# Employees motivation regulation when facing motivational problems and the role of managerial need-support.

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#### Abstract

Unenjoyable, or difficult activities in the workplace are not always avoidable. Such motivational problems seem to diminish one's own motivation and need satisfaction in work that results in individuals' efforts to maintain them and further accomplish their tasks. Two ways have been identified within the motivation literature: Motivation self-regulation, and managerial need-support. The present study examines whether motivation self-regulation influences motivation and need satisfaction when manager's support is considered as well; second, we investigate the use of both practices in response to distinct motivational problems, within a working adult sample (N = 70). Findings suggest that self-regulation may be more important in promoting employees' motivation, whereas managerial need-support seems to be more fruitful for enhancing low need satisfaction. Moreover, results show that different practices seem to be used by employees in response to boring, irrelevant, or difficult tasks they experience at work. Future implications for research and training interventions are discussed.

**Keywords**. motivational regulation strategies; need satisfaction; perceived autonomy support; perceived competence support; motivational problems.

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#### Introduction

Nowadays employees are experiencing unpleasant workplace events such as repetitive tasks, overwhelming duties, and bureaucratic practices in high-hierarchical organizations, collectively contributing to diminishing motivation (Loukidou, Clarke, & Daniels, 2004). Under these working conditions employees are likely to show lower satisfaction and motivation levels, make little or no effort in their jobs, avoid the workplace as much as possible, and produce low quality work (Cleary, Sayers, Lopez, & Hungerford, 2016). Hence, employees' feelings for flexibility and autonomy are disregarded while the loss of confidence in their competencies is amplified. Lack of motivation and low need satisfaction have been shown in many studies to be harmful to the employee's desirable performance and productivity (Steers, Mowday, & Shapiro, 2004) and to lead to absenteeism with high turnover rates (Malik, Ahmad, & Rehman, 2015). The damaging consequences are high costs in terms of low organizational effectiveness, and instability. Given that employees also need to accomplish the demotivating tasks, it is a challenge in the workplace to maintain their motivation.

In light of these prevalence and damaging consequences, two ways have been identified predominantly to target the loss of *motivation* and enhance *need satisfaction*, an individual and a contextual one. On the one hand, *motivation regulation* refers to one's own tendency to monitor, control, and regulate motivation (e.g., Boekaerts & Corno, 2005; Wolters, Benzon, & Arroyo-Giner, 2011). Specifically, motivation regulation is considered as one's purposeful approach to enhance the level of motivation, while engaging in uninteresting activities, and completing them successfully (Graham & Weiner, 1996; Pintrich & Schrauben, 1992). On the other hand,

*need-support by managers* concerns the managerial attempt to encourage employees' autonomy and competence through interpersonal orientation (Baard, Deci, & Ryan, 2004; Moreau & Mageau, 2012). Such supportive environments tend to have positive effects on employees' motivation and need satisfaction (Deci, Koestner, & Ryan, 2001).

#### **1.1. Purpose of the Study**

Despite a substantial body of research on the importance and influence of motivation and satisfaction in the workplace, there has been limited research done on practices used to increase employee motivation and their need satisfaction when dealing with uninteresting tasks.

Several studies indicate the significance of motivation regulation within student populations, emphasizing their deliberate attempts to anticipate motivational threats by using a set of strategies (Sansone et al., 1999; Wolters, 1999). However, research on whether employees actively intervene to improve their motivation when confronting such motivational barriers at work, is still limited.

Moreover, empirical studies have shown the positive effectiveness of managers' supportive style on motivation and need satisfaction, and further demonstrate the need for more supportive interventions. However, it has not been compared how managers' support shape motivation when employees' motivation regulation is considered too.

This study has two objectives. The first objective is to examine the role of the approaches taken to enhance employee motivation and need satisfaction in light of demotivating work-related tasks: Their own motivational regulation attempts or the supportive managerial style as conveying feelings of autonomy and competence support. More specifically, this study attempts to give an answer to whether managers' support outperforms the benefits of own motivation regulation and vice-versa.

The second objective is to identify whether managers' support or motivation regulation, as approaches, are applied appropriately and in consideration to the distinctiveness of each motivational problem at work.

The present study contributes to the existing research but also gives further insight to unexplored matters by investigating ways employee motivation can be further influenced through individual and contextual practices. Hence, this investigation aims to highlight the importance of the motivation regulation construct in the work domain, but also further build on the managerial support framework.

Finally, the study aims to inspire Human Resources practitioners and Educational scientists to cultivate work environments of encouragement for employees and managers to reflect upon and address the causes of demotivation and low need satisfaction by activating their self-regulatory and supportive abilities.

#### **1.2. Literature Review**

#### **1.2.1.** Motivation for work.

Self-determination theory (SDT) as a macro theory of human *motivation* suggests that both employees' performance and well-being are impacted by the type of motivation they have for their job (Deci & Ryan, 1985a; Ryan & Deci, 2017). SDT proposes two types of motivation that stress the reason behind actions and result functionally in different consequences (Deci & Ryan, 1985; 1991).

*Intrinsic motivation* refers to behaviors that are experienced as deriving from the self rather than from external sources aiming at inherent excitement (deCharms, 1968; Ryan & Deci, 2000). Research findings indicate that intrinsic motivation correlates with proactive engagement in work (Gagné & Deci 2005) and high levels of psychological health (Baard et al., 2004; Deci et al., 2001). In the ideal workplace, intrinsically motivated employees, tend to show high-quality performance, and have fully embraced the work's value and its accompanying procedures and rules.

*Extrinsic motivation* is defined as doing an activity for instrumental reasons that can vary, depending on how internalized the motivation is. SDT has differentiated *extrinsic motivation* into various forms, each of which is recognizable in the workplace (Ryan & Connell, 1989). *External regulation* lies at the lowest end of the extrinsic-motivation continuum. Accordingly, individuals perceive their behavior as being directly controlled by others, often through rewards and threats. Another form of extrinsic motivation is *introjected regulation*, which is self-controlled, and in which processes such as avoiding guilt, and proving one self's status, take place (Nicholls, 1984; Ryan, 1982). A different type is *identified regulation*, in which individuals have personally identified with the value of their work behaviors (Deci, Ryan, and Williams, 1996). Because they have accepted as their own the rationale for acting, they are more flexible in manipulating their activities.

Each of the four types implicate diverse consequences on employee behavior and it is therefore assumed that self-regulation or managerial need support will boost those to a different extent.

#### 1.2.2. Motivational problems.

Employees perform daily a variety of work-related activities, some of which are quite interesting, while others are less so, hence monotonous. Therefore, employees often face several motivational problems that result in lower motivation, low job satisfaction, and deteriorated work performance (Loukidou, et al., 2004).

Repetition, limited opportunities, and restrictive practices indicate a lack of options and serve to limit the use of employees' initiative or creativity. Research suggest that such situations give rise to errors, adverse patient events, and decreased productivity - costly and unnecessary outcomes for employees, and organizations alike (Cleary et al., 2016). For example, experiencing a *boring* task entails employees' disengagement from their work role that lacks satisfying activities (Eastwood, Frischen, Fenske, & Smilek, 2012), and disuse of their capabilities (Harju & Hakanen, 2016). Hence, attentional difficulties, unpleasant passiveness, a disinclination to action emanated (Reijseger et al., 2013; Fischer, 1993). Experiencing irrelevant tasks that do not meet the different needs of employees can prevent individuals from accomplishing them, given that their value is insufficiently estimated (Eccles et al., 1983; Wigfield & Eccles, 1992). Coping with *difficult* tasks in the workplace is not uncommon, too. Employees are overchallenged when they encounter a task that demands a considerable amount of cognitive or physical effort or, knowledge beyond their current capabilities (Van Velsor & McCauley, 2004; Wigfield & Eccles, 2000). For these reasons, their motivation gets easily declined (Wolters, 1998).

Studies showed that individuals, in order to tackle such situations, tend to examine the quality of the motivational problem they face after detecting a low level of their motivation and deciding to regulate it (Schwinger & Stiensmeier-Pelster, 2012). For example, findings revealed that students were more likely to report a specific type of strategy in response to material described as irrelevant than when material was uninteresting (Wolters, 1998). These results further support the view that self-regulated individuals adapt or modify their strategy use to fit such situational demands.

Further research providing specific understanding of the different motivational problems, employees encounter would be an important step toward understanding their regulation of motivation. Accordingly, this study aims to investigate motivational problems as experienced in the workplace, by means of newly developed scenarios, and shed light on whether employees' attempts to enhance their motivation are in response to the dealing motivational problem; a matter that is still unaddressed.

#### 1.2.3. Motivational regulation.

The theoretical assumptions and perspectives concerning motivational regulation are mainly articulated in the empirical studies issued by Wolters (Wolters, 1998; 2003). Motivation regulation is characterized as the individual's choice to change the current motivational state (Pintrich & Schrauben, 1992). It seems that most people have a large arsenal of motivational regulation strategies that they readily deploy to accomplish unenjoyable tasks.

