calendars. Can you check the date of Good Friday in 2016 for me?

Hi [...],
Can you give me the name of the kitchen intern? I need this name to complete his internship evaluation.

In the low frequency and high response expectation condition the messages were as follows:

Hello [...],
To complete several important documents, Rick de Groott needs the employee number of Lida van Doorn (manager restaurant). Can you search for this number as soon as possible?

Dear [...],
Can you give me the employee number of Koen Hulsman (manager events)? I need it immediately for an important customer.

In the low frequency and low interruption complexity condition the messages were as follows:

Hello [...],
Can you tell me if in the folder 'Conditions of employment' the conditions of employment of KHN are saved?

Hello [...],
For the presentation day we still need some presents for the visitors. Can you check in the stock list what brands of red wine we are using. Do you want to give me the name of one of these brands? Then I can order some extra bottles of these.

In the low frequency and high interruption complexity condition the messages were as follows:

Dear [...],
I received this morning a call from Sophie Laarveld. She is scheduled to work with Wim

Bruijninks next Saturday, but she is not able to work. Can you check how many part-time and fulltime employees we normally schedule on Saturday at 17.00? And who can take her shift?

Hello […],
Since about a year, we are working with the new conditions of employment for the hospitality industry. I have found the KHN conditions of employment on https://www.khn.nl/arbeidsvoorwaardenreglement. I have received a question from one of our interns about compensation during the Christmas days. Job Pieters is employed since 1-8-2015 as intern service. If he works during the Christmas days, what compensation does he receive? Can you check this for me in the regulations?

Measurement instruments

The scales that were included in the survey of the experiment were translated by means of back- and forward translations. The original English scales were translated into Dutch by the researcher and one independent person to be applicable to the experiment. One translation out of these two different translations was composed by the researcher and incorporated in the questionnaire. These Dutch scales were translated from Dutch to English again by another independent person who originated from the United States, but was fluently in Dutch. These back- and forward translations were executed to control the translations of the scales and to obtain consistency between the Dutch and English scales. The results of these back- and forward translations are included in Appendix 6. The survey of the experiment was set up by use of the programme Qualtrics (see Appendix 7). In study 1, a question regarding the response expectations was included and in study 2, questions about the interruption complexity were included. Questions about the workplace telepressure and negative outcomes experienced by the participants were included in both studies. Furthermore, the moderator Personal Need for Structure was included in both studies. Response options ranged from 1 (totally disagree) to 5 (totally agree), unless otherwise stated.

Manipulation checks. As in the pre-test, questions regarding the response expectations, interruption frequency and interruption complexity were included in the experiment to be able to verify if the conditions were manipulated correctly.

Response expectations. The one-item scale of Day et al. (2012) regarding the response expectations was adapted and included. Day et al. (2012) referred to e-mails, while in this experiment, messages from an Instant Messaging system were incorporated. The question that was included regarding the response expectations was: "I was expected to respond to the messages immediately".

Interruption complexity. Regarding the interruption complexity, three items of the four-item scale of Gupta et al. (2013). One item was deleted after the pre-test. An example question was: "The messages were mentally demanding."

Interruption frequency. To address the interruption frequency, one question from the two-item scale from Coraggio (1990) was used. The question that was incorporated in the survey was: "The frequency of interruptions was high".

Dependent variables.

Workplace telepressure. To measure the workplace telepressure, the scales from Barber & Santuzzi (2014) were adapted and used, because it is an already used and reliable scale. Barber & Santuzzi (2014) included more general questions about the experience of workplace telepressure, while in the current survey the questions focused on experiencing workplace telepressure during the task. An example question was "I was concerned about keeping fast response times". The reliability of the variable workplace telepressure was found to be high (8 items, α=0.82).

Negative emotions. The variable negative emotions consisted of frustration and stress. To measure the negative emotions experienced by the participants, the frustration and stress components of the NASA-TLX scale (Hart & Staveland, 1988) were adapted and used. This scale was used because it is an already used and reliable scale. The original scale from Hart & Staveland (1988) described the emotions, while for this experiment applicable scales were created. An example question was "I felt discouraged during the task". The reliability of the variable interruption complexity was found to be high (8 items, α=0.83).

Moderator.

Personal Need for Structure. To measure the Personal Need for Structure, the 11-item Dutch scale of Rietzschel et al. (2014) was used, because it is an already used and reliable scale. An example question was "It upsets me to go into a situation without knowing what I can expect from it". The reliability of the variable interruption complexity was found to be high (11 items, α=0.87).

Besides the abovementioned dependent variables and moderator, also the variables age, gender and educational level were measured for homogeneous distribution of the sample (see Table 7 and 8).

4. Results

Manipulation checks

After conducting the experiment, the manipulations of the variables were analyzed. The results of this analysis are mentioned below.

Task complexity. A question regarding the perceived complexity of the task was incorporated into the survey of both studies to measure the perceived complexity of the task. The question that was incorporated regarding the perceived task complexity was: "The task was too difficult for me". Response options ranged from 1 (totally disagree) to 5 (totally agree) on a 5-point Likert scale. The mean score on perceived task complexity in study 1 was $M=1.98$ and $M=2.06$ in study 2, which are both below average scores.

Besides the perceived task complexity, the manipulations of the independent variables in the messages were analyzed. Response options ranged from 1 (totally disagree) to 5 (totally agree) on a 5-point Likert scale. An overview of the results is presented in Table 9.

Study 1

Response expectations. After conducting an independent T-test it appeared that the mean of the perceived response expectations ($M=3.93$) of the participants who were assigned to the high response expectations conditions was higher than participants who were assigned to the low response expectations conditions and their scores on perceived response expectations ($M=2.47$), with $t(5)=6.29$, $p<0.001$.

Interruption frequency. After conducting an independent T-test it appeared that the mean of the perceived interruption frequency ($M=2.53$) of the participants who were assigned to the high interruption frequency conditions was higher than participants who were assigned to the low interruption frequency conditions and their scores on perceived interruption frequency ($M=1.93$), with $t(58)=2.90$, $p=0.05$.

Study 2

Interruption complexity. After conducting an independent T-test it appeared that the mean of the perceived interruption complexity ($M=2.94$) of the participants who were assigned to the high interruption complexity conditions was higher than participants who were assigned to the low interruption complexity conditions and their scores on perceived interruption complexity ($M=1.90$), with $t(46)=5.35$, $p<0.001$.

Interruption frequency. After conducting an independent T-test it appeared that the mean of the perceived interruption frequency ($M=3.33$) of the participants who were assigned

to the high interruption frequency conditions was higher than participants who were assigned to the low interruption frequency conditions and their scores on perceived interruption frequency ($M=1.83$), with $t(45)=5.58$, $p<0.001$.

Table 9
Results Overview regarding mean Scores in the high and low Conditions on perceived Response Expectations, perceived Interruption Frequency and perceived Interruption Complexity

		M (High condition)	*M* (Low condition)	*Sig.*
Study 1	Perceived response expectations	3.93	2.47	0.00
(N=60)	Perceived interruption frequency	2.53	1.93	0.05
Study 2	Perceived interruption complexity	2.94	1.90	0.00
(N=48)	Perceived interruption frequency	3.33	1.83	0.00

Note: scored on a 5-point Likert scale, ranging from 1 (totally disagree) to 5 (totally agree)

This experiment was divided into two different studies to address the research questions. First, the results of study 1 will be presented whereby the influence of interruption frequency and response expectations on workplace telepressure and negative emotions was measured. Second, the results of study 2 will be presented whereby the influence of interruption frequency and interruption complexity on workplace telepressure and negative emotions was measured. In both studies, the Personal Need for Structure was included as a moderator in the relationship between the independent variables response expectations, interruption frequency and interruption complexity and the dependent variables workplace telepressure and negative emotions.

4.1 Study 1

Main effects

Preliminary assumption testing was conducted to check for normality, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity. With regard to the assumption of multicollinearity, it resulted that the dependent outcomes were minimally correlated ($r= 0.17$) and therefore multicollinearity did not occur. Multicollinearity refers to the fact that the dependent outcomes are highly correlated, which might influence the analysis. A two-way MANOVA (response expectations and interruption frequency) was performed to test for significant differences between the groups. Two dependent variables were part of the analysis: workplace telepressure and negative emotions.

In Table 10, the descriptive statistics of these variables are mentioned. The main and interaction effects of the MANOVA are presented in Table 11 and results of the between-subjects effects are presented in Table 12.

Response expectations. With regard to hypothesis 1, the analyses showed no statistically significant differences between levels of response expectations on either one of the dependent variables(p=.215). When analyzing the between-subjects effects, the p-value had the lowest value (p=.087) for the effects between response expectations and workplace telepressure, but this value was not significant. Thus, hypothesis 1 was rejected.

Interruption frequency. The analyses showed also no statistically significant differences between levels of interruption frequency on either one of the dependent variables(p=.058). When analyzing the between-subjects effects, the p-value had the lowest value (p=.071) for the effects between interruption frequency and workplace telepressure, but this value was not significant. Hypothesis 2 was rejected.

Table 10

Descriptive Statistics of Workplace Telepressure and Negative Emotions

Independent variables		Workplace telepressure		Negative emotions	
		M	*SD*	*M*	*SD*
Interruption frequency	High	2.81	.70	2.23	.79
	Low	3.12	.63	2.02	.55
Response expectations	High	3.11	.70	2.12	.64
	Low	2.82	.64	2.13	.74

Note: Mean scores on workplace telepressure and negative emotions scored on a 5-point Likert scale

Table 11

Response Expectations and Interruption Frequency Main Effects in Analysis of Workplace

Telepressure and Negative Emotions after conducting a two-way MANOVA (N=60)

Effect		F	Hypothesis df	Error df	*Sig.*	Partial Eta Squared
Interruption frequency	Wilks' Lambda	3.00	2	55	.058	.098
Response expectations	Wilks' Lambda	1.58	2	55	.215	.054
Interruption frequency * Response expectations	Wilks' Lambda	.56	2	55	.573	.020

Table 12

Table of Between-subjects Effects after conducting a two-way MANOVA

Independent variables	Dependent variables	F	*Sig.*	n^2
Interruption frequency	Workplace telepressure	3.39	.071	.057
	Negative emotions	1.44	.235	.025
Response expectations	Workplace telepressure	3.04	.087	.051
	Negative emotions	.001	.981	.000
Interruption frequency *	Workplace telepressure	.14	.708	.003
Response expectations	Negative emotions	1.12	.294	.020

In contrast with the hypotheses, no significant relationships were found and therefore, further analysis was executed. After conducting a Pearson correlation, it resulted that there was a strong, positive relationship between perceived response expectations and workplace telepressure ($r=.60$, $n=60$, $p<.001$). There was no significant relationship between perceived response expectations and negative emotions. Also no significant relationships were found between perceived interruption frequency and either one of the dependent variables. The results of the Pearson correlation are presented in Table 13.

Table 13

Correlations between Workplace Telepressure and Negative Emotions and the variables Perceived Response Expectations and Perceived Interruption Frequency

		Workplace telepressure	Negative emotions
Workplace telepressure	*r*	1	.12
Negative emotions	*r*	.12	1
Perceived response expectations*	*r*	.60	.13
Perceived interruption frequency**	*r*	-.12	.23

*Scale: "I was expected to answer the messages immediately".

**Scale: "The frequency of interruptions was high".

Moderator effects

Personal Need for Structure. To test hypotheses 4a and 4b, a two-way ANCOVA (response expectations and interruption frequency) was conducted. The dependent variables were workplace telepressure and negative emotions. Participants' scores on the Personal Need for Structure scale were used as the covariate in this analysis. After adjusting for Personal Need for Structure scores, no significant differences between levels of response expectations on workplace telepressure ($p=.099$) and negative emotions ($p=.846$) were found. After adjusting

for Personal Need for Structure scores, also no significant differences between levels of interruption frequency on workplace telepressure ($p=.066$) and negative emotions ($p=.279$) were found. Hypotheses 4a and 4b were thus rejected. Descriptive statistics regarding the average scores on the Personal Need for Structure scale are presented in Table 14. The results of the two-way ANCOVA are presented in Table 15.

Table 14

Descriptive Statistics of Personal Need for Structure Scores distributed over the Conditions

Conditions	*M*	*SD*
Response expectations high, interruption frequency high	3.12	.36
Response expectations low, interruption frequency high	3.14	.83
Response expectations high, interruption frequency low	3.15	.65
Response expectations low, interruption frequency low	2.95	.63

Table 15

Output for ANCOVA including Personal Need for Structure as a Moderator in the Relationship between the independent Variables Interruption Frequency and Response Expectations and the dependent Variables Workplace Telepressure and Negative Emotions

Independent variables	Dependent variables	*F*	*Sig.*	*n²*
Interruption frequency	Workplace telepressure	3.53	.066	.060
	Negative emotions	1.20	.279	.021
Response expectations	Workplace telepressure	2.82	.099	.049
	Negative emotions	.04	.846	.001

4.2 Study 2

Main effects

Preliminary assumption testing was conducted to check for normality, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity. One outlier was found, but was not excluded from the analysis, because of the valid nature of the answers. With regard to the assumption of multicollinearity, it resulted that the dependent outcomes were minimally correlated (r=.053), which indicates that multicollinearity did not occur. A two-way MANOVA (interruption complexity and interruption frequency) was performed to test for significant differences between the groups. Two dependent variables were part of the analysis: workplace telepressure and negative emotions. In Table 16, the descriptive statistics of these variables are mentioned. The main and interaction effects of the MANOVA are presented in Table 17 and results of the between-subjects effects are presented in Table 18.

Interruption complexity. With regard to hypothesis 3, the analyses showed no statistically significant differences between levels of interruption complexity on either one of the dependent variables(p=.128). However, when analyzing the between-subjects effects, a significant interaction of the variables interruption frequency and interruption complexity on workplace telepressure was found, $F(1,44)$=6.19, p<0.05 with $n²$=.123. Hypothesis 3 was thus partially rejected. A partial eta squared value of .123 indicates a moderate effect size whereby

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12.3% of the variance on workplace telepressure is explained by the interaction effect between interruption frequency and interruption complexity. In Figure 2, this interaction effect is graphically displayed. It can be observed that the highest scores on workplace telepressure were obtained for people who were assigned to the high interruption complexity and low interruption frequency condition, while it was expected that participants in the high interruption complexity conditions and high interruption frequency conditions would have had the highest scores on workplace telepressure.

Interruption frequency. The analyses showed also no statistically significant differences between levels of interruption frequency on either one of the dependent variables, $p=.324$. Hypothesis 2 was thus rejected.

Table 16

Descriptive Statistics of Workplace Telepressure and Negative Emotions

Independent variables		Workplace telepressure		Negative emotions	
		M	*SD*	*M*	*SD*
Interruption frequency	High	2.98	.56	2.52	.58
	Low	2.94	.68	2.23	.72
Interruption complexity	High	3.09	.56	2.52	.67
	Low	2.85	.66	2.23	.63

Table 17

Interruption Complexity and Interruption Frequency main Effects in Analysis of Workplace Telepressure and Negative Emotions after conducting a two-way MANOVA

Effect		*F*	Hypothesis df	Error df	*Sig.*	Partial Eta Squared
Interruption frequency	Wilks' Lambda	1.16	2	43	.324	.051
Interruption complexity	Wilks' Lambda	2.15	2	43	.128	.091
Interruption frequency * interruption complexity	Wilks' Lambda	3.03	2	43	.059	.123

Table 18

Table of Between-subjects Effects after conducting a two-way MANOVA

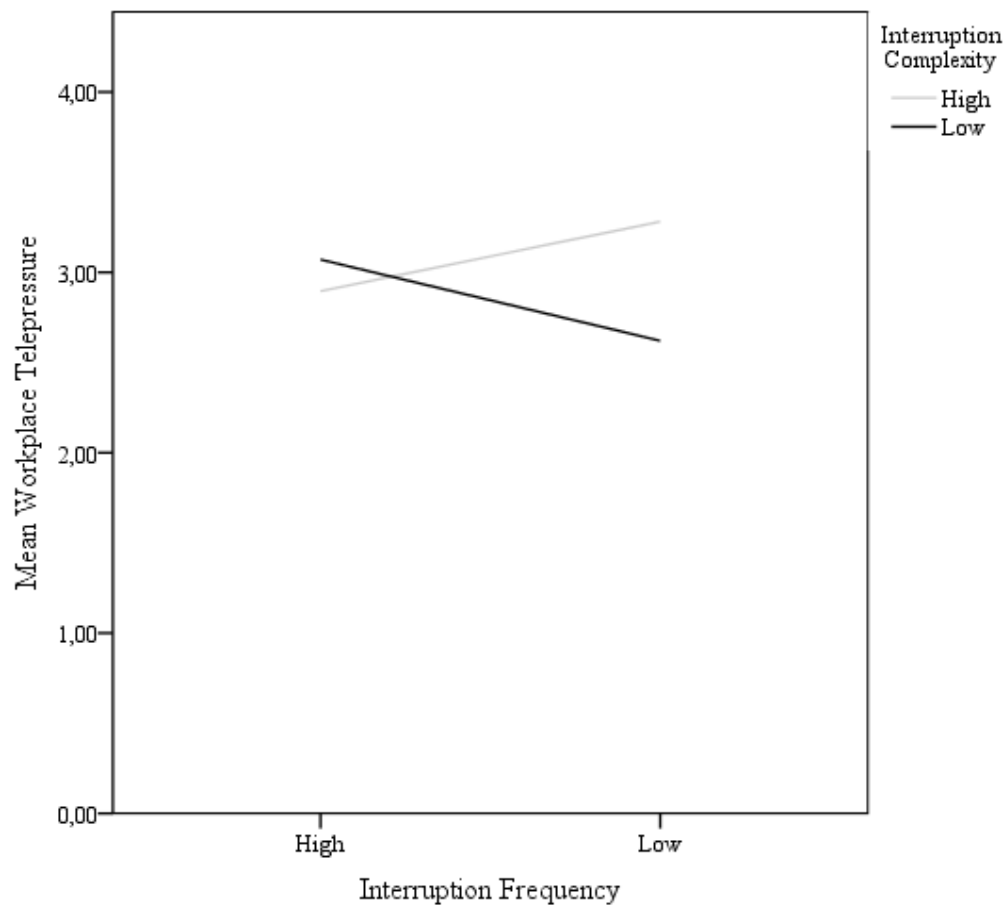| Independent variables	Dependent variables	*F*	*Sig.*	n^2
Interruption frequency	Workplace telepressure	.04	.848	.001
	Negative emotions	2.33	.134	.050
Interruption complexity	Workplace telepressure	2.09	.155	.045
	Negative emotions	2.33	.134	.050
Interruption frequency * Interruption complexity	Workplace telepressure	6.19	.017	.123
	Negative emotions	.001	.981	.000

Figure 2. Interaction effect between interruption frequency and interruption complexity on workplace telepressure

Moderator effects

Personal Need for Structure. To test hypotheses 4b and 4c, a two-way ANCOVA (interruption complexity and interruption frequency) was conducted. The dependent variables were workplace telepressure and negative emotions. Participants' scores on the Personal Need for Structure scale were used as the covariate in this analysis. After adjusting for Personal Need for Structure scores, no significant differences between levels of interruption frequency on workplace telepressure ($p=.962$) and negative emotions ($p=.138$) were found. After adjusting for Personal Need for Structure scores, also no significant differences between levels of interruption complexity on workplace telepressure ($p=.133$) and negative emotions ($p=.150$) were found. Hypotheses 4b and 4c were thus rejected. Descriptive statistics regarding the scores on the Personal Need for Structure scale are presented in Table 19. The

results of the two-way ANCOVA are presented in Table 20. In Table 21, an overview of the hypotheses of study 1 and study 2 is given.

Table 19

Descriptive Statistics of Personal Need for Structure Scores distributed over the Conditions

Condition	*M*	*SD*
Interruption complexity high, interruption frequency high	3.04	.35
Interruption complexity low, interruption frequency high	2.76	.88
Interruption complexity high, interruption frequency low	3.19	.59
Interruption complexity low, interruption frequency low	3.09	.50

Table 20

Output for ANCOVA including Personal Need for Structure as a Moderator in the Relationship between the independent Variables Interruption Frequency and Interruption Complexity and the dependent Variables Workplace Telepressure and Negative Emotions

Independent variables	Dependent variables	F	*p*	n^2
Interruption frequency	Workplace telepressure	.002	.962	.000
	Negative emotions	2.28	.138	.050
Interruption complexity	Workplace telepressure	2.34	.133	.052
	Negative emotions	2.15	.150	.048

Table 21

Overview of supported and rejected Hypotheses

Hypothesis	Supported/Rejected
H1: Individuals who experience high response expectations experience a higher level of workplace telepressure and more negative emotions compared to individuals who experience low response expectations.	Rejected
H2: Individuals who experience a high interruption frequency experience a higher level of workplace telepressure and more negative emotions compared to individuals who experience low interruption frequency.	Rejected
H3: Individuals who experience a high interruption complexity experience a higher level of workplace telepressure and more negative emotions compared to individuals who experience low interruption complexity.	Partially rejected
H4a: The Personal Need for Structure scale moderates the relationship between response expectations and the level of workplace telepressure and negative emotions such that the relationship will be stronger for individuals with a higher need for structure.	Rejected
H4b: The Personal Need for Structure scale moderates the relationship between interruption frequency and the level of workplace telepressure and negative emotions such that the relationship will be stronger for individuals with a higher need for structure.	Rejected
H4c: The Personal Need for Structure scale moderates the relationship between interruption complexity and the level of workplace telepressure and negative emotions such that the relationship will be stronger for individuals with a higher need for structure.	Rejected

5. Conclusion and discussion

Nowadays, Instant Messaging systems are used to a greater extent in organizations (Cameron & Webster, 2005). The primary goal of this study was to measure, by use of such an Instant Messaging system, the influence of interruption frequency, response expectations and interruption complexity on the workplace telepressure and negative emotions that employees experience. This section discusses the research findings, the limitations of the study, the practical implications of the study and implications for future research.