In recent years, scientific works have established a convincing taxonomy of motivational regulation strategies (Schwinger, 2009; Wolters, 1998, 1999). First, *interest enhancement strategy* refers to individuals' work to enhance their motivation, effort or time spent on uninteresting tasks, by making them more enjoyable (Sansone et al., 1992). Second, *enhancement of personal significance* highlights assembling relations between the task and the person's individual interests and preferences (Leutner, Barthel, & Schreiber, 2001). *Mastery self-talk* refers to individual's engagement in thoughts or subvocal statements emphasizing reasons to complete an activity such as satisfying the curiosity, becoming more knowledgeable, or mastering challenging tasks. (Wolters & Rosenthal, 2000).

Moreover, the *self-consequating strategy* describes individuals' efforts to enhance their motivation by providing themselves with extrinsic consequences for task completion (e.g.,

rewards) (Purdie & Hattie, 1996; Zimmerman & Martinez-Pons, 1990). *Proximal Goal Setting* forms an added strategy and consists of breaking a long-term goal into smaller sub-goals which are more easily achieved (Wolters, 2003). *Environmental structuring* considers changes in the environment due to related distractions. Accordingly, studies showed that students used various techniques for controlling their surroundings by managing various aspects of how, when, and where they studied, and by manipulating aspects of their own physical or mental readiness for task completion (Wolters, 1998). *Performance self-talk* consists of individuals' attempts to convince themselves to become better and continue working, and simultaneously highlight their desire to benefit from this.

In the motivational regulation literature, a distinction is made between these strategies related to intrinsic and those related to extrinsic motivation (e.g., Ames, 1992; Blumenfeld, 1992). On the one hand, sources for intrinsic motivation include individuals' value for the task, personal interest, and feelings of mastery. On the other hand, extrinsic motivation typically comes from factors such as external praise, or rewards. Empirical studies within school contexts showed that several strategies under the label of extrinsic vs. intrinsic regulation, had different effects on outcomes, such as effort and performance (Wolters, 1998; 1999), where extrinsic ones proved to be a significant predictor of students' course grades. Based on these findings, it is assumed that the effectiveness of the distinct regulatory strategies, employees use when trying to motivate themselves, is different. In that, such intrinsic strategies are expected to show stronger effects on a more intrinsic motivational type.

#### 1.2.4. Need satisfaction.

Also, part of the SDT framework, need satisfaction refers to the sharing of some "innate psychological nutriments, essential for ongoing psychological growth, integrity, and functioning"

by humans (Deci & Ryan, 2000, p. 229). These innate psychological needs are autonomy, competence, and relatedness; however, this study will emphasize on the need for autonomy and competence only. More specifically, the need for autonomy connotes an endorsement of one's actions, flexibility, an absence of pressure, while the need for competence implies that a person wants to interact effectively with the environment and experience a sense of adequate ability. When these needs are not supported, people tend to show lower motivation, thus less engagement (LaGuardia, Ryan, Couchman, & Deci, 2000).

Empirical studies have indicated that aspects of working environments, such as job design characteristics or managerial support, positively influence need satisfaction (Baard, et al., 2004). It has been also suggested that specific aspects of need support are related stronger to its respective aspect of need satisfaction than to others (e.g., autonomy support to autonomy need satisfaction; Gagné, 2014). Subsequently, it is assumed that employees who perceive higher support for their competence, tend to enhance their satisfaction for competence.

#### 1.2.5. Perceived need-support by managers.

Besides this, managers' need-support, namely the interpersonal behaviors among supervisors and subordinates, can promote employees' motivation as well (Deci, Connell, & Ryan, 1989). From the perspective of SDT, managers' need-support enhances employee functioning in that it facilitates their integration – the active process of endorsing the value of activities that are not inherently satisfying (Deci & Ryan, 2000).

When employees struggle with a job task, an autonomy-supportive manager seeks to minimize feelings of coercion by providing them with a meaningful rationale, acknowledging their feelings and perspectives, or identifying and nurturing employees' inner motivational resources (Reeve, Jang, Hardre, & Omura, 2002). In a similar vein, managers' attempts for

competence support in terms of understandable instructions, expectations, relevant feedback, helps employees to function more effectively at work (Ryan & Deci, 2017). Accordingly, empirical studies suggested that due to managers' display of need-support, where feelings of autonomy and competence intensified, intrinsic motivation was increased (Gagné & Deci, 2005). Hence, employees tend to show higher levels of trust, non-pressure at work and overall job satisfaction (Deci et al., 1989), as well as higher levels of engagement (Deci et al., 2001) and performance (Baard et al., 2004). Based on these conceptual grounds within SDT (Deci & Ryan, 2000), when need-supportive managerial style is perceived by the employees as satisfactory, it illustrates another way of enhancing their motivation.

#### 1.3. The Present Study

By means of a quantitative survey research, two research questions (RQ's) were examined. RQ1 entails the predictive validity of the motivational regulation strategies, the managers' need-support as perceived by employees on motivation, and the need satisfaction. More specifically, RQ1 aims to identify whether motivation regulation is beneficial to motivation and need satisfaction when manager's support is considered as well. Therefore, RQ1 is formulated as follows:

To what extent do employees' motivational self-regulation strategies, and the perceived support of managers influence employees' motivation, and their need satisfaction?

Further questions arise on how the use of these two practices relate to the different motivational problems that emerge within workplaces. Thus, RQ2 will examine whether selfregulation strategies and managerial need support are practiced in response to the distinctiveness of each motivational problem. Accordingly, RQ2 follows:

How do employees' use of motivational regulation strategies and managerial need support relate to a motivational problem?

#### 2. Methods

#### 2.1. Participants and Design

A quantitative research design through survey testing was used to examine the described constructs and their associations. Data were collected through a cross-sectional study. A power analysis showed that a sample size of 114 was sufficient to reveal a small effect (power = .80; method is Multiple Regression; effect size is .15). Accordingly, with nine predictors (e.g., seven motivational regulation strategies, and perceived support for autonomy & competence), a sample of 114 would be sufficient to answer the two research questions. In this research, 71 participants initially filled in the questionnaire. Participants were selected using a combination of a convenience and snowballing sampling method (Neuman, 2014). Most were contacted through a representative at their workplace who announced the opportunity to participate in the research. Employees were asked whether other colleagues or network would like to participate. The convenience sampling method has the risk of resulting in unrepresentative samples (Neuman), but by using snowballing a larger, diverse sample can be reached, leading to a higher generalization.

The final sample consisted of 70 employees ( $M_{age} = 33.43$ , SD = 10.38, age range: 22-68 years), with 70% (n =49) identified as female. The majority encompassed European participants (90%) given that the survey was sent to employees working in organizations based in Greece, Germany, Switzerland, and Ireland, while the rest (10%) was not specified. Most participants are currently working within Education, Culture & Science (17.1%, n =12), Technology, Production

& Building (14.3%, n =10), Healthcare (8.6%, n =6), where 48.6% (n =34) are working 1 to 5 years, whereas 11.4% (n =8) for longer than 10 years in the current organization.

#### 2.2. Procedure

An online survey, including a multi-section questionnaire administered in English, was sent to employees internationally with an informative letter to explain the purpose of the study, the pre-requirements (e.g., language level, employability) and solicit permission to invite them to participate. Additionally, an active consent was given where each participant had to sign the declaration digitally after having first been informed about the purpose of the study and the use of the data, in order to start completing the survey. Starting in the mid of March, all participants voluntarily filled out the questionnaires within 26 minutes on average. They were requested to complete the questionnaires independently and to respond honestly. In accordance with the guidelines provided by the <u>VSNU Association of Universities in the Netherlands</u>, they were advised that there were no right or wrong answers and that their responses would not be shown to their managers and would be kept entirely confidential.

#### 2.3. Measures

All scales were measured with a 5-point Likert scale ranging from one (*strongly disagree*) to five (*strongly agree*), on an eight-section survey. Negatively worded items were recoded. Reliability analyses were conducted to test measures' internal consistencies. Values  $\geq .5$  were found acceptable for further analyses.

**Demographics**. There were seven demographic questions that asked participants to report on their sex, ethnicity, age, their highest level of education, the branch of industry of their current work, and their working years.

Work motivation. The Motivation at Work Scale (MaWS; Gagné et al., 2010) was used to measure the employees' motivational states, as conceptualized within SDT. Participants were presented with the stem "Why did you choose to participate in this job task?" and asked to respond to 12 statements. There were four subscales to measure intrinsic motivation (e.g., "Because I enjoy this task very much"), identified (e.g., "Because it allows me to reach my life goals"), introjected (e.g., "Because my work is my life and I don't want to fail"), external (e.g., "Because it allows me to make a lot of money"). Each scale consisted of three items. A reliability analysis was conducted for intrinsic motivation ( $\alpha = .88$ ), identified ( $\alpha = .81$ ), introjected ( $\alpha = .82$ ), extrinsic ( $\alpha = .56$ ).

**Need satisfaction**. The Need Satisfaction at Work Scale (NSa-WS; Tafvelin, & Stenling, 2018) was used to measure employees satisfaction of the need for autonomy ("I can make meaningful choices in my job") and for competence ("I can handle the challenges I face in my job"). Each scale consisted of four items. A reliability analysis was conducted for autonomy ( $\alpha = .77$ ) and for competence ( $\alpha = .69$ ).