The results of this study indicated that the influences of interruption frequency, response expectations and interruption complexity on levels of workplace telepressure and negative emotions were not as negative as hypothesized. Hypotheses 1 and 2 were rejected, hypothesis 3 was partially rejected and hypotheses 4a, 4b and 4c were rejected.

Research findings

Differences in participants' perceptions seemed to explain partly why no significant differences between the groups were found. It appeared that the perceived response expectations explained for no less than 60% the level of workplace telepressure, while no significant differences between the groups were found. Barber & Santuzzi (2014) already stated that workplace telepressure should be high when employees perceive that the organization's norm is to respond quickly. Previous research indicated that individuals seem to vary in their psychological responses to a common demand, or even perceive the demand itself in a different way (Barber & Santuzzi, 2014). Also in the current study, participants seemed to vary in their perceptions of the demands.

Individual perceptions also seemed to have an influence on the fact that hypothesis 2 was not supported. The mean for the high interruption frequency condition on perceived interruption frequency for both studies was M=2.93 on a 5-point Likert scale, which is a low, below average score for this condition. A plausible explanation for the fact that the interruption frequency was perceived below average, is the fact that people are nowadays more used to interruptions. The current study consisted of a young target group whereby age varied from 18 till 35. Being interrupted six time during a task of 45 minutes might already be perceived as normal by this young target group because of its high use of mobile devices.

The messages in the high interruption complexity conditions were not perceived as extremely complex by the participants: M=2.94 on a 5-point Likert scale. Zijlstra et al. (1999) also did not find significant differences between the levels of interruption complexity and

psychological well-being and scores on psychological state even improved in the higher interruption complexity condition. An explanation therefore was that the interruptions might be seen as welcome distractions, rather than stressors (Zijlstra et al., 1999). This also might have occurred in the current study. Participants did not perceive the messages as incredibly complex and therefore for some participants, the messages might have been welcome distractions. Also, a below average score on perceived task complexity has been established in the current study (M=2.02). Previous scholars determined that if the perceived task complexity is not complex enough, interruptions might have a facilitating nature because it raises the level of alertness (Gupta et al., 2013; Speier et al., 2003), which might explain the findings of the current research. Participants might have been more alert after receiving the messages and able to easily continue with their task, because the task was not perceived as extremely complex.

Regarding the interruption frequency, some remarkable findings could be established. In study 1, individuals in the low interruption frequency conditions (M=3.12) scored higher on workplace telepressure compared to individuals who were assigned to the high interruption frequency conditions (M=2.81). Although this difference was not significant it is a remarkable finding, because it was expected that people who were assigned to the high interruption frequency conditions would have higher scores on workplace telepressure and negative emotions, because of a raise in workload.

In study 2, an interaction effect between interruption frequency and interruption complexity on workplace telepressure was found, so hypothesis 3 was partially rejected. However, in contrast with the expectations, participants who were assigned to the high complexity and low frequency conditions had the highest scores on workplace telepressure instead of participants in the high complexity and high frequency conditions. An explanation for the abovementioned findings is that participants in the low frequency conditions were more surprised and felt pressure to respond when receiving a message, because it took longer before the first message was sent. This, in combination with more complex messages, might have been mentally demanding for the participants and could have raised the workload, which explains the interaction effect of study 2. Barber & Santuzzi (2014) also found that if employees had a perception of a higher technological workload, they experienced higher levels of workplace telepressure, but the influence of interruption complexity or interruption frequency on workplace telepressure has not been determined yet in previous research.

Moderator

In this study, the Personal Need for Structure was included as a moderator, both in study 1 and study 2. PNS was expected to moderate the relationship between response expectations, interruption frequency and interruption complexity and the level of workplace telepressure and negative emotions such that the relationships would be stronger for individuals with a higher need for structure. However, after adjusting for PNS scores, no significant differences were found between response expectations, interruption complexity and interruption frequency and the outcomes workplace telepressure and negative emotions. Thus, hypotheses 4a, 4b and 4c were rejected. After analyzing the mean scores on the PNS scale in the different groups, scores ranged from 2.76 to 3.19 on a 5-point Likert scale, which indicates average scores on the PNS scale. These means show that the scores on PNS already were quite low to be able to have an influence as a moderator. Participants who did score high on the PNS scale were perhaps better to manage their time and were less distracted by the interruptions they received (Mark et al., 2008).

General conclusions

The hypotheses of the current study were not supported, which indicates that the influence of response expectation, interruption frequency and interruption complexity on workplace telepressure and negative emotions was not as negative as expected. Also, PNS did not seem to have a significant influence on the relationships between the independent and dependent variables. However, some important findings could be observed from the current study.

Mainly the participants' perceptions seemed to have an important influence on the fact that the hypotheses were not supported. Response expectations explained for no less than 60% the level of workplace telepressure, while no significant differences between the groups were found. If participants perceived they had to respond quickly to the messages they received, this was related to a higher level of workplace telepressure.

Regarding the interruption frequency, also some remarkable findings should be mentioned. Previous scholars mainly found that a higher interruption frequency influenced the task performance and psychological well-being of employees in a negative way. In the current study, both in study 1 and in the interaction effect of study 2, it could be observed that participants in the low frequency conditions had higher scores on workplace telepressure than participants in the high frequency conditions. Sending less messages during a task, might raise the effect of surprise of receiving the message. Until now, such findings have not been established in previous literature.

Discussion

The results from this experiment enrich our understanding of using an experiment to measure the psychological influence of interruptions in a simulated work-environment. The experimental nature of this study minimized the influence of external variables, which might be an explanation for the absence of supported hypotheses. Individual characteristics such as self-efficacy and work-environmental variables such as availability outside of work might also be of influence in the level of workplace telepressure and negative emotions that employees experience. Further research should clarify the influence of these variables on stress-related outcomes in the workplace.

Participants' perceptions seemed to be an important factor on the fact that the hypotheses were (partially) rejected. It is thus plausible that individual characteristics play an important role in the experience of stress-related phenomena in the workplace such as workplace telepressure and negative emotions. In the current experiment, only PNS was included as an individual's characteristic. Also a variable such as self-efficacy might be of influence on workplace telepressure and negative emotions. Previous research indicated that if participants perceive themselves able to cope with the interruptions they receive and the task they have to execute, they are less affected by stressors (Tams, Thatcher, Grover, & Pak, 2015). Another variable that might explain why some participants were not bothered by the interruptions and others were, is selective attention, of which the ability of people to ignore the interruptions is part (Tams et al., 2015). Future research should focus on the individual characteristics that play an important role in the experience of workplace telepressure and negative emotions in the workplace after receiving messages from colleagues. An observation study in combination with a survey makes it possible to observe employees in their natural environment and to address the individual characteristics that might play an important role in the experience of workplace telepressure and negative emotions after being interrupted.

In this study, a work-environment was simulated whereby external variables were controlled. Besides individual characteristics, also characteristics of the work environment might be important for experiencing stress-related phenomena in the workplace. From previous research, it appeared that one of the main predictors of workplace telepressure were prescriptive norms, conceptually similar to response expectations (Barber & Santuzzi, 2014). In the current study, only response expectations were included as a variable, while prescriptive norms, besides response expectations, also include availability outside of work and learning new technology (Barber & Santuzzi, 2014). In this study, an experiment was conducted whereby participants' workplace telepressure and negative emotions were

measured after a task of 45 minutes. When such an experimental structure is used, it is difficult to measure factors such as availability outside of work and learning new technology, because these concepts are difficult to capture within one moment. Future research could use a diary study to be able to measure employees' thoughts and feelings regarding the prescriptive norms and their feelings of workplace telepressure and negative emotions over time.

Limitations

One of the limitations of the current study was the fact that the experiment took place on several locations, which might have affected the experiment. However, the same atmosphere was tend to be created on each of the locations such as creating a closed room for the participant in which external distractions were minimized.

Another limitation in this study was the absence of a real work environment, because this experiment was not executed on behalf of an existing organization and a work-related environment was simulated. Participants might have had difficulties to empathize with the simulated working conditions and organizational norms of the non-existing hotel. Because the experiment was not executed on behalf of an organization, participants with different backgrounds were included in the study. Future research should study different professions regarding their levels of workplace telepressure and negative emotions when being interrupted during a task. It might be that some professions require a higher interruption level and that these people are already more used to the interruptions they receive (Zijlstra et al., 1999). It might be that people working in ICT for example are already more used to work with mobile devices and thus are more used to interruptions. In addition, different organizational cultures could be studied further to measure the influence of interruptions on employees' psychological well-being. It might be that in an organization with a flat organization structure, employees are more used to sending messages to each other and thus are more used to interruptions than organizations with a hierarchical organization structure.

Another limitation might have been the target group that was included in this study. Mainly young people were part of the experiment and in general, young people know well how to work with technology and might be better able to cope with interruptions during a task (Carroll et al., 2002). It appeared that in the current study the perceptions of the interruption frequency and interruption complexity in the high conditions scored average, which might imply that young people are already more used to interruptions. In future research, also other age groups should be studied to measure the effects of the independent variables on the level

of workplace telepressure and negative emotions. It might be that interruptions have a greater negative impact on older people, because they are less used to technology such as Instant Messaging systems and multitasking, but this should be studied further.

Although after conducting Chi square tests it appeared that distributions between the groups was equal and no associations between age, gender and educational level and the different groups were found, some differences could be observed. In both studies, more women than men were included and in study 2, slight differences between level of education and age could be observed. Gender, age and educational level seemed to contribute to the extent people multitask (Floro & Miles, 2003). Women for example perform more activities at the same time more often than men (Floro & Miles, 2003). These slight differences might have had an influence on the outcomes of this study.

Practical implications

The current results can help other scholars by showing the difficulty of capturing the phenomenon of workplace telepressure and negative emotions influenced by interruption frequency, interruption complexity and response expectations by the use of an experiment. Diary studies or observations could be executed to understand the underlying structure of individual differences in the experience of workplace telepressure and negative emotions after receiving messages from others.

The current study shows that the influence of an Instant Messaging system was not as negative as hypothesized. Because nowadays technology is developing rapidly, both in organizations and the personal lives of individuals, people tend to be more used to multitasking and less affected by the interruptions they receive. The current study also helps organizations to understand that many personal and organizational factors might influence the level of workplace telepressure and negative emotions experienced by employees in the workplace. Organizations should always keep focusing on the individual and be alert on the fact that many factors can play an important role in the raise of the level of workplace telepressure and negative emotions in the workplace. Hereby, personal communication with the employees is for organizations essential.

References

Appelbaum, S.H., Marchionni, A., & Fernandez, A. (2008). The multi-tasking paradox: Perceptions, problems and strategies. *Management Decision, 46*(9), pp. 1313-1325. doi:10.1108/00251740810911966

Bakker, A. B., & Demerouti, E. (2007). The Job-Demands Resources model: State of the art. *Journal of Managerial Psychology, 22*(3), pp. 309-328. doi:10.1108/02683940710733115

Barber, L. K., & Santuzzi, A. M. (2014). Please respons ASAP: Workplace telepressure and employee recovery. *Journal of Occupational Health Psychology, 20*, pp. 172-189. http://dx.doi.org/10.1037/a0038278

Byrne, M.D., & Bovair, S. (1997). A working memory model of a common procedural error. *Cognitive Science, 21*(1), pp. 31-61. doi:10.1016/S0364-0213(99)80018-4

Cades, D.M. Trafton, J.G., Boehm-Davis, D.A., & Monk, C.A. (2007). *Does the difficulty of an interruption affect our ability to resume?* Paper presented at the Human Factors and Ergonomics Society 51st annual meeting, Santa Monica, CA. doi: 10.1177/154193120705100419

Cades, D.M., Werner, N., Trafton., J.G., Boehm-Davis, D.A., & Monk, C.A. (2008, September). *Dealing with interruptions can be complex, but does interruption complexity matter: a mental resources approach to quantifying disruptions*. Paper presented at the Human Factors and Ergonomics Society 52nd annual meeting, New York, NY. doi: 10.1177/154193120805200442

Cameron, A.F., & Webster, J. (2005). Unintended consequences of emerging communication technologies: Instant Messaging in the workplace. *Computers in Human Behavior, 21*, pp. 85-10. doi: 10.1016/j.chb.2003.12.001

Carroll, J., Howard, S., Vetere, F., Peck, J., & Murphey, J. (2002*). Just what do the youth of today want? Technology appropriation by young people.* Paper presented at the 35th International Conference on System Sciences, Hawaii, HI. Retrieved from http://www.computer.org

Coraggio, L. (1990). *Deleterious effects of intermittent interruptions on the task performance of knowledge workers: A laboratory investigation* (Unpublished doctoral dissertation, University of Arizona, USA). Retrieved from http://interruptions.net

Day, A., Paquet, S., Scott, N., & Hambley, L. (2012). Perceived information and communication technology (ICT) demands on employee outcomes: The moderating effect of organizational ICT support. *Journal of Occupational Health Psychology, 17*(4), pp. 473-491. doi: 10.1037/a0029837

Diaz, I., Chiaburu, D.S., Zimmerman, R.D., & Boswell, W.R. (2012). Communication technology: Pros and cons of constant connection to work. *Journal of Vocational Behavior, 80*, pp. 500-508. doi:10.1016/j.jvb.2011.08.007

Field, A. (2009). *Discovering statistics using SPSS..* London, England: Sage

Floro, M.S., & Miles, M. (2003). Time use, work and overlapping activities: Evidence from Australia. *Cambridge Journal of Economics, 27*(6)*, pp.881-904.* doi: 10.1093/cje/27.6.881

Fuks, H., Pimentel, M., Pereira de Lucena, C.J. (2006). R-U-Typing-2-Me? Evolving a chat tool to increase understanding in learning activities. *Computer-Supported Collaborative Learning, 1,* pp. 117-142. doi:10.1007/s11412-006-6845-3

Gupta, A., Li, H., & Sharda, R. (2013). Should I send this message? Understanding the impact of interruptions, social hierarchy and perceived task complexity on user performance and perceived workload. *Decision Support Systems, 55,* pp. 135-145. http://dx.doi.org/10.1016/j.dss.2012.12.035

Gillie, T., & Broadbent, D. (1989). What makes interruptions disruptive? A study of length, similarity and complexity. *Psychological Research, 50,* pp. 243-250. doi: 10.1007/BF00309260

Handel, M., & Herbsleb, J.D. (2002, November). *What is chat doing in the workplace?* Paper presented at the 2002 ACM conference on Computer Supported Cooperative Work, New Orleans, LA. Retrieved from http://dl.acm.org/citation.cfm?id=587080

Herbsleb, J.D., Atkins, D.L., Boyer, D.G., Handel, M., & Finholt, T.A. (2002, April). *Introducing instant messaging and chat in the workplace.* Paper presented at the SIGCHI Conference on Human Factors in Computing Systems, Minneapolis, MN. Retrieved from http://dl.acm.org/citation.cfm?doid=503376.503408

Hodgetts, H., & Jones, D.M. (2005). *Interrupting problem solving: Effects of interruption position and complexity*. Paper presented at the 40th Australian Psychological Society Annual Conference, Melbourne, Australia. Retrieved from http://interruptions.net

Hodgetts, H., & Jones, D.M. (2006). Interruption of the tower of London task: Support for a goal-activation approach. *Journal of Experimental Psychology: General,* 135(1), pp. 103-115. doi: 10.1037/0096-3445.135.1.103

Hudson, J.M., Christenen, J., Kellogg, W.A., & Erickson, T. (2002, April). *"I'd be overwhelmed, but it's just one more thing to do:" Availability and interruption in research management.* Paper presented at the SIGCHI Conference on Human Factors in Computing Systems, Minneapolis, MN. Retrieved from http://www.researchgate.net

Lee, B.C., & Duffy, V.G. (2015). The effects of task interruption on human performance: A study of the systematic classification of human behavior and interruption frequency. Human Factors and Ergonomics in Manufacturing & Service Industries, *25*(2), pp. 137-152. http://dx.doi.org/10.1002/hfm.20603

Mark, G., Gonzalez, V.M., & Harris, J. (2005, April). *No task left behind? Examining the nature of fragmented work*. Paper presented at the SIGCHI Conference on Human Factors in Computing Systems, Portland, OR. doi: 10.1145/1054972.1055017

Mark, G., Gudith, D., & Klocke, U. (2008, April). *The cost of interrupted work: more speed and stress*. Paper presented at the SIGCHI Conference on Human Factors in Computing Systems, Florence, Italy. doi: 10.1145/1357054.1357072

McFarlane, D.C., & Latorella, K.A. (2002). The scope and importance of human interruption in human-computer interaction design. *Human-Computer Interaction, 17*, pp. 1-61. http://dx.doi.org/10.1207/S15327051HCI1701_1

Middleton, C.A. (2007). Illusions of balance and control in an always-on environment: A case study of Blackberry users. *Continuum: Journal of Media & Cultural Studies, 21*, pp. 165–178. doi: 10.1080/10304310701268695

Morris, M.R., Teevan, J., & Panovich, K. (2010, April). *What do people ask their social networks, and why? A survey study of status message Q&A behavior*. Paper presented at the SIGCHI Conference on Human Factors in Computing Systems, Atlanta, GA. doi:10.1145/1753326.1753587

Nardi, B.A., Whittaker, S., & Bradner, E. (2000, December). *Interaction and outeraction: Instant Messaging in action*. Paper presented at the ACM conference on Computer supported cooperative work, Philadelphia, PA. doi: 10.1145/358916.358975

Neuberg, S.L., & Newsom, J.T. (1993). Personal need for structure: Individual differences in the desire for simple structure. *Journal of Personality and Social Psychology, 65*(1), pp. 113-131. http://dx.doi.org/10.1037/0022-3514.65.1.113

Orlikowski, W.J., (2000). Using technology and constituting structures: A practice lens for studying technology in organizations. *Organization Science, 11*(4), pp. 404-428. http://dx.doi.org/10.1287/orsc.11.4.404.14600

Popma, J. (2012). Techno-stress: Verkenning van een risico in opkomst. Onderzoek in opdracht van de vakcentrale FNV, Amsterdam, Universiteit van Amsterdam, Hugo Sinzheimer Instituut

Rennecker, J., & Godwin, L. (2005a). Theorizing the unintended consequences of instant messaging for worker productivity. *Sprouts: Working papers on information environments, systems and organizations, 3*(3), pp. 137-168. Retrieved from http://sprouts.case.edu/

Rennecker, J., & Godwin, L. (2005b). Delays and interruptions: A self-perpetuating paradox of communication technology use. *Information and Organization, 15,* pp. 247-266. doi:10.1016/j.infoandorg.2005.02.004

Rietzschel, E.F., Slijkhuis, J.M. & van Yperen, N.W. (2014). Task structure, need for structure, and creativity. *European Journal of Social Psychology, 44*, pp. 386-399. doi: 10.1002/ejsp.2024

Speier, C., Valacich, J.S., & Vessey, I. (1999). The influence of task interruption on individual decision making: an information overload perspective. *Decision Sciences, 30*(2), pp. 337-360. doi: 10.1111/j.1540-5915.1999.tb01613.x

Speier, C., Vessey, I., & Valacich, J.S. (2003). The effects of interruptions, task complexity, and information presentation on computer-supported decision-making performance. *Decision Sciences, 34*(4), pp. 771-797. doi: 10.1111/j.1540-5414.2003.02292.x

Tams, S., Thatcher, J., Grover, V. & Pak, R. (2015). Selective attention as a protagonist in contemporary workplace stress: implications for the interruption age, *Anxiety, Stress, & Coping, 28*(6), pp. 663-686, doi: 10.1080/10615806.2015.1011141

To, P., Liao, C., Chiang, J.C., Shih, M., & Chang, C. (2008). An empirical investigation of the factors affecting the adoption of Instant Messaging in organizations. *Computer Standards and Interfaces, 30*(3), pp. 148-156. doi:10.1016/j.csi.2007.08.019

The Pennsylvania State University (2015). *15.2: Disadvantages.* Retrieved from https://onlinecourses.science.psu.edu/stat509/node/125

TNO (2014). *Feiten en cijfers werkstress.* Retrieved from http://www.monitorarbeid.tno.nl/nieuws/feiten-en-cijfers-werkstress

Van Yperen, N.W., Rietzschel, E.F. & De Jonge, K.M.M. (2014). Blended working: For whom it may (not) work. . *Plos ONE, 9*(7), pp. 1-8. doi:10.1371/journal.pone.0102921

Voida, A., Newstetter, W.C., & Mynatt, E.D. (2002, April). *When conventions collide: the tensions of Instant Messaging attributed.* Paper presented at the Conference on Human Factors in Computing Systems, Minneapolis, MN. Retrieved from https://research.cc.gatech.edu

Zijlstra, F.R.H., Roe, R.A., Leonora, A.B., & Krediet, I. (1999). Temporal factors in mental work: Effects of interrupted activities. *Journal of Occupational and Organizational Psychology, 72,* pp. 163-185. doi: 10.1348/096317999166581

Appendix 1: Procedure pre-test

Pre-test participant

Naam: ………………….....

Leeftijd: ………………………

Lees eerst het scenario door dat je voor je hebt liggen en beantwoord daarna onderstaande vragen. Omcirkel het antwoord dat het dichtst bij je eigen mening ligt. De antwoordmogelijkheden variëren van 'helemaal mee oneens' tot 'helemaal mee eens'.