**Perceived managerial need support.** To measure the extent to which employees perceive their supervisors' autonomy support, ten items from the Work Climate Questionnaire (WCQ; Baard et al., 2004) were used ("My supervisor provides me with choices and options"). Besides this, three items for the perceived competence support from the Need Support at Work Scale (NSu-WS; Tafvelin, & Stenling, 2018) were added ("My supervisor provides me with opportunities to develop my competencies", "My supervisor clearly communicates the goals for my work", "My supervisor provides me with feedback that is useful in my work"). A reliability analysis showed high internal consistencies, namely  $\alpha = .83$  for perceived autonomy (recode<sup>1</sup> of

<sup>&</sup>lt;sup>1</sup> "I don't feel very good about the way my supervisor talks to me"<sup>R</sup>

one item led on an increase in Cronbach's alpha to  $\alpha = .91$ ), while the reliability for perceived competence was  $\alpha = .77$ .

Motivational regulation strategies (MRS). The extent to which employees engaged in various strategies for influencing their motivation was measured with 27 items adapted from Schwinger et al., (2007), and 7 more items adapted from Wolters et al., (2013), all adjusted to work content (e.g., "I make a deal with myself saying that I will do something pleasant after I finish work"). Directions asked employees to read each item and indicate how frequently they would use the strategy, using a 5-point Likert scale from one (never) to five (very often). Besides, a factor analysis was conducted, given that there is no agreement on how many factors that the MRS should be divided into, or as to what those factors should be. Wolters proposed five factors, whereas Schwinger et al. identified an eight-factor structure, consisting of two separate interest-related motivational regulation strategies (e.g., enhancement of situational interest, enhancement of personal significance), of performance self-talk's subdivision into performance avoidance and performance – approach self-talk, self-consequating, proximal goal setting, environmental control, and mastery self-talk. To address this problem, an exploratory factor analysis was performed. Factor analysis is important to this study because it may confirm the different regulatory strategies employees use.

**Motivational problems.** To measure the extent to which the use of motivational regulation strategies and need-support relate to the different motivational problems, three newly developed short scenarios were used. The aim of designing this new measure is to examine the association of these practices with a specific motivational problem as validly experienced by participants. The first two scenarios described two common situations faced by employees in their workplaces: feeling lack of expertise to solve demanding tasks in the new job; proceeding

to the irrelevant to their main job responsibilities induction of an intern. Participants were asked whether they considered each scenario familiar by responding to the question "Is the mentioned scenario familiar to you?". Within these two scenarios, "participants' familiarity" was the derived outcome and coded "Yes" if participants experienced the demotivating situation as familiar and "No" if they did not.

In the third scenario, participants were asked to report freely one work situation, which they personally find boring or irrelevant, and to specify its level of difficulty. Responses were first evaluated by two coders to determine the number of distinct situations employees provided. Accordingly, the answers were not much different, and deviances were discussed and resolved. Generally, these situations were first coded according to the content they mentioned. If respondents named the activity boring or irrelevant, it was coded as such and at the same time, it was coded as autonomy frustrated. Besides, more data were assessed but only the data regarding the boring, the irrelevant and autonomy frustrated activities were used in this study, on the basis of theoretical distinctions within past motivational research (Wolters, 1998). These dummy variables were used as three more outcomes in the analyses and were coded 0 for "all others", 1 for "yes".

#### 2.4. Data Analysis

#### 2.4.1. Missing data.

The online system forced participants to respond to all questions before submitting the survey, in that way no missing data were expected. However, a small amount of data was missing. As the missing data entailed a small amount of the total collected data, only available data were analyzed. One respondent (1,4%) overlooked four out of eight sections of the questionnaire, therefore was left out of the analysis. Additionally, five respondents (7.1%) did

not fill in the open-ended questions of the third scenario or gave irrelevant answers (e.g., responses such as "nothing comes to my mind", "none"). Hence, their responses, excluding this scenario, were included in the analysis.

#### 2.4.2. Exploratory factor analysis.

Because most of the items in the motivational regulation strategies measure were slightly modified from earlier studies, an Exploratory Factor Analysis (EFA) in IBM SPSS (IBM Corp., 2013) was carried out to determine the factor structure. An oblique rotation (i.e., Promax) was chosen, as this method allows factors to correlate (Yong & Pearce, 2013).

Testing the assumptions for EFA. First, it was checked if there was a patterned relationship amongst the variables by referring to the Correlation matrix. Variables that had a large number of low correlation coefficient (r < +/- .30) should be removed as they indicate a lack of patterned relationships (Yong & Pearce, 2013). Furthermore, by checking that the Determinant score was significantly different from zero the absence of multicollinearity was confirmed and there seem to be patterned relationships amongst the variables. Second, to address the linearity, bivariate correlations between each pair of items and Bartlett's Test of Sphericity (903.905; 325df, p < .001) were checked. Finally, the Kaiser-Meyer Olkin index (KMO = .651) showed acceptable values for the underlying variables, suggesting that the sample size was mediocre for EFA to produce a reliable result.

After testing the assumptions for EFA, the final factor solution was chosen based on several criteria. First, with respect to the content, items with unusual factor loadings and low communalities ( $\leq$ .2) were eliminated. After each eliminated item, the EFA was rerun. Secondly, to retain factors for further analyses, eigenvalues exceeding 1 (Field, 2013) were used.

Initially, ten factors were identified as underlying the 34-item questionnaire that explain a cumulative variance of 63%. The initial eigenvalues showed that the eighth, nineth, and tenth factor explained approximately a 2% variance: less than the cut-off score of 3% for each factor. Several Exploratory Factor Analyses were conducted, one after each eliminated item<sup>2</sup>. A 7-factor solution remained, accounting for 69% of the variance, and refers to the following factors.

The first extracted factor explained a total of 23,80% of the variance and was labeled "Performance Self-talk". Despite recent findings that further subdivided performance self-talk (Schwinger et al., 2007), in the present research there was not such an obvious subdivision, given that high loadings were reported on thinking about the importance of doing the task to obtain a good review (.84), about the unpleasant situation to perform worse than the others (.81), and of how bad it would be to fail in the work (.80). The calculated internal consistency was high  $\alpha = .85$ .

The second extracted factor explained 12,95% of the variance. This factor was labeled "Enhancement of Situational Interest" referring to the modification of a boring into a more

<sup>&</sup>lt;sup>2</sup> i.e., Motivation Regulation Performance Approach Self-talk 1 ("I call my attention to the fact of how important it is to do my job well"). Motivation Regulation Performance Avoidance 1 ("I imagine that my colleagues make fun of my poor performance"). Motivation Regulation Enhancement of Situational Interest 6 ("I try to connect the material with something I like doing or find interesting"). Motivation Regulation Enhancement of Personal Significance 4 ("I think of situations where it would be helpful for me to know the material or skills"). Motivation Regulation Proximal Goal Setting 2 ("I approach work step-by-step in order to get the feeling that I proceed well"). Motivation Regulation Environmental Control 2 ("I consciously choose to do demanding tasks at a time when I can concentrate especially well"). Motivation Regulation Environmental Control 4 ("I change my surroundings so that it is easy to concentrate on the work"). Motivation Regulation Mastery Self-talk 1 ("I challenge myself to finish tasks and thus learn a lot for me personally"). These items did not contribute to a factor structure.

enjoyable activity by bringing fun to the tasks (Schwinger et al., 2007). The internal consistency was  $\alpha = .81$ . The third factor accounted for 8,45% of the explained variance and was labeled "Enhancement of Personal Significance". This encompassed high loadings on assembling connections between the job-related task and the life as such (.86), the personal interests (.75) and on making the work seem more useful by relating it to self-development (.67) (Leutner, Barthel, & Schreiber, 2001). The reliability analysis showed  $\alpha = .80$ . Doing something pleasant after finishing the work (.87) or putting the prospect of a reward (.68) reported high loadings on the fourth factor, which accounted for 7,37% of the explained variance. This factor was labeled as "Self-Consequating". The Cronbach's alpha was  $\alpha = .76$ . The fifth factor explained 6,83% of the variance. This factor labeled "Proximal Goal Setting", consisting of setting sub-goals to master the tasks (.82) and breaking the workload down into small segments (.78). Its internal consistency was  $\alpha = .61$ . The sixth extracted factor accounted for 5.6% of the explained variance, and was labeled "Environmental Structuring", with an  $\alpha = .79$ . Participants struggled with making sure that there are few distractions (.91) or eliminating all possible distractions before starting the work (.85). The seventh and last extracted factor explained 4% of the variance. This factor was labeled "Mastery Self-talk" and encompassed satisfactory loadings on working intensely for the sake of learning (.65) and keeping on working in order to learn (.56). Its internal consistency was  $\alpha = .75$ . The factor loading matrix for this final solution is presented in Table 1.

#### 2.4.3. Multiple regression analysis.

To address RQ1, several multiple regression analyses were conducted in IBM SPSS (IBM Corp., 2013) to test and understand in which way the influence of the independent variables on the dependent ones could be established. The seven motivational regulation strategies, perceived autonomy support and perceived competence support were considered as

the independent variables. Two covariates (i.e., gender, age) were added. Intrinsic motivation, identified motivation, introjected motivation, extrinsic motivation, need satisfaction for autonomy, need satisfaction for competence were assigned as the dependent variables. Besides, gender was coded "1" for females and "0" for males. The stepwise method was used to better calculate which variable possessed superior predictive properties in relation to each dependent variable (Abbad & Torres, 2002).