   1) **Het scenario dat ik ontving was duidelijk.**

Helemaal mee oneens	*Oneens*	*Neutraal*	*Mee eens*	*Helemaal mee eens*
1	*2*	*3*	*4*	*5*

   2) **Na het lezen van het scenario, zou ik weten wat ik moet doen.**

Helemaal mee oneens	*Oneens*	*Neutraal*	*Mee eens*	*Helemaal mee eens*
1	*2*	*3*	*4*	*5*

   3) **De taak die omschreven staat in het scenario, lijkt me moeilijk.**

Helemaal mee oneens	*Oneens*	*Neutraal*	*Mee eens*	*Helemaal mee eens*
1	*2*	*3*	*4*	*5*

Lees alle 24 berichten die je voor je hebt liggen door en beantwoord onderstaande vragen. Omcirkel het antwoord dat het dichtst bij je eigen mening ligt.

   4) **Het is duidelijk wat er van me gevraagd wordt in de berichten.**

Helemaal mee oneens	*Oneens*	*Neutraal*	*Mee eens*	*Helemaal mee eens*
1	*2*	*3*	*4*	*5*

   5) **Het taalgebruik in de berichten is duidelijk.**

Helemaal mee oneens	*Oneens*	*Neutraal*	*Mee eens*	*Helemaal mee eens*
1	*2*	*3*	*4*	*5*

Lees bericht 1 tot en met 6 nogmaals en beantwoord onderstaande vragen. Omcirkel het antwoord dat het dichtst bij je eigen mening ligt.

6) Na het lezen van de berichten, zou ik het gevoel hebben dat ik snel moet antwoorden.

Helemaal mee oneens   *Oneens*   *Neutraal*   *Mee eens*   *Helemaal mee eens*

1   *2*   *3*   *4*   *5*

7) Na het lezen van de berichten, zou ik het gevoel hebben dat ik onmiddellijk moet antwoorden.

Helemaal mee oneens   *Oneens*   *Neutraal*   *Mee eens*   *Helemaal mee eens*

1   *2*   *3*   *4*   *5*

Lees bericht 7 tot en met 12 nogmaals en beantwoord onderstaande vragen. Omcirkel het antwoord dat het dichtst bij je eigen mening ligt.

8) Na het lezen van de berichten, zou ik het gevoel hebben dat ik snel moet antwoorden.

Helemaal mee oneens   *Oneens*   *Neutraal*   *Mee eens*   *Helemaal mee eens*

1   *2*   *3*   *4*   *5*

9) Na het lezen van de berichten, zou ik het gevoel hebben dat ik onmiddellijk moet antwoorden.

Helemaal mee oneens   *Oneens*   *Neutraal*   *Mee eens*   *Helemaal mee eens*

1   *2*   *3*   *4*   *5*

Prioriteer bericht 1 tot en met 12. Begin met het bericht waarop je het eerst antwoord zou geven en eindig met het bericht waarmee je het langst zou wachten met antwoorden.

Eerst antwoorden   *Laatst antwoorden*

1   2   3   4   5   6   7   8   9   10   11   12

.   .   .   .

Lees bericht 13 tot en met 18 nogmaals en beantwoord onderstaande vragen. Omcirkel het antwoord dat het dichtst bij je eigen mening ligt.

10) Ik vind de berichten gecompliceerd.

Helemaal mee oneens   *Oneens*   *Neutraal*   *Mee eens*   *Helemaal mee eens*

1   *2*   *3*   *4*   *5*

11) De berichten zouden mentaal veel van me vragen.

Helemaal mee oneens	Oneens	Neutraal	Mee eens	Helemaal mee eens
1	2	3	4	5

12) De berichten vereisen veel denkwerk en probleemoplossing.

Helemaal mee oneens	Oneens	Neutraal	Mee eens	Helemaal mee eens
1	2	3	4	5

13) Ik vind de berichten uitdagend.

Helemaal mee oneens	Oneens	Neutraal	Mee eens	Helemaal mee eens
1	2	3	4	5

Lees bericht 19 tot en met 25 nogmaals en beantwoord onderstaande vragen. Omcirkel het antwoord dat het dichtst bij je eigen mening ligt.

14) Ik vind de berichten gecompliceerd.

Helemaal mee oneens	Oneens	Neutraal	Mee eens	Helemaal mee eens
1	2	3	4	5

15) De berichten zouden mentaal veel van me vragen.

Helemaal mee oneens	Oneens	Neutraal	Mee eens	Helemaal mee eens
1	2	3	4	5

16) De berichten vereisen veel denkwerk en probleemoplossing.

Helemaal mee oneens	Oneens	Neutraal	Mee eens	Helemaal mee eens
1	2	3	4	5

17) Ik vind de berichten uitdagend.

Helemaal mee oneens	Oneens	Neutraal	Mee eens	Helemaal mee eens
1	2	3	4	5

Algemeen

18) Wanneer ik tijdens een taak van 45 minuten om de 7 minuten gestoord word, vind ik dat veel.

Helemaal mee oneens	*Oneens*	*Neutraal*	*Mee eens*	*Helemaal mee eens*
1	*2*	*3*	*4*	*5*

19) Wanneer ik tijdens een taak van 45 minuten twee keer gestoord word, vind ik dat veel.

Helemaal mee oneens	*Oneens*	*Neutraal*	*Mee eens*	*Helemaal mee eens*
1	*2*	*3*	*4*	*5*

Appendix 2: Scenario pre-test

Scenario voor de participant

Je bent administratief medewerker bij Hotel Twente. Hotel Twente is een middelgroot hotel met zeven verschillende afdelingen. Jij bent verantwoordelijk voor alle administratieve zaken van dit hotel. Jij richt je hierbij voornamelijk op het personeel van Hotel Twente. Jouw taken bestaan onder andere uit de urenregistratie van het personeel en het opstellen van de werkroosters. Jouw manager heeft gevraagd een werkrooster op te stellen voor 21 t/m 27 december voor de <u>avondbediening</u>. De kerstvakantie valt in deze periode en is altijd erg druk. Het liefst stuur je het rooster zo snel mogelijk naar de medewerkers.

Let bij het opstellen van het werkrooster op de volgende punten:

- De capaciteit die nodig is ten tijde van vakanties en feestdagen.
- Het aantal te werken uren per medewerker. Zij dienen de aangegeven aantal uren te maken. Het maken van overuren moet vermeden worden, in verband met de extra kosten die dit meebrengt voor het hotel.
- Stagiaires mogen nooit alleen op de vloer staan. Zij dienen altijd begeleid te worden door een parttime - of fulltime medewerker.
- Stagiaires vallen bij het maken van de roosters onder de parttimers. Zij maken wel fulltime uren per week, maar zijn niet in staat een dienst alleen te draaien.
- Medewerkers kunnen maar maximaal één shift per dag worden ingepland. Er zijn twee avondshifts (van 14.00-22.30 en 16.30-01.00). Deze shifts bestaan uit 8 werkuren en een pauze van een half uur.
- Wanneer mensen aangegeven hebben niet te kunnen werken, mogen ze ook niet ingepland worden.
- Tijdens deze drukke periode werkt de manager ook gewoon fulltime mee als medewerker bediening.
- Er hoeft door jou geen rekening gehouden te worden met ziekte wanneer je het rooster maakt. Mocht er onverwachts iemand ziek worden, dan wordt dit door het team op de dag zelf opgelost.

Appendix 3: Messages used in the main study

1) Hallo [….],

   Voor het invullen van enkele belangrijke documenten heeft Rick de Groott het personeelsnummer van Lida van Doorn nodig (manager restaurant). Kun jij deze z.s.m. voor me opzoeken?

2) Hoi […],

   Even snel een vraag tussendoor. Ik moet de datum doorgeven voor ons personeelsfeest, zodat deze geblokt kan worden in de agenda's van onze collega's. Kun jij kijken op welke datum Goede Vrijdag in 2016 valt? Er is haast bij.

3) Hallo […],

   Ik moet weten hoeveel medewerkers technische dienst we in totaal hebben (exclusief stagiairs). Kun je dit voor me nakijken? Het is dringend!

4) Beste […],

   Kun jij me het personeelsnummer van Koen Hulsman (manager events) geven? Heb hem meteen nodig voor een belangrijke klant.

5) Hallo […],

   Belangrijk! Ik ben zojuist gebeld voor een reservering van een groep van 20 personen op 3 februari 2016. Kun jij in de evenementenplanning kijken of er dan een evenement staat? Ik heb gezegd binnen 10 minuten terug te bellen, dus wil je z.s.m. reageren? Deze groep mogen we niet laten lopen.

6) Hoi […],

   Kun jij me de naam van de stagiair keuken geven? Ik heb deze naam onmiddellijk nodig voor het compleet maken van zijn stagebeoordeling. Ik wacht op je antwoord!

7) Hallo [….],

   Voor het invullen van enkele documenten heeft Rick de Groott het personeelsnummer van Lida van Doorn nodig (manager restaurant). Kun jij deze voor me opzoeken?

8) Hoi […],

Het duurt nog even, maar ik ben bezig met het prikken van een datum voor ons personeelsfeest, zodat deze geblokt kan worden in onze agenda's. Kun jij voor me uitzoeken op welke datum Goede Vrijdag in 2016 valt?

9) Hallo […],

Kun jij me zeggen hoeveel medewerkers technische dienst in totaal heeft (exclusief stagiairs)?

10) Beste […],

Kun jij me het personeelsnummer van Koen Hulsman (manager events) geven?

11) Hallo […],

Ik ben zojuist gebeld voor een reservering van een groep van 20 personen op 3 februari 2016. Staat er dan een evenement in de evenementenplanning?

12) Hoi […],

Kun jij me de naam van de stagiair keuken geven? Ik heb deze naam nodig voor het compleet maken van zijn stagebeoordeling.

13) Beste [….],

Ik heb vanmorgen een telefoontje ontvangen van Sophie Laarveld. Ze is aanstaande zaterdag ingepland met Wim Bruijninks, maar kan dan niet werken. Kun jij kijken hoeveel parttime en fulltime medewerkers wij normaal gesproken op zaterdag vanaf 17.00 inplannen? En wie zou haar dienst kunnen overnemen?

14) Hallo […],

Sinds ongeveer een jaar werken we met de nieuwe arbeidsvoorwaarden voor de horeca. Het KHN Arbeidsvoorwaardenreglement heb ik gevonden op http://www.khn.nl/thema-arbeidsvoorwaarden. Ik heb een vraag ontvangen van één van onze stagiaires over de compensatie tijdens de kerstdagen. Job Pieters is in dienst sinds 1-8-2015 als stagiair bediening. Als hij tijdens de kerstdagen werkt, welke compensatie ontvangt hij dan? Zou je dit voor mij in het reglement willen opzoeken?

15) Beste […],

Ik ben zojuist gebeld door de Immigratie- en Naturalisatiedienst. Zij controleren sporadisch de verblijfsvergunningen van onze werknemers. Nu beweren zij dat de Kroatische Beata Vida een gecombineerde vergunning voor verblijf en arbeid (GVVA) aan moet vragen. Ik dacht altijd dat dit voor medewerkers van Kroatische afkomst niet gold. Kun jij dit voor mij nakijken op de website van de rijksoverheid?

https://www.rijksoverheid.nl/onderwerpen/nieuw-in-nederland/inhoud

16) Beste […],

Ik heb een vraag ontvangen van onze afstudeerder die bezig is met zijn onderzoek vanuit de Hogere Hotelschool. Hij doet onderzoek naar de effectiviteit van onze marketingcampagnes in de regio Twente. Hij wil hierbij met name kijken naar de naamsbekendheid en het imago van ons hotel. Is er al eerder een marketingonderzoek naar gedaan? Zo ja, kun je me hiervan in maximaal 5 zinnen de resultaten geven? Deze kan hij dan gebruiken voor zijn theoretisch kader.

17) Hallo […],

Voor de presentatiedag morgen hebben wij nog enkele presentjes nodig voor de bezoekers. Zij ontvangen altijd een fles wijn van ons. In totaal komen er 24 mannen en 18 vrouwen. Kun jij in de voorraadlijst kijken wat er nog zou moeten liggen? Ik geloof dat in deze lijst de wijnen op merk zijn gesorteerd. Kun jij me het aantal flessen rode wijn en het aantal flessen witte wijn geven?

18) Hallo […],

Ik ben bezig met het opstellen van een persbericht voor de Tubantia. Het gaat over de wijnproeverijen die wij aanbieden. Zou jij onderstaand stukje tekst voor mij willen controleren op spelfouten? Het gaat maar om een paar zinnen, maar fouten kunnen we ons niet permitteren.

"Tijdens onze wijnproeverij nemen we onze gasten mee op ontdekkingsreis naar de geuren en smaken van de regio Twente. We bezoeken plekken waar onze eigen wijnen worden geproduceert en waar de druiven volop in bloei staan. Vergezeld u ons ook tijdens deze tocht?"

19) Beste [….],

Ik heb vanmorgen een telefoontje ontvangen van Sophie Laarveld. Ze kan zaterdag niet werken. Kun jij me de namen van de fulltime medewerkers bediening geven? Dan zal ik even bellen of één van hen Sophie kan vervangen.

20) Hallo […],

Kun je mij zeggen of in de map Arbeidsvoorwaarden de arbeidsvoorwaarden van KHN staan?

21) Beste […],

Ik ben zojuist gebeld door de Immigratie- en Naturalisatiedienst. Zij controleren sporadisch de verblijfsvergunningen van onze werknemers. Kun jij in de medewerkerslijst kijken of Beata Vida (housekeeping) een geldige verblijfsvergunning heeft?

22) Beste […],

We hebben een vraag ontvangen van een studente die bij ons wil afstuderen. Zij is in het kader van haar studie aan de Hogere Hotelschool op zoek naar een opdracht in een hotel. Hebben wij een afstudeeropdracht openstaan op het gebied van wijnen? Ik hoor graag van je.

23) Hallo […],

Voor de presentatiedag van volgende week hebben wij nog enkele presentjes nodig voor de bezoekers. Kun jij in de voorraadlijst kijken naar de merken rode wijn die wij gebruiken. Wil je me één van deze merken doorgeven? Dan kan ik hiervan wat flessen bijbestellen.

24) Hallo […],

Ik ben bezig met het opstellen van een persbericht voor de Tubantia. Kun je mij het telefoonnummer van Roelof Hermans geven? Als het goed is staat deze in de lijst met externe contactgegevens.

Appendix 4: Instructions of the researcher

The researcher followed the mentioned steps and gave the following instructions:

1) The purpose of the experiment was explained first. The main purpose of the experiment was not clearly mentioned to prevent that the participants adapted their behavior and behave in a different way than they would normally do. The mentioned purpose of the study was 'to get an insight into the messaging behavior in the workplace between colleagues'.

2) The researcher gave a short description of the experiment and a time indication. The maximum time that participants could spend on the task was 45 minutes.

3) The role of the participants and the company they work for was explained. Also the task was shortly explained to the participants. The participants received several files with information that they needed to complete the task. The researcher explained that the task should be executed as well as possible. It was not about completing the task as soon as possible.

4) The researcher explained that the participants could receive messages from a colleague. They had to answer these messages as if it was their actual day job. This means that they could choose to answer the message immediately or that the message can wait. They had to gauge the situation. They could use the keyboard to answer the questions. For the received messages, it could be that the participants had to use the internet or other files that were saved on the computer.

5) The researcher gave the scenario with more details and the printed files the participants needed to complete the task to the participants and left the room.

6) After finishing the task, the participants completed an online questionnaire about the experiment.

Appendix 5: Material for task execution

Materials to complete the task

Scenario voor de participant

Je bent administratief medewerker bij Hotel Twente. Hotel Twente is een middelgroot hotel met zeven verschillende afdelingen. Jij bent verantwoordelijk voor alle administratieve zaken van dit hotel. Jij richt je hierbij voornamelijk op het personeel van Hotel Twente. Jouw taken bestaan onder andere uit de urenregistratie van het personeel en het opstellen van de werkroosters. Jouw manager, Patricia Damen, heeft gevraagd een werkrooster op te stellen voor 21 t/m 27 december voor de <u>avondbediening</u>. De kerstvakantie valt in deze periode en is altijd erg druk. Het liefst stuur je het rooster zo snel mogelijk naar de medewerkers. Patricia Damen is jouw manager en heeft jouw hulp regelmatig nodig omdat zij zelf erg druk is. Jij hebt ook toegang tot veel mappen waar Patricia zelf niet in kan.

Let bij het opstellen van het werkrooster op de volgende punten:

- De capaciteit die nodig is ten tijde van vakanties en feestdagen.
- Het aantal te werken uren per medewerker. Zij dienen de aangegeven aantal uren te maken. Het maken van overuren moet vermeden worden, in verband met de extra kosten die dit meebrengt voor het hotel.
- Stagiaires mogen nooit alleen op de vloer staan. Zij dienen altijd begeleid te worden door een parttime - of fulltime medewerker.
- Stagiaires vallen bij het maken van de roosters onder de parttimers. Zij maken wel fulltime uren per week, maar zijn niet in staat een dienst alleen te draaien.
- Medewerkers kunnen maximaal één shift per dag worden ingepland. Er zijn twee avondshifts: 14.00-22.30 en 16.30-01.00. Deze shifts bestaan uit 8 werkuren en een pauze van een half uur.
- Wanneer mensen aangegeven hebben niet te kunnen werken, mogen ze ook niet ingepland worden.
- Tijdens deze drukke periode werkt de manager ook gewoon fulltime mee als medewerker bediening.
- Er hoeft door jou geen rekening gehouden te worden met ziekte wanneer je het rooster maakt. Mocht er onverwachts iemand ziek worden, dan wordt dit door het team op de dag zelf opgelost.

Beschikbaarheid december avondbediening

Datum
december/januari

Voornaam	Achternaam	24	25	26	27	28	29	30	31	1	2	3	4	5
Lida	Van Doorn	B	B	B	N	B	B	N	B	B	B	N	B	N
Rick	de Groott	N	B	B	N	B	B	B	N	B	B	B	B	B
Mera	Bijster	B	B	B	B	B	B	B	N	N	B	B	B	N
Sophie	Laarveld	B	B	B	N	N	B	B	B	B	B	B	B	B
Wim	Bruijninks	B	N	N	B	N	B	B	B	B	B	B	B	N
Vera	van Dam	B	N	B	B	B	B	N	B	B	B	B	N	B
Anja	Meeuws	B	B	B	B	B	B	B	B	B	B	B	B	B
Karin	Dijkstra	B	B	B	N	B	B	B	N	B	B	B	B	B
Martijn	Veenstra	B	B	N	N	B	N	B	B	B	B	B	B	N
Jasper	Weerdink	B	N	N	B	B	B	N	N	B	B	N	B	B
Job	Pieters	N	B	B	N	B	B	B	B	B	B	N	B	N
Marije	Graafs	B	B	N	B	B	B	N	B	B	N	B	B	B

(B = Beschikbaar, N = Niet beschikbaar)

Beschikbaar

Niet beschikbaar

Capaciteitsindicatie bediening

Dit aantal medewerkers staat standaard ingepland op het rooster. Er wordt hierbij onderscheid gemaakt tussen normale werkweken en werkweken die in de vakantie of tijdens feestdagen vallen. In de vakantie en op feestdagen is het over het algemeen drukker in het hotel. Onderling ruilen door de medewerkers in niet toegestaan.

Normale week, van 0 tot 70 gereserveerde gasten

Ontbijt

Shifts	**Maandag**	**Dinsdag**	**Woensdag**	**Donderdag**	**Vrijdag**	**Zaterdag**	**Zondag**
5.00-13.00					1 fulltime, 1 parttime	1 fulltime, 2 parttime	3 parttime
6.30-14.30	1 fulltime	1 fulltime	1 parttime	2 parttime			

Avonddienst

Shifts	**Maandag**	**Dinsdag**	**Woensdag**	**Donderdag**	**Vrijdag**	**Zaterdag**	**Zondag**
14.30-22.30	2 parttime	2 parttime	1 fulltime	1 fulltime	2 parttime	2 parttime	2 parttime
17.00-01.00	2 fulltime	1 fulltime 1 parttime	1 fulltime 2 parttime	2 fulltime 1 parttime	2 fulltime 2 parttime	2 fulltime, 2 parttime	2 fulltime, 1 parttime

Meer dan 70 gereserveerde gasten, vakanties en feestdagen

Ontbijt

Shifts	**Maandag**	**Dinsdag**	**Woensdag**	**Donderdag**	**Vrijdag**	**Zaterdag**	**Zondag**
5.00-13.00	1 fulltime	1 fulltime	1 fulltime	1 fulltime	2 fulltime, 2 parttime	2 fulltime, 2 parttime	1 fulltime 3 parttime
6.30-14.30	1 fulltime	1 fulltime	1 fulltime	1 fulltime 2 parttime	2 parttime	2 parttime	1 parttime

Avonddienst

Shifts	**Maandag**	**Dinsdag**	**Woensdag**	**Donderdag**	**Vrijdag**	**Zaterdag**	**Zondag**
14.00-22.30	1 fulltime 2 parttime	1 fulltime 2 parttime	2 fulltime 1 parttime	2 fulltime 1 parttime	2 fulltime	1 fulltime 2 parttime	2 fulltime 1 parttime
16.30-01.00	2 fulltime 1 parttime	2 fulltime 1 parttime	2 fulltime, 1 parttime	2 fulltime 1 parttime	2 fulltime, 2 parttime	3 fulltime, 1 parttime	2 fulltime

Medewerkers bediening Hotel Twente

	Personeelsnummer	Voornaam	Achternaam	Functie	Aantal uren per week
1	LDO03	Lida	van Doorn	Manager restaurant (fulltime)	40
2	RGR05	Rick	de Groott	Assistent manager restaurant (fulltime)	32
3	MBI04	Mera	Bijster	Fulltime medewerker bediening	40
4	SLA11	Sophie	Laarveld	Fulltime medewerker bediening	32
5	WBR08	Wim	Bruijninks	Fulltime medewerker bediening	32
6	VDA12	Vera	van Dam	Fulltime medewerker bediening	32
7	AME14	Anja	Meeuws	Parttime medewerker bediening	16
8	KDI15	Karin	Dijkstra	Parttime medewerker bediening	16
9	MVE07	Martijn	Veenstra	Parttime medewerker bediening	8
10	JWE05	Jasper	Weerdink	Parttime medewerker bediening	16
11	JPI01	Job	Pieters	Stagiair bediening	40
12	MGR01	Marije	Graafs	Stagiair bediening	32

Vervolgtaak - opstellen in Word

Na het compleet maken van het rooster voor de medewerkers van de avondbediening heeft jouw manager je gevraagd om een vacature uit te schrijven voor een stagiair. Het gaat om een stagiair voor de receptie die vanaf 1 maart 2016 een half jaar jullie team komt versterken. Zorg voor een duidelijke tekst waarin naar voren komt wat de functie inhoudt en wie er voor de functie gezocht wordt. Zorg ook dat de tekst aansprekend is en aansluit bij de doelgroep.