Testing the assumptions for multiple regression. Several assumptions that are required for multiple regressions were evaluated. Evaluation of Histograms, Scatterplots, Normal Probability Plot (P-P Plot) of Regression Standardized Residuals, suggested that each variable in the regression was normally distributed, with an exception of the extrinsic motivation and the need satisfaction for autonomy (slightly skewed distribution). However, mild departures from normality are generally not of concern (Osborne & Waters, 2002). Cook's distance, VIF and Tolerance were checked in SPSS, indicating that outliers and multicollinearity were not of concern. Pearson correlations above r = .3, suggested that predictors showed some associations with the outcomes.

#### 2.4.4. Logistic regression analysis.

To address RQ2, several multiple logistic regression analyses with analysis of Odds Ratio estimates were conducted in IBM SPSS (IBM Corp., 2013) to test whether the motivational problems as experienced by the participants, relate to the motivational regulation strategies and the need-support. In model 2, a set of nine predictors, namely the seven motivational regulation strategies, perceived autonomy, and competence support, and two covariates (e.g., age, gender) were considered. This model was conducted for all the outcome criteria (e.g., five identified motivational problems), separately. Testing the assumptions for binary logistic regression. Several assumptions that are required for logistic regressions were evaluated. First, all the dependent variables were dichotomous. Secondly, linearity of the continuous variables with respect to the logit of the dependent variables was assessed via the Box-Tidwell (1962) procedure. Accordingly, a Bonferroni correction was applied using all the number of comparisons (e.g., p < .05/22 terms) in the model resulting in statistical significance being accepted when p < .00227 (Tabachnick & Fidell, 2014). Based on this assessment, all continuous independent variables were found to be linearly related to the logit of the dependent variables. Third, outliers were detected and removed for each analysis.

## Table 1.Factor Loadings for Exploratory Factor Analysis with Promax Rotation of Motivational Regulation Strategies.

	Performance	Enhancement	Enhancement	Self-	Proximal Goal	Environmental	Mastery
	Self-talk	of Situational	of Personal	Consequating	setting	Structuring	Self-
Items		Interest	Significance				talk
29. I convince myself to keep workin by thinking about how bad it would be to fail in my work.	ng .84	02	.13	.03	01	17	12
23. I think about that it would be very unpleasant for me to perform worse than the others.	y .81	.01	13	.05	.13	.09	.08
1. I call my attention to the fact of how important it is to do my job well	l. <b>.80</b>	.02	13	.03	03	.05	.24
4. I tell myself that I have to push me more if I do not want to make a fool of myself.	.63	21	.03	.07	.13	.04	.12
26. I think about how my work performance will worsen if I refrain from learning.	.62	.30	.12	001	12	.03	.10
15. I attempt to call myself to intense work by focusing on obtaining a goo reputation.	d .57	.03	.10	23	.06	.06	.26

7. I tell myself that I should keep on learning if I wish to reach a higher income.	.53	13	.26	02	10	.22	14
13. I make myself look for ways to bring more fun to the tasks.	.13	.83	.06	.03	.06	09	23
6. I make my job more pleasant for me by trying to arrange tasks playfully.	01	.77	.01	05	01	01	.22
20. I carry out the tasks by highlighting the features that are fun.	09	.71	.14	01	08	.03	.18
28. I make doing the work enjoyable by focusing on something about it that is fun.	22	.61	07	.12	.14	.06	.50
11. I try to make a game out of completing tasks.	.07	.57	.14	01	.33	.04	22
14. I look for connections between the tasks and my life as such.	04	.18	.86	05	09	002	13
21. I try to establish relations between work and my personal interests.	.04	.11	.75	.12	33	19	.19
34. I try to make my work seem more useful by relating it to what I want to do in my life.	18	09	.67	.03	.49	09	.17

5. I strive to relate job-related material to my own experiences.	13	02	.54	12	-09	.34	.36
30. I tell myself that it is important to learn on my job because I will need it later in life.	.29	05	.52	.05	.26	02	.11
8. I make a deal with myself saying that I will do something pleasant after I finish work.	11	09	.06	.87	.18	.13	04
17. I promise myself that, after work, I will do something that I like.	.05	.09	.04	,87	07	.14	06
22. I put the prospect of a reward to myself in case I finish work.	.13	.00	-15	.68	09	18	.36
33. I tell myself that I can master the tasks if I set myself sub goals.	.05	04	.06	.61	.82	08	07
12. I break down the workload in small segments so I get the feeling that I can handle it more easily.	.09	.20	-27	14	.78	.06	.03
16. I make sure I have as few distractions as possible.	.13	.01	-17	.02	.01	.91	.14
2. Prior to beginning with work, I strive to eliminate all possible distractions.	.00	03	.09	.15	05	.85	18
27. I persuade myself to work intensely for the sake of learning.	.29	.10	.12	.04	09	.02	.65

19. I tell myself that I should keep on							
working in order to learn as much as	.35	12	.25	07	.08	14	.56
possible for me personally.							

*Note.* Highest factor loadings are in boldface.

#### 3. Results

The descriptive statistics (Means, *SD*s), reliabilities and correlations of the measures are summarized in Table 2. An exact overview of the frequencies of employees' responses to the three scenarios are shown in Table 3.

#### 3.1. Multiple Regression Analysis

Six multiple regression analyses were conducted, one for each outcome, using the stepwise model. The regression coefficients are presented in Table 4.

#### 3.1.1. Motivational regulation strategies & perceived managerial support.

Intrinsic motivation. For the outcome intrinsic motivation, 54% of the variance,

 $R^{2}_{Adjusted} = .27$  were explained when considering the effects of motivational regulation strategies and need-support for autonomy and competence. The model was significant F(2,67) = 1.38,  $p \le$ .001). Concerning the specific effects, enhancement of personal significance ( $\beta = .38$ , t(60) =3.58,  $p \le .001$ ) and perceived support for autonomy ( $\beta = .32$ , t(60) = 3.03,  $p \le .01$ ) had a positive effect on intrinsic motivation.

Identified motivation. For the outcome identified motivation, 70.1% of the variance,  $R^{2}_{Adjusted} = .48$  were explained when considering the effects of motivational regulation strategies and need-support for autonomy and competence. The model was significant (F(2, 67) = 32.36,  $p \le .001$ ). Concerning the specific effects, enhancement of personal significance ( $\beta = .57$ , t(60) = 6.36,  $p \le .001$ ) and perceived support for autonomy ( $\beta = .31$ , t(60) = 3.50,  $p \le .001$ ) had a positive effect on identified motivation.

#### Table 2

Variable 14 Ν М SD 2 3 4 5 7 8 9 10 11 12 13 α 1 6 15 **Motivation** 1.Intrinsic 70 3.66 .969 .88 -3.50 .908 .80 .75\*\* 2.Identified 70 -3.Introjected 70 2.58 1.02 .82 .43\*\* .39\*\* -3.22 .786 -.27\* 70 .56 -.25\* .02 4.Extrinsic -**Regulatory Strategies** 5.Performance Selftalk 70 3.04 .861 .85 .18 .39\*\* .43\*\* -.12 **6.Situational Interest** 3.01 .850 .25\* 70 .81 .21 -.08 .06 .18 .44\*\* -.33\*\* 7.Personal Significance 70 .837 .80 .30\* .38\*\* .39\*\* 3.17 .63\*\* -3.13 .912 .12 .18 .13 8.Self Consequating 70 .76 -.05 .09 .12 -.06 -9.Proximal Goal Setting 70 3.33 1.02 .61 .07 .11 .26\* -.11 .21 .33\*\* .21 .12 -10.Environmental .962 .25\* Structuring .79 .12 .07 .14 .09 .12 70 3.20 .17 .14 .16 -11.Mastery Self-talk 70 3.42 .991 .75 .37\*\* .52\*\* .23 -.25\* .55\*\* .21 .56\*\* .14 .15 -.02 -Need Satisfaction .62\*\* .50\*\* .05 .09 12.Autonomy 70 3.65 .769 .77 .18 -.09 .14 .25\* .11 .05 -.17 13.Competence .40\*\* 70 3.98 .585 .69 .36\*\* .36\*\* .18 .06 .25\* .05 .01 .15 .11 .59\*\* .16 Need Support 14.Perceived .91 .39\*\* .42\*\* .07 .03 .51\*\* 3.84 .753 .01 .21 .03 .25\* .23 Autonomy 70 .13 .14 .45\*\* 15.Perceived .851 .33\*\* .43\*\* .22 .06 .31\* -.04 .21 .01 .09 .22 .37\*\* .35\*\* .33\*\* .76\*\* Competence 70 3.68 .77

Descriptive Statistics, Alpha, and Intercorrelations of the Motivation, Need Satisfaction, Motivation Regulatory Strategies, and Need Support Measures.