1) Begin met een korte functieomschrijving met daarbij ten minste 5 verschillende taken die de stagiair uit gaat voeren. Hierbij kun je denken aan taken als het ontvangen van gasten en het invoeren van gegevens van de gasten.

2) Beschrijf het profiel van de stagiair. Welke eigenschappen en vaardigheden moet een stagiair die de receptie in een hotel gaat bezetten volgens jou bezitten? Omschrijf er 5.

3) Voeg ten slotte nog de volgende zaken toe:

   - Het brutoloon bedraagt 400 euro per maand.
   - Het gaat om een stage van 40 uur per week, met hierbij wisselende werktijden.
   - De vacature staat open voor zowel mannen als vrouwen, in de leeftijdscategorie van 17-24 jaar.
   - Solliciteren kan tot uiterlijk 5 februari 2016.

Schrijf een tekst van minstens 300 woorden en maximaal 600 woorden.

Sla de vacaturetekst op in de map Hotel Twente → Taak → Vacaturetekst

Appendix 6: Back- and forward translations

Original scales in English

General questions about the experiment – set up by the researcher

1)The scenario that I received was clear.

2) I was able to complete the whole task.

3) I had enough time to complete the task.

4)The task was too difficult for me.

5)It was clear what was asked from me in the messages.

6)The questions I had to answer were difficult.

7)I had the feeling of being interrupted when receiving the message.

Response expectations – Adapted scales of Day et al. (2012) [pre-test]

8)I would have the feeling to answer the messages quickly.

9)I would have the feeling to answer the messages immediately.

Response expectations – Adapted of Day et al. (2012) [main experiment]

8)I was expected to answer the messages immediately.

Interruption complexity – Adapted scales of Gupta et al. (2013)

10)I found the messages complex.

11)The messages were mentally demanding.

12)The messages required a lot of thought and problem solving.

13)I found this to be challenging messages.

Interruption frequency – Coraggio (1990)

14) About how many times were you interrupted by trivial questions? About …. Times.

15) The interruption frequency was high.

Workplace telepressure – Barber & Santuzzi (2014)

16) I was concerned about keeping fast response times.

17) I often thought about how I need to respond more quickly.

18) It was hard for me to focus on other things when I received a message.

19) I could concentrate better on the task once I've responded to my messages.

20) I couldn't stop thinking about a message until I had responded.

21) I felt a strong need to respond immediately.

22) I had an overwhelming feeling to respond right at that moment when I received a request from someone.

23) It was difficult for me to resist responding to a message right away.

Negative emotions – Hart & Staveland (1988)

24) I felt insecure during the task.

25) I felt discouraged during the task.

26) I felt irritated during the task.

27) I felt annoyed during the task.

28) I felt anxious during the task.

29) I felt worried during the task.

30) I felt uptight during the task.

31) I felt harassed during the task.

Task motivation – Gupta et al. (2013)

32) I was motivated to perform well on this task.

33) This task was interesting to me.

34) I put a lot of effort into coming up with the best possible solution.

Translated items from English to Dutch.

<u>*Person 1*</u>

1) Het scenario dat ik ontving was duidelijk.

2) Ik was in staat om de hele taak af te maken.

3) Ik had genoeg tijd om de taak af te maken..

4) De taak was te moeilijk voor mij.

5) Het was duidelijk wat er van me werd gevraagd in de berichten.

6) De vragen die ik moest beantwoorden waren moeilijk.

7) Ik had het gevoel onderbroken te worden toen ik de berichten ontving.

Response expectations – [pre-test]

8) Ik zou het gevoel hebben dat ik de berichten snel moest antwoorden.

9) Ik zou het gevoel hebben dat ik de berichten onmiddellijk moest antwoorden.

Response expectations – [main experiment]

8) Er werd van me verwacht dat ik de berichten onmiddellijk antwoordde.

Interruption complexity

10) Ik vond de berichten complex.

11) De berichten vroegen mentaal veel van me.

12) De berichten vroegen om veel denkwerk en probleemoplossing.

13) Ik vond de berichten uitdagend.

Interruption frequency

14) Hoe vaak werd je onderbroken door vragen? Ongeveer … keer.

15) De frequentie van onderbrekingen was hoog.

Workplace telepressure

16) Ik maakte me zorgen over het behouden van snelle reactietijden.

17) Ik dacht vaak aan hoe ik sneller moest reageren.

18) Het was moeilijk voor me om me op andere dingen te focussen toen ik een bericht ontving.

19) Ik kon me beter op de taak concentreren wanneer ik op mijn berichten had gereageerd.

20) Ik kon niet stoppen met denken aan een bericht totdat ik had gereageerd.

21) Ik voelde een sterke behoefte om onmiddellijk te antwoorden.

22) Ik had een overweldigend gevoel om te antwoorden op het moment dat ik een verzoek van iemand ontving.

23) Het was moeilijk voor me om niet meteen op een bericht te reageren.

Negative emotions

24) Ik voelde me onzeker tijdens de taak.

25) Ik voelde me ontmoedigd tijdens de taak.

26) Ik voelde me geïrriteerd tijdens de taak.

27) Ik voelde me geërgerd tijdens de taak.

28) Ik voelde me angstig tijdens de taak.

29) Ik maakte me zorgen tijdens de taak.

30) Ik voelde me gespannen tijdens de taak.

31) Ik voelde me lastiggevallen tijdens de taak.

Task motivation

32) Ik was gemotiveerd om de taak goed uit te voeren.

33) Ik vond de taak interessant.

34) Ik heb veel energie gestoken om met de best mogelijke oplossing te komen.

Het scenario dat ik ontving was duidelijk.

2) Ik was er toe in staat om de hele taak af te ronden.

3) Ik had genoeg tijd om de taak af te ronden.

4) De taak was te moeilijk voor mij.

5) Het was duidelijk wat er van me werd gevraagd in de berichten.

6) De vragen die ik moest beantwoorden waren moeilijk.

7) Ik had het gevoel onderbroken te worden toen ik de berichten ontving.

Response expectations – [pre-test]

8) Ik zou het gevoel hebben dat ik de berichten snel moest beantwoorden.

9) Ik zou het gevoel hebben dat ik de berichten onmiddellijk moest beantwoorden.

Response expectations – [main experiment]

8) Er werd van me verwacht dat ik de berichten onmiddellijk beantwoordde.

Interruption complexity

10) Ik vond de berichten gecompliceerd.

11) De berichten vroegen mentaal veel van me.

12) De berichten vereisten veel denkwerk en probleemoplossing.

13) Ik vond de berichten uitdagend.

Interruption frequency

14) Hoe vaak werd je ongeveer onderbroken door onbelangrijke/onbeduidende vragen?

Ongeveer … keer (Coraggio, 1990).

15) De frequentie van onderbrekingen lag hoog.

Workplace telepressure

16) Ik maakte me druk over het (be)houden van snelle responstijden.

17) Ik dacht vaak aan dat ik sneller moest reageren.

18) Ik vond het lastig om me te concentreren op andere dingen als ik een berichtje ontving.

19) Ik kon me beter om mijn taak concentreren zodra ik mijn berichten beantwoord had.

20) Tot het moment dat ik had gereageerd kon ik niet stoppen met nadenken over een bericht.

21) Ik voelde een sterke behoefte om meteen te reageren.

22) Als ik een verzoek van iemand kreeg had ik een overweldigend gevoel om meteen te reageren.

23) Het was moeilijk te weerstaan om niet meteen op een bericht te reageren.

Negative emotions

24) Ik voelde me onzeker gedurende de taak.

25) Ik voelde me ontmoedigd gedurende de taak.

26) Ik voelde me geïrriteerd gedurende de taak.

27) Ik was geërgerd gedurende de taak.

28) Ik voelde me angstig gedurende de taak.

29) Ik maakte me zorgen gedurende de taak.

30) Ik voelde me gespannen gedurende de taak.

31) Ik voelde me lastiggevallen gedurende de taak.

Task motivation

32) Ik was gemotiveerd om deze taak goed uit te voeren.

33) Ik vond deze taak interessant.

34) Ik heb erg mijn best gedaan om de best mogelijke oplossing te vinden.

Translation from Dutch items to English by one independent person

1) The instruction (script) I received was understandable.

2) I was able to complete the entire task.

3) I had enough time to complete the task.

4) The task was too hard for me.

5) It was clear to me what had been asked of me from the messages.

6) The questions I had to answer were difficult .

7) I had the feeling that I had been interrupted when I received the message.

Response expectations - pretest

8) I had the feeling that I had been rushed to answer the messages.

9) I had the feeling that I had to immediately respond to the messages.

Response expectations – main experiment

8) I was expected to respond to the messages immediately.

Interruption complexity

10) I thought the messages were complicated.

11) The messages asked a lot of my mental capacity.

12) The messages required a lot of thinking and problem solving.

13) I thought the messages were challenging.

Interruption frequency

14) How often did you get interrupted by questions? About how many?

15) The frequency of interruptions was high.

Workplace telepressure

16) I was worried about reacting quickly enough.

17) I often thought that I needed to react quicker.

18) I thought it was difficult to focus on other things when I received a message.

19) I was better able to focus on the task after I had answered my messages.

20) I couldn't stop thinking about the message until I had responded.

21) I felt a strong need to immediately respond.

22) Whenever I received a message, I had the overwhelming feeling to respond right away.

23) It was difficult to resist to not immediately respond to a message.

Negative emotions

24) I felt insecure during this task.

25) I felt discouraged during this task.

26) I was irritated during this task.

27) I was annoyed during this task.

28) I felt afraid during this task.

29) I was worried during this task.

30) I felt tense during this task.

31) I felt burdened during this task.

Task motivation

32) I was motivated to do my best to complete this task.

33) I thought this task was interesting.

34) I did my very best to find the best possible solution.

Scales used in the pre-test and the main experiment

When comparing the translated English items and the original items in English, several differences were found. The translation was generally taking the same as the original scales, only different word choices were made.

After comparing the Dutch translations, the researcher used the following scales:

Pre-test

In the pre-test, not all the above mentioned scales were used, because it was only tested if the messages were manipulated correctly.

Algemeen

1) Het scenario dat ik ontving was duidelijk.

2) Het is duidelijk wat er van me gevraagd wordt in de berichten.

Response expectations

3) Na het lezen van de berichten, zou ik het gevoel hebben dat ik snel moet antwoorden.

4) Na het lezen van de berichten, zou ik het gevoel hebben dat ik onmiddellijk moet antwoorden.

Interruption complexity

5) Ik vind de berichten gecompliceerd.

6) De berichten zouden mentaal veel van me vragen.

7) De berichten vereisen veel denkwerk en probleemoplossing.

8) Ik vind de berichten uitdagend.

Interruption frequency

9) Wanneer ik tijdens een taak van 45 minuten om de 6 minuten gestoord word, vind ik dat veel.

10) Wanneer ik tijdens een taak van 45 minuten twee keer gestoord word, vind ik dat veel.

Experiment

Algemeen

1) Het scenario dat ik ontving was duidelijk.

2) Ik was in staat om de hele taak af te maken.

3) Ik had genoeg tijd om de taak af te maken.

4) De taak was te moeilijk voor mij.

5) Het was duidelijk wat er van me gevraagd werd in de berichten.

6) De vragen die ik moest beantwoorden waren moeilijk.

7) Ik had het gevoel onderbroken te worden toen ik de berichten ontving.

Response expectations

8) Er werd van me verwacht dat ik de berichten onmiddellijk beantwoordde.

Interruption complexity

10) Ik vond de berichten gecompliceerd.

11) De berichten vroegen mentaal veel van me.

12) De berichten vroegen om veel denkwerk en probleemoplossing.

Interruption frequency

13) De frequentie van onderbrekingen lag hoog.

Workplace telepressure

14) Ik maakte me zorgen over het behouden van snelle reactietijden.

15) Ik dacht er vaak aan hoe ik sneller moest reageren.

16) Ik vond het moeilijk om me op andere dingen te concentreren toen ik een bericht ontving.

17) Ik kon me beter om mijn taak concentreren zodra ik mijn berichten beantwoord had.

18) Totdat ik gereageerd had, kon ik niet stoppen met denken aan een bericht.

19) Ik voelde een sterke behoefte om direct te reageren.

20) Als ik een verzoek van iemand kreeg, had ik een overweldigend gevoel om meteen te reageren.

21) Het was moeilijk te weerstaan om niet meteen op een bericht te reageren.

Negative emotions

22) Ik voelde me onzeker tijdens de taak.

23) Ik voelde me ontmoedigd tijdens de taak.

24) Ik voelde me geïrriteerd tijdens de taak.

25) Ik was geërgerd tijdens de taak.

26) Ik voelde me angstig tijdens de taak.

27) Ik maakte me zorgen tijdens de taak.

28) Ik voelde me gespannen tijdens de taak.

29) Ik voelde me lastiggevallen tijdens de taak.

Task motivation

30) Ik was gemotiveerd om de taak goed uit te voeren.

31) Ik vond de taak interessant.

32) Ik heb erg mijn best gedaan om de best mogelijke oplossing te vinden.

Personal Need for Structure

A valid Dutch translation of the Personal Need for Structure scale already existed (Rietzschel et al., 2007). This scale is used in the experiment and no back- and forward translations were included.

33) Ik vind het vervelend als ik in een situatie terechtkom, waarvan ik niet weet wat me te wachten staat.

34) Het maakt me niet uit of mijn dagelijkse routine verstoord wordt.

35) Ik vind het prettig als mijn leven overzichtelijk en goed gestructureerd is.

36) Ik vind het fijn als dingen op hun vaste plek liggen.

37) Ik vind spontane acties leuk.

38) Een geordend en regelmatig leven vind ik saai.

39) Ik houd niet van onzekere situaties.

40) Ik heb er een hekel aan om op het laatste moment mijn plannen te veranderen.

41) Ik houd er niet van om met onvoorspelbare mensen om te gaan.

42) Het hebben van een aantal vaste gewoonten maakt mijn leven een stuk plezieriger.

43) Ik houd van de spanning die onvoorspelbare situaties met zich meebrengen.

44) Ik voel me ongemakkelijk als het niet duidelijk is wat voor regels er in een situatie gelden

Appendix 7: Survey study 1 and study 2

Response options ranged from 1 (totally disagree) to 5 (totally agree) on a 5-point Likert scale.

Study 1

Algemeen participant

1) Geslacht

2) Leeftijd

3) Opleidingsniveau

Algemeen experiment

4) Het scenario dat ik ontving was duidelijk.

5) Ik was in staat om de hele taak af te maken.

6) Ik had genoeg tijd om de taak af te maken.

7) De taak was te moeilijk voor mij.

8) Het was duidelijk wat er van me gevraagd werd in de berichten.

9) De vragen die ik moest beantwoorden waren moeilijk.

10) Ik had het gevoel onderbroken te worden toen ik de berichten ontving.

Response expectations

11) Er werd van me verwacht dat ik de berichten onmiddellijk beantwoordde.

Interruption frequency

12) De frequentie van onderbrekingen lag hoog.

Workplace telepressure

13) Ik maakte me zorgen over het behouden van snelle reactietijden.

14) Ik dacht er vaak aan hoe ik sneller moest reageren.

15) Ik vond het moeilijk om me op andere dingen te concentreren toen ik een bericht ontving.

16) Ik kon me beter op mijn taak concentreren zodra ik mijn berichten beantwoord had.

17) Totdat ik gereageerd had, kon ik niet stoppen met denken aan een bericht.

18) Ik voelde een sterke behoefte om direct te reageren.

19) Als ik een verzoek van iemand kreeg, had ik een overweldigend gevoel om meteen te reageren.

20) Het was moeilijk te weerstaan om niet meteen op een bericht te reageren.

Negative emotions

21) Ik voelde me onzeker tijdens de taak.

22) Ik voelde me ontmoedigd tijdens de taak.

23) Ik voelde me geïrriteerd tijdens de taak.

24) Ik was geërgerd tijdens de taak.

25) Ik voelde me angstig tijdens de taak.

26) Ik maakte me zorgen tijdens de taak.

27) Ik voelde me gespannen tijdens de taak.

28) Ik voelde me lastiggevallen tijdens de taak.

Task motivation

29) Ik vond de taak interessant.

30) Ik was gemotiveerd om de taak goed uit te voeren.

31) Ik heb erg mijn best gedaan om de best mogelijke oplossing te vinden.

Personal Need for Structure

32) Ik vind het vervelend als ik in een situatie terechtkom, waarvan ik niet weet wat me te wachten staat.

33) Het maakt me niet uit of mijn dagelijkse routine verstoord wordt.

34) Ik vind het prettig als mijn leven overzichtelijk en goed gestructureerd is.

35) Ik vind het fijn als dingen op hun vaste plek liggen.

36) Ik vind spontane acties leuk.

37) Een geordend en regelmatig leven vind ik saai.

38) Ik houd niet van onzekere situaties.

39) Ik heb er een hekel aan om op het laatste moment mijn plannen te veranderen.

40) Ik houd er niet van om met onvoorspelbare mensen om te gaan.

41) Het hebben van een aantal vaste gewoonten maakt mijn leven een stuk plezieriger.

42) Ik houd van de spanning die onvoorspelbare situaties met zich meebrengen.

43) Ik voel me ongemakkelijk als het niet duidelijk is wat voor regels er in een situatie gelden

44) Hoe realistisch was dit experiment met de daarbij behorende werk gerelateerde taak?

Helemaal niet realistisch   *Heel realistisch*

1   2   3   4   5   6   7   8   9   10

45) Heb je gereageerd op alle berichten die je tijdens de taak ontving?

→ Bij nee: Waarom niet?

Study 2

Algemeen participant

1) Geslacht

2) Leeftijd

3) Opleidingsniveau

Algemeen experiment

4) Het scenario dat ik ontving was duidelijk.

5) Ik was in staat om de hele taak af te maken.

6) Ik had genoeg tijd om de taak af te maken.

7) De taak was te moeilijk voor mij.

8) Het was duidelijk wat er van me gevraagd werd in de berichten.

9) De vragen die ik moest beantwoorden waren moeilijk.

10) Ik had het gevoel onderbroken te worden toen ik de berichten ontving.

Interruption complexity

11) Ik vond de berichten gecompliceerd.

12) De berichten vroegen mentaal veel van me.

13) De berichten vroegen om veel denkwerk en probleemoplossing.

Interruption frequency

14) De frequentie van onderbrekingen lag hoog.

Workplace telepressure

15) Ik maakte me zorgen over het behouden van snelle reactietijden.

16) Ik dacht er vaak aan hoe ik sneller moest reageren.

17) Ik vond het moeilijk om me op andere dingen te concentreren toen ik een bericht ontving.

18) Ik kon me beter op mijn taak concentreren zodra ik mijn berichten beantwoord had.

19) Totdat ik gereageerd had, kon ik niet stoppen met denken aan een bericht.

20) Ik voelde een sterke behoefte om direct te reageren.

21) Als ik een verzoek van iemand kreeg, had ik een overweldigend gevoel om meteen te reageren.

22) Het was moeilijk te weerstaan om niet meteen op een bericht te reageren.

Negative emotions

23) Ik voelde me onzeker tijdens de taak.

24) Ik voelde me ontmoedigd tijdens de taak.

25) Ik voelde me geïrriteerd tijdens de taak.

26) Ik was geërgerd tijdens de taak.

27) Ik voelde me angstig tijdens de taak.

28) Ik maakte me zorgen tijdens de taak.

29) Ik voelde me gespannen tijdens de taak.

30) Ik voelde me lastiggevallen tijdens de taak.

Task motivation

31) Ik vond de taak interessant.

32) Ik was gemotiveerd om de taak goed uit te voeren.

33) Ik heb erg mijn best gedaan om de best mogelijke oplossing te vinden.

Personal Need for Structure

34) Ik vind het vervelend als ik in een situatie terechtkom, waarvan ik niet weet wat me te wachten staat.

35) Het maakt me niet uit of mijn dagelijkse routine verstoord wordt.

36) Ik vind het prettig als mijn leven overzichtelijk en goed gestructureerd is.

37) Ik vind het fijn als dingen op hun vaste plek liggen.

38) Ik vind spontane acties leuk.

39) Een geordend en regelmatig leven vind ik saai.

40) Ik houd niet van onzekere situaties.

41) Ik heb er een hekel aan om op het laatste moment mijn plannen te veranderen.

42) Ik houd er niet van om met onvoorspelbare mensen om te gaan.

43) Het hebben van een aantal vaste gewoonten maakt mijn leven een stuk plezieriger.

44) Ik houd van de spanning die onvoorspelbare situaties met zich meebrengen.

45) Ik voel me ongemakkelijk als het niet duidelijk is wat voor regels er in een situatie gelden

46) Hoe realistisch was dit experiment met de daarbij behorende werk gerelateerde taak?

Helemaal niet realistisch   *Heel realistisch*

1   2   3   4   5   6   7   8   9   10

47) Heb je gereageerd op alle berichten die je tijdens de taak ontving?

→ Bij nee: Waarom niet?