*Note*.  $*p \le .05$ .  $**p \le .01$ 

#### Table 3

	Sce	enario 1	Scena	ario 2	Scenario 3					
	difficult		difficult irrelevant		bor	boring		irrelevant		onomy rated
	n	%	n	%	n	%	n	%	n	%
No (0)	41	58.6	34	48.6	32	49.2	27	41.5	5	7.7
Yes (1)	29	41.4	36	51.4	33	50.8	38	58.5	60	92.3
Total	70	100.0	70	100.0	65	92.9	65	92.9	65	92.9
Missing					5	7.1	5	7.1	5	7.1

Frequencies of responses to scenario 1, scenario 2, scenario 3.

Introjected motivation. For the outcome introjected motivation, 61.5% of the variance,  $R^{2}_{Adjusted} = .34$  were explained when considering the effects of motivational regulation strategies and need-support for autonomy and competence. The model was significant (*F*(4, 65) = 9.86, *p* ≤ .001). Concerning the specific effects, performance self-talk ( $\beta = .46$ , *t*(60) = 4.46, *p* ≤ .001), gender ( $\beta = .36$ , *t*(60) = .34, *p* ≤ .001) and age ( $\beta = .33$ , *t*(60) = .3.03, *p* ≤ .01) showed a positive effect on introjected motivation. Moreover, enhancement of situational interest ( $\beta = .21$ , *t*(60) = 2.17, *p* ≤ .05) had a positive effect on introjected motivation.

**External motivation.** For the outcome external motivation, 32.7% of the variance,  $R^{2}_{Adjusted} = .094$  were explained when considering the effects of motivational regulation strategies and need-support for autonomy and competence. The model was significant (*F*(1, 68) = 8.16, *p* ≤ .01). Concerning the specific effects, the analysis shows that enhancement of personal significance ( $\beta = -.33$ , *t*(60) = -2.86, *p* ≤.01) had a negative effect on external motivation.

**Need satisfaction (autonomy).** This model explained 50.8% of the variance in need satisfaction for autonomy,  $R^2_{Adjusted} = .25$  when considering the effects of motivational regulation strategies and perceived support for autonomy and competence. The model was significant *F*(1,

68) = 23.63,  $p \le .001$ ). Concerning the specific effects, perceived autonomy support ( $\beta = .51$ , t(60) = 4.87,  $p \le .001$ ) had a positive effect on need satisfaction for autonomy.

**Need satisfaction (competence).** A large, significant effect (i.e.,  $\mathbb{R}^2 \ge .26$ , Allen & Bennet, 2012) on need satisfaction for competence was noted, as the model explained about 51.5% of the variance,  $\mathbb{R}^2_{\text{Adjusted}} = .24$ , F(2, 67) = 12.10,  $p \le .001$ ) when considering the effects of motivational regulation strategies and need-support for autonomy and competence. Concerning the specific effects, perceived autonomy support ( $\beta = .45$ , t(60) = 4.28,  $p \le .001$ ) and enhancement of situational interest ( $\beta = .25$ , t(60) = 2.38, p < .05) had a positive effect on employees' need satisfaction for competence.

#### 3.2. Logistic Regression Analysis

Five binary logistic regression analyses were conducted to assess the association between the regulation strategies and the five different motivational problems (i.e., five dichotomous dependent variables) separately. Regressions odds ratios are presented in Table 5.

Scenario 1: Difficult task. The model fit the data reasonably well ( $\chi^2(11) = 22.15$ , p = .023) when considering the effects of the motivational regulation strategies and need-support for autonomy and competence on the likelihood that these strategies are associated with the likelihood of experiencing the scenario as familiar. The model explained 36.5% (Nagelkerke R<sup>2</sup>) of the variance in the difficult task and correctly classified 72.9% of cases. There was a positive effect of self-consequating (OR = 1.97, p = .05) on the likelihood to experience the difficult task as familiar, implying that participants who face this task prefer this regulation strategy.

**Scenario 2: Irrelevant task.** The logistic regression model did not fit adequately the data when considering the effects of the motivational regulation strategies and need-support for autonomy and competence on the likelihood that these strategies are associated with the

likelihood of experiencing the scenario as familiar ( $\chi^2(11) = 18.28$ , p = .075). The model explained 31.4% (Nagelkerke R<sup>2</sup>) of the variance in the outcome and correctly classified 70.6% of cases. There were no significant effects in the analysis.

Scenario 3: Boring task. The model best fit the data when considering the effects of the motivational regulation strategies and need-support for autonomy and competence on the likelihood that these strategies are associated with the likelihood of experiencing a boring task  $(\chi^2(11) = 23.53, p = .015)$ . The model explained 41.6% (Nagelkerke R<sup>2</sup>) of the variance in the outcome and correctly classified 68.3% of cases. There was a positive effect of perceived support for autonomy (OR = 7.87, p < .05) on the likelihood to experience a boring task, implying that participants who face this task prefer this need support strategy. Moreover, females tend to experience boring tasks at work more often that males (OR = 9.51, p < .01). Besides, there was a negative effect of self-consequating (OR = 1.02, p < .05) and the perceived support for competence (OR = 0.38, p < .01) on the likelihood to experience a boring task, implying that participants who face this task prefer these strategies less often.

Scenario 3: Irrelevant task. The logistic regression model fit the data well when considering the effects of the motivational regulation strategies and need-support for autonomy and competence on the likelihood that these strategies are associated with the likelihood of experiencing an irrelevant task ( $\chi^2(11) = 25.40$ , p = .008). The model explained 44.7% (Nagelkerke R<sup>2</sup>) of the variance in the outcome, and correctly classified 77.8% of cases. There was a positive effect of perceived support for competence (OR = 12.53, p < .01) on the likelihood to experience an irrelevant task, implying that participants who face this task prefer manager's need support for competence. However, a negative effect of perceived support for autonomy (OR = 0.42, p < .05) on the likelihood to experience an irrelevant task was noticed,

implying that participants who face an irrelevant task prefer to rely on manager's support for autonomy less. In that, results show that females tend to experience an irrelevant task less often than males (OR = 0.42,  $p \le .001$ ).

Scenario 3: Autonomy frustrated. The model did not produce a better fit to the data when considering the motivational regulation strategies and need-support for autonomy and competence ( $\chi^2(11) = 13.33$ , p = .266). The model explained 44.6% (Nagelkerke R<sup>2</sup>) of the variance in the outcome and correctly classified 95.4% of cases. There was a positive effect of enhancement of situational interest on the likelihood to experience an autonomy frustrated task, implying that participants who face this task prefer this regulatory strategy.

#### Table 4

Unique Associations between the Motivation Regulatory Strategies, Need Support, Motivation, and Need Satisfaction.

_	Dependent Variables								
Model	intrinsic β	identified β	introjected β	external β	need satisfaction (autonomy) β	need satisfaction (competence) β			
motivational regulation strategies	<b>I</b>				I				
Performance Self-talk	.03	.11	.46***	.01	18	.03			
Enhancement of Situational Interest	.12	04	.21*	.06	.14	.25*			
Enhancement of Personal Significance	.38***	.57***	.14	33**	.15	04			
Self-consequating	06	14	.02	.16	04	02			
Proximal Goal Setting	002	03	.10	04	03	07			
Environmental Structuring	02	.10	.06	.13	08	.000			
Mastery Self-talk	.14	.14	04	10	03	05			
need support									
Perceived support for Autonomy	.32**	.31***	.10	.14	.51***	.45***			
Perceived support for Competency	.03	.16	.05	.14	09	.01			
covariates									
Gender	.10	12	.36***	02	.000	15			
Age	.08	.09	.33**	.13	.09	.15			

*Note.*  $*p \le .05$ .  $**p \le .01$ .  $***p \le .001$ .

# Table 5Logistic Regression Predicting Likelihood of Motivational Problems on MRS, Need Support, Age, Gender.

	difficult task		irreleva	int task	borin	boring task		nt task <sup>3</sup>	Autonomy frustrated	
	Odds Ratio	р	Odds Ratio	р	Odds Ratio	p	Odds Ratio	p	Odds Ratio	р
motivation regulatory strategies		1		1		1		1		1
Performance Self-talk Enhancement of Situational	1.61	.347	1.03	.948	1.50	.404	-3.41	.574	2.47	.490
Interest	-1.79	.173	1.19	.689	1.25	.637	1.68	.293	16.09	.054
Significance	1.37	.532	-3.71	.591	-1.31	.185	1.08	.894	-0.42	.069
Self-consequating	1.97	.052	1.78	.087	-1.02	.014	1.55	.309	-1.52	.459
Proximal Goal Setting	1.17	.607	1.04	.895	-6.13	.629	-2.12	.179	2.49	.161
Environmental Structuring	1.07	.833	1.34	.344	-3.60	.436	-1.71	.203	-0.55	.125
Mastery Self-talk need support	1.76	.260	-1.08	.056	2.05	.143	-0.99	.067	-0.67	.224
Perceived Autonomy	-1.68	.388	-1.22	.238	7.87	.021	-0.42	.014	13.88	.096
Perceived Competency covariates	-1.40	.311	4.26	.061	-0.38	.004	12.53	.006	-0.56	.160
Gender(1)	3.12	.145	-0.88	.119	9.51	.008	-0.24	.001	46.27	.115
Age	1.05	.090	1.03	.414	1.05	.174	-11.63	.058	1.09	.389

*Note:* Gender is for females compared to males. CI = confidence interval.

<sup>&</sup>lt;sup>3</sup> as coded in accordance with participants' responses.

#### 4. Discussion

This study had two objectives: First, to examine the role of employees own motivational regulation attempts and the supportive managerial style that play for enhancing motivation and need satisfaction. Findings showed that these strategies showed stronger effects on motivation than manager's need-support, but different patterns concerning distinct motivational types were found. On the other hand, managerial need-support for autonomy was proved to play an essential role, given this had implications for the source of need satisfaction people feel.

The second objective was to provide empirical evidence for the best fit of these practices in response to the different motivational problems, employees encounter. Thereby, it was found that employees might turn to the self-consequating or rely on their manager's need-support in accordance to the distinct motivational problem.

#### 4.1. Motivation Self-Regulation versus Managerial Need Support

#### 4.1.1. Types of motivational regulatory strategies.

Findings seem to be consistent with a growing body of literature showing that each strategy influences and further determines a distinct type of motivation; individuals may choose from a range of strategies to regulate their motivation depending on their respective effects (McCann & Garcia, 1999). Results revealed that motivational regulation strategies employees use may be further summarized into the intrinsic compared to extrinsic strategies. More specifically, strategies that promote individual's value for the task, personal interest, and feelings of mastery are associated with a more intrinsic motivation type, whereas performance self-talk, and self-consequating tend to exhibit a more extrinsic motivation.

#### 4.1.2. Types of need support.

Findings support that as long as managers' attempts to encourage autonomy in terms of feelings of meaningfulness and voluntariness are perceived by employees as satisfying, their need satisfaction is enhanced. In that, autonomy support showed the strongest effects on need satisfaction for autonomy ( $\beta = .51$ ,  $p \le .001$ ) and competence ( $\beta = .45$ ,  $p \le .001$ ). This finding is in accordance with SDT grounds that autonomy-supportive style targets people autonomy and competence need satisfaction with respect to a behavior while facilitating value internalization and regulations (Gagné & Deci, 2005).

#### 4.1.3. Intrinsic regulation strategies and motivation and need satisfaction.

From the identified intrinsic regulation strategies, enhancement of personal significance was found to have the strongest effect on the intrinsic ( $\beta = .38, p \le .001$ ) motivation. In line with previous studies this strategy aims at building a new motivational basis that is intrinsic and longlasting (Leutner et al., 2001), given that finding relations between the tasks at hand and own individual interests are inherent processes. Moreover, no effects were found on need satisfaction, implying that these strategies are predominately used for motivation regulation purposes.

#### 4.1.4. Extrinsic regulation strategies and motivation and need satisfaction.

From the extrinsic regulation strategies, performance self-talk, exhibit the strongest positive effect on a more extrinsic motivational type, namely introjected ( $\beta = .46, p \le .001$ ) Findings showed a strong relationship with age ( $\beta = .33, p \le .01$ ), and gender ( $\beta = .36, p \le .001$ ), implying that females with an increased age tend to exhibit higher levels of introjected motivation. This reinforces a growing literature dispelling stereotypes of older workers (Ng & Feldman, 2012). In that, they are less motivated and put more energy into preventing losses of resources (Freund, 2006). Accordingly, older workers, especially women when losing their work motivation, try to boost it by pursuing performance goals intended to demonstrate their competence and to prove their self-status.

It becomes clear that self-regulation outperforms manager's supportive attempts considering motivation given that the former showed stronger effects than the latter. However, managerial autonomy supportive style seems to be more fruitful for need satisfaction. Hence, work environments need to embrace these practices given that both are of equal importance.

#### 4.2. Motivation Regulation and Motivational Problems

Regarding the second goal, findings indicate that employees' use of regulation strategies and managerial need-support functioning varied across different motivational problems. Employees who endorsed self-consequating had a greater likelihood to rate the difficult task as familiar, which could indicate their turn to this strategy when facing difficulties. A possible explanation could be that employees' motivation may only be temporarily lowered when such overwhelming job tasks arise, and given that they have to complete the task under time pressure, most tend to recall rewarding situations that can re-initiate their inherent power. In addition, employees who rely on their manager's support for autonomy had a greater likelihood to rate boring tasks as familiar, whereas those who rely on their manager's support for competence tend to rate irrelevant tasks as familiar.

#### 4.3. Implications for Research and Practice

Findings reveal the need for training interventions offered to managers and employees to improve their need satisfaction and motivation at work. Managers have a responsibility to co-opt staff into developing sustainable workplaces characterized by satisfied employees. Employees need to learn how to shape their work experience to increase their motivation by using selfregulatory strategies.

#### 4.3.1. Recommendations for autonomy-supportive training interventions.

Managers need to develop practices that enable employees to choose or organize their own work schedules, thereby combating boredom and empowering employees (Game, 2007). Providing meaningful rationales and explaining the importance of tasks bring higher levels of satisfaction to employees (Powell, 2013). When choice is involved, tasks may be imbued with meaning that is otherwise absent. Similarly, managers need to provide employees with understandable instructions, progressive feedback aiming at flourishing their desire to acquire mastery. Hence, more opportunities to develop an appropriate level of actual competence entail enriched working experiences, less task irrelevancy (Fazey & Fazey, 2001).

#### 4.3.2. Recommendations for self-regulation training interventions.

Self-regulation needs to be communicated as another form of intentional activity that employees can adopt to improve their motivation. They need to learn to enhance the meaning they attain from their work and appreciating the effect their work is having on the success of the organization. By connecting with more people at work and exchanging experiences and knowledge employees can broaden their horizons and gain further insight on their interests; thus, their self-efficacy and interests are expanded and their job tasks are perceived as more interesting.

#### 4.4. Limitations and Further Research

The present study should be interpreted in light of several limitations. First, although we tested different directional models, the data are cross-sectional, and it is therefore impossible to make inferences about causality. Motivation regulation and managerial need-support proved to independently predict motivation and need satisfaction. However, by examining the respective effects of a larger number of self-regulatory strategies, difficulties arise in determining the

relative importance of a predictor examined together with a range of other predictors (Johnson & LeBreton, 2004). Traditional multiple regression estimates are inadequate because when estimating the effect of a particular predictor, the effects of all other predictors need to be held constant. Future research is needed to establish the causal direction of the associations more clearly through a longitudinal study or an intervention study even.

Second, subjectivity poses a direct threat to the validity of any analysis (Eysenck, 1994), as a single coder's subjective judgment call can introduce random and/or systematic error variance into analyses. To mitigate this risk, every qualitative data was coded, discussed, and consensus reached by another author. Both coders were true to the words used of the participants, so many of them used the words irrelevant which is generally considered as autonomy frustrated. Nevertheless, a degree of subjectivity surrounds decisions pertaining to the coding itself. Finally, although the sample size was sufficient for testing the predictive validity of MRS and autonomy-supportive managerial style on motivation and need satisfaction, it was still relatively small. Findings should be replicated in a larger sample.

#### **Conclusion**

To summarize, the findings suggest that both managerial autonomy-support and motivation regulation explain unique variance in workplace motivation, and hence, organizations might benefit from targeting both employees and managers to improve employee motivation, and satisfaction. This might involve educating those in positions of management about adopting more autonomy-supportive approaches, as well as employees about ways to develop their capacity to manage frustrated feelings. It is fundamental to understand what contextual forces are and their relationship with individual behavior, as these insights will allow for more targeted interventions to improve employee engagement.

#### References

- Abbad, G., & Torres, C. (2002) Regressão múltipla stepwise e hierárquica em Psicologia Organizacional: Aplicações, problemas e soluções. *Estud. Psicol., 7*, 19–29.
- Allen, P., & Bennett, K. (2012). SPSS Statistics. A Practical Guide, Version 20. South Melbourne: Cengage Learning Australia.
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84(3), 261–271.
- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic Need Satisfaction: A Motivational
  Basis of Performance and Weil-Being in Two Work Settings. *Journal of Applied Social Psychology*, 2045-2068. doi: 10.1111/j.1559-1816.2004.tb02690.x
- Berlyne, D. E. (1966). Curiosity and exploration. Science, 153, 25–33.
- Black, A. E., & Deci, E. L. (2000). The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective. *Science Education*, *84*, 740–756.
- Blumenfeld, E. (1992). Classroom learning and motivation: Clarifying and expanding goal theory. *Journal of Educational Psychology*, *84*, 272-281.
- Boekaerts, M., & Corno, L. (2005). Self-regulation in the classroom: A perspective on assessment and intervention. *Applied Psychology: An International Review*, 54(2), 199 231.
- Box, G. E. P., & Tidwell, P. W. (1962). Transformation of the independent variables. *Technometrics*, *4*, 531-550.

- Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic Motivation and Extrinsic Incentives Jointly Predict Performance: A 40-Year Meta-Analysis. *Psychological Bulletin*. Advance online publication. http://dx.doi.org/10.1037/a0035661
- Cleary, M., Hungerford, C., Lopez, V., & Cutcliffe, J. R. (2015). Towards effective management in psychiatric-mental health nursing: The dangers and consequences of micromanagement. *Issues in Mental Health Nursing*, *36*(6), 424–429.
- Cleary, M., Sayers, J., Lopez, V., & Hungerford, C. (2016). Boredom in the Workplace: Reasons, Impact, and Solutions. *Issues in Mental Health Nursing*, 83-89. doi: 10.3109/01612840.2015.1084554
- Cohen, J. (1988). Statistical Power Analysis for the Behavioral Sciences. Lawrence Earlbaum, Hillsdale.
- deCharms, R. (1968). Personal causation. New York: Academic Press.
- Deci, E. L., Eghrari, H., Patrick, B. C., & Leone, D. R. (1994). Facilitating internalization: The self-determination theory perspective. *Journal of Personality*, *62*, 119–142.
- Deci, E. L., & Ryan, R. M. (1985a). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self; Integration in personality. In
   R. Dienstbier (Ed.), *Nebraska symposium on motivation: Perspectives on motivation,* 38, 237–288. Lincoln: University of Nebraska Press.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determinism in human motivation*. New York: Plenum Press.

- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 227–268. doi: <u>https://doi.org/10.1207/S15327965PLI1104\_01</u>
- Deci, E. L., Ryan, R. M., Williams, G. C. (1996). Need satisfaction and the self-regulation of learning. *Learning and Individual Differences*, 8, 165–183.
- Deci, E. L., Koestner, R., & Ryan, R. M. (2001). Extrinsic rewards and intrinsic motivation in education: Reconsidered once again. *Review of Educational Research*, *71(1)*, 1-27.
- Eccles, J., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J., & Midgley, C.
  (1983). Expectancies, values and academic behaviors. In Spence, J. T. (ed.), *Achievement and Achievement Motives*, W. H. Freeman, San Francisco.
- Elliot, N. (2005). *On a scale: A Social History of Writing Assessment in America*. New York: Peter Lang Publishing.
- Eysenck, H. J. (1994). Meta-analysis and its problems. *British Medical Journal*, 789–792. doi:10.1136/bmj.309.6957.789
- Della M. A. Fazey & John A. Fazey (2001). The Potential for Autonomy in Learning: Perceptions of competence, motivation and locus of control in first-year undergraduate students, *Studies in Higher Education*, 345-361. doi:10.1080/03075070120076309
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. London: Sage Publications Ltd.
- Fisher, C. D. (1993). Boredom at work: a neglected concept. Human Relations, 46, 395-417.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 331–362. doi:<u>https://doi.org/10.1002/job.322</u>

- Gagné, M., Forest J., Vansteenkiste M., Crevier-Braud L., Van Den Broeck A., et al. (2015). The multidimensional work motivation scale: validation evidence in seven languages and nine countries. *Journal of Work and Organizational Psychology*, 24(2), 178–96.
- Game, A. M. (2007). Workplace boredom coping: Health, safety, and HR implications. *Personnel Review*, *36*(*5*), 701–721.
- Glen, C. (2006). 'Key skills retention and motivation: The war for talent still rages and retention is the high ground', *Industrial and Commercial Training*, *38*(*1*), 37–45.
- Gonzalez, S., Dowson, M. Brickman, S., & McInerney, D. (2005) Self-regulation of academic motivation: Advances in structure and measurement. Australian Education Index, Australian Center for Educational Research. Sydney, Australia.
- Graham, S., & Weiner, B. (1996). Theories and principles of motivation. In D. Berliner & R. Calfee (Eds.), *Handbook of Educational Psychology* (pp. 63–84). New York: Simon and Schuster Macmillan.
- Hardré, P. L., & Reeve, J. (2009). Benefits of training corporate managers to adopt a more autonomy-supportive motivating style toward employees. *International Journal of Training and Development*, 13, 165–184.
- Johnson JW, LeBreton JM. (2004). History and use of relative importance indices in organizational research. *Organizational Research Methods*, 7, 238.

IBM Corp. (2013). IBM SPSS Statistics for Windows 10, Version 21. New York: IBM Corp.

- Kuvaas, B. (2009). A field test of hypotheses derived from self-determination theory among public sector employees. *Employee Relations*, 31, 39–56.
- La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need

fulfillment, and well-being. *Journal of Personality and Social Psychology*, 79, 367-384

- Leutner, D., Barthel, A., & Schreiber, B. (2001). Studierende können lernen, sich selbst zum Lernen zu motivieren: Ein Trainings experiment [Students can learn to motivate themselves for learning—A training experiment]. Zeitschrift für Pädagogische Psychologie/ German Journal of Educational Psychology, 155–167. doi:https://doi.org/10.1024//1010-0652.15.34.155
- Laerd Statistics (2017). Binomial logistic regression using SPSS Statistics. Statistical tutorials and software guides. Retrieved from <u>https://statistics.laerd.com/</u>
- Loukidou, L., Loan-Clarke, J., & Daniels, K. (2009). Boredom in the workplace: More than monotonous tasks. *International Journal Management Reviews*, 381-405. doi:<u>http://dx.doi.org/10.1111/j.1468-2370.2004.00267.x</u>.
- Malik, M., Wan, D., Ahmad, M., & Rehman, R. (2015). The role of LMX in employees job motivation, satisfaction, empowerment, stress, and turnover: Cross country analysis. *Journal of Applied Business Research*, 31, 1989-2000.
- Martin, M., Sadlo, G., & Stew, G. (2012). Rethinking occupational deprivation and boredom. *Journal of Occupational Science*, *19*(*1*), 54–61.
- Muraven, M., Gagné, M., & Rosman, H. (2008). Helpful self-control: Autonomy support, vitality, and depletion. *Journal of Experimental Social Psychology*, 44, 573–585.
- Montalvo, F., & Torres, M. (2004). Self-regulated learning: Current and future Directions. *Electronic Journal of Research in Education Psychology*, *2*(*1*), 1696-2095.
- Nicholls, J.G. (1984). Achievement Motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, *91*, 328-346.

- Osborne, J., & Waters, E. (2002). Four assumptions of multiple regression that researchers should always test. *Practical Assessment, Research & Evaluation, 8(2), 1-9.*
- Pekrun, R., Goetz, T., Daniels, L. M., Stupnisky, R. H., & Perry, R. P. (2010). Boredom in achievement settings: Exploring control-value antecedents and performance outcomes of a neglected emotion. *Journal of Educational Psychology*, *102(3)*, 531–549.
- Pelletier, L. G., Fortier, M. S., Vallerand, R. J., & Briére, N. M. (2001). Associations among perceived autonomy support, forms of self-regulation, and persistence: A prospective study. *Motivation and Emotion*, 25, 279–306.
- Pinder, C. C. (1998). Motivation in work organizations. Lipper Saddle River, NJ: Prentice Hall.
- Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, *95*(*3*), 667–686.
- Pintrich, P. R., & Schrauben, B. (1992). Students 'motivational beliefs and their cognitive engagement in classroom tasks. In D. Schunk & J. Meece (Eds.), *Student perceptions in the classroom: Causes and consequences* (pp. 149–183). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Pintrich, P. R., Smith, D., Garcia, T., & McKeachie, W. (1993). Reliability and predictive validity of the Motivated Strategies for Learning Questionnaire. *Educational and Psychological Measurement*, 53, 801-813.
- Powell, I. (2013). Can you see me? Experiences of nurses working night shift in Australian regional hospitals: A qualitative case study. *Journal of Advanced Nursing*, 69(10), 2172–2184.
- Purdie, N., & Hattie, J. A. (1996). Cultural differences in the use of strategies for self regulated learning. American Educational Research Journal, 33, 845-871.

Reijseger, G., Schaufeli, W. B., Peeters, C. W., Taris, T. W., van Beek, I., & Ouweneel, E. (2013). Watching the paint dry at work: psychometric examination of the Dutch Boredom Scale. *Anxiety, Stress & Coping*, 508-525. doi:10.1080/10615806.2012.720676

- Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *J. Pers. 63(3)*, 397–427.
- Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, *43*, 450-461.
- Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology*, 57, 749–761.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78.
- Ryan, R. M., & Deci, E. L. (2017). Self-determination theory: Basic psychological needs in motivation, development, and wellness. New York: Guilford. doi:10.7202/1041847ar
- Sansone, C., Weir, C., Harpster, L., & Morgan, C. (1992). Once a boring task always a boring task? Interest as a self-regulatory mechanism. *Journal of Personality and Social Psychology*, 63, 379-390.
- Sansone, C., Wiebe, D. J., & Morgan, C. L. (1999). Self-regulating motivation: The moderating role of hardiness and conscientiousness. *Journal of Personality*, 67, 701-733.

Schein, E. (1996). Career anchors revisited: Implications for career development in the

21st century. Society for Organizational Learning. [Online] Available at: http://www.solonline, org/res/wp/10009.html.

- Schunk, D. H., & Zimmerman, B. J. (1994). *Self-regulation of learning and performance: Issues and educational applications*. Hillsdale, NJ: Erlbaum.
- Schwinger, M., & Stiensmeier Pelster, J. (2012). Effects of motivational regulation on effort and achievement: A mediation model. *International Journal of Educational Research*, 56, 35-47.
- Steers, R., Mowday, R., & Shapiro, D. (2004). The future of work motivation theory. *Academy* of Management Review, 29, 379–387.
- Tabachnick, B. G., & Fidell, L. S. (2014). *Using multivariate statistics* (6th ed.). Harlow, England: Pearson.
- Tafvelin, S., & Stenling, A. (2018). Development and Initial Validation of the Need Satisfaction and Need Support at Work Scales: A Validity-Focused Approach. *Scandinavian Journal* of Work and Organizational Psychology, 1. doi:<u>http://doi.org/10.16993/sjwop.30</u>
- Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology*, *9*(2), 79-94.
- Van Velsor, E., & McCauley, C. D. (2004). Our view of leadership development. In C. D. McCauley & E. Van Velsor (Eds.), *The center for creative leadership: Handbook of leadership development* (pp. 1–22). San Francisco, CA: Jossey-Bass.
- Wigfield, A., & Eccles, J. S. (2000). Expectancy value theory of achievement motivation. *Contemporary Educational Psychology*, 25, 68-81.
- Wigfield, A., & Eccles, J. (1992). The development of achievement task values: a theoretical analysis. *Developmental Review*, *12*, 265–310.

doi:https://doi-org.proxy.library.uu.nl/10.1016/0273-2297(92)90011-P

- Winne, P. H., & Hadwin, A. F. (1998). Studying as self-regulated engagement in learning. In D. Hacker, J. Dunlosky, & A. Graesser (Eds.), *Metacognition in educational theory and practice* (pp. 277-304). Hillsdale, NY: Erlbaum.
- Winne, P. H., & Hadwin, A. F. (2008). The weave of motivation and self-regulated learning. In
  D. H. Schunk, & B. J. Zimmerman (Eds.), *Motivation & self-regulated learning. Theory, research and applications* (pp. 297-314). New York, NY: Routledge.
- Wolters, C. (1998). Self-regulated learning and college students' regulation of motivation. Journal of Educational Psychology, 90(2), 224-235.
- Wolters, C. (1999). The relation between High School students' motivational regulation and their use of learning strategies, effort, and classroom performance. *Learning and Individual Differences*, 11, 281–299.
- Wolters, C. (2003). Regulation of motivation: Evaluating an underemphasized aspect of selfregulation learning. *Education Psychologist*, *38*(*4*), 189-205.
- Wolters, C. (2011). Regulation of motivation: Contextual and social aspects. *Teacher's College Record*, *113*(2), 265-283.
- Wolters, C., & Rosenthal, H. (2000). The relation between students' motivational beliefs and their use of motivational regulation strategies. *International Journal of Educational Research*, 33, 801-820.
- Wolters, C., Benzon, M., & Arroyo-Giner, C. (2011). Assessing strategies for the self regulation of motivation. In D. Schunk & B. Zimmerman (Eds.), *Handbook of self regulation of learning and performance* (pp. 298 – 312). New York: Routledge.

- Wolters, C., & Benzon, M. (2013). Assessing and Predicting College Students' Use of Strategies for the Self-Regulation of Motivation. *The Journal of Experimental Education*, *81(2)*, 199-221. doi:10.1080/00220973.2012.699901
- Zimmerman, B., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating grade, sex and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82(1), 51-59.
- Zimmerman, B. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal*, 45(1), 166-183.
- Zimmerman, B., & Schunk, D. (2001). Theories of self-regulated learning and academic achievement: An overview and analysis. In *Self-regulated learning and academic achievement* (2nd ed.) (pp. 1-37). Mahwah, NJ: Erlbaum

Appendix A. Scenarios overview

### Scenario 1

You are overwhelmed by your new job. You often feel that you lack the expertise to solve certain tasks and continuously encounter further problems that risk the completion of projects. You have started to doubt whether your job is too difficult for you.

Is the mentioned scenario familiar to you?

\*

• Choose one of the following answers Please choose **only one** of the following:

) Yes

) No

### Scenario 2

You are assigned to be the supervisor of an intern, although you already have a high workload.

You think that this is a distraction from your current work, and is thus irrelevant.

Is the mentioned scenario familiar to you?

\*

• Choose one of the following answers Please choose **only one** of the following:

) Yes

What kind of situation did you come up with? Can you describe it in a few sentences?

\*

Please write your answer here:

Why is this activity uninteresting and/or irrelevant to you?

\*

Please write your answer here:

Is the activity difficult or easy? (Please specify shortly)

\*

Please write your answer here:

#### Appendix B. FETC Study Registration Form

#### **Section 1: Basic Study Information**

1. Name student:

Arianna Kordoni

2. Name(s) of the supervisor(s):

Barbara Flunger

3. Title of the thesis (plan):

Employees motivation regulation when facing motivational problems and the role of managerial need support.

4. Does the study concern a multi-center project, e.g. a collaboration with other organizations, universities, a GGZ mental health care institution, or a university medical center?

Yes / No

If yes: Explain.

5. Where will the study (data collection) be conducted? If this is abroad, please note that you have to be sure of the local ethical codes of conducts and permissions.

The data collection is conducted internationally, namely in Greece, Germany, the Switzerland. The local ethical codes of conducts and permissions are known.

#### Section 2: Study Details I

6. Will you collect data?

Yes / No

#### Yes $\rightarrow$ Continue to question 11

No  $\rightarrow$  Continue to question 7

7. Where is the data stored?

8. Is the data publicly available?

Yes / No

If yes: Where?

9. Can participants be identified by the student? (e.g., does the data contain (indirectly retrievable) personal information, video, or audio data?)

Yes / No

If yes: Explain.

10. If the data is pseudonymized, who has the key to permit re-identification?

#### **Section 3: Participants**

11. What age group is included in your study?

The age group is estimated between 22 to 68.		
12. Will be participants that are recruited be > 16 years?	Yes/No	
13. Will participants be mentally competent (wilsbekwam in Dutch)?	Yes/No	
14. Does the participant population contain vulnerable persons?		
(e.g., incapacitated, children, mentally challenged, traumatized,	Yes/No	
pregnant)		

15. If you answered 'Yes' to any of the three questions above: Please provide reasons to justify why this particular groups of participants are included in your study.

16. What possible risk could participation hold for your participants?

A possible risk could be that participants should answer to questions with regard to how they perceive that their managers support their autonomy and competences, thus get motivated by them. However, they could feel the risk that their supervisor finds out what they answered in the questionnaire, as a result unpleasant feeling will be triggered.

17. What measures are implemented to minimize risks (or burden) for the participants?

- Obtaining informed consent from participants.
- Protecting the anonymity and confidentiality of participants.
- Avoiding sensitive or harming questions.
- Providing participants with the right to withdraw from the research at any time.

18. What time investment and effort will be requested from participants?

30-35 minutes approximately.

19. Will be participants be reimbursed for their efforts? If yes, how? (financial reimbursement, travelling expenses, otherwise). What is the amount? Will this compensation depend on certain conditions, such as the completion of the study?

No, participants will only receive the results on the study once it is finished and graded with a sufficient.

20. How does the burden on the participants compare to the study's potential scientific or practical contribution?

The possible burden on the participants may be a bit high due to the fact that participations take a relatively amount of time. However, the questionnaire can be filled in online, which makes the burden increasingly low. Moreover, participation is voluntary, so participants can assess whether their contribution compares to the result.

21. What is the number of participants? Provide a power analysis and/or motivation for the number of participants. The current convention is a power of 0.80. If the study deviates from this convention, the FERB would like you to justify why this is necessary.

(Note, you want to include enough participants to be able to answer your research questions adequately, but you do not want to include too many participants and unnecessarily burden participants.)

The sample size was calculated in the G\*power 3.1.9.2. and was based on power analysis (i.e., "Linear Multiple Regression: Fixed Model, R<sup>2</sup> increase",  $f^2 = .15$ ,  $\alpha$  error prob. = .05, power = .80). With nine predictors (e.g., 7 Motivation Regulatory Strategies & Autonomy/ Competence Support), and two covariates (age, gender) a total sample size of n =114 would suffice.

22. How will the participants be recruited? Explain and attach the information letter to this document.

The primary researcher sent the online survey to the company personnel representative with an informative letter attached that explains the purpose of the study and solicits permission to invite the employees to participate. After that, employees are free to enter the online survey sent to their emails by the company personnel. Additionally, a snowballing method is used to reach a larger number of participants. 23. How much time will prospective participants have to decide as to whether they will indeed participate in the study?

After reading the information letter and the consent letter, there is a box called "Agree to the terms and conditions". The prospective participants are invited to click the button with all the details related to the study procedure and they can automatically start the survey.

24. Please explain the consent procedures. Note, active consent of participants (or their parents) is in principle mandatory. Enclose the consent letters as attachments. You can use the consent forms on Blackboard.

After reading the information letter, the participants are invited to confirm their consent and proceed to the survey after signing- clicking the existing button.

25. Are the participants fully free to participate and terminate their participation whenever they want and without stating their grounds for doing so? Explain.

Yes, they are. Detailed explanation that participation is voluntary and can be terminated at any time without consequences for the participants will be proceeded. Of course, it is also noted that if the participants withdraw their consent, the data that will have been collected by then may be used.

26. Will the participants be in a dependent relationship with the researcher?

Yes / No

If yes: Explain.

27. Is there an independent contact person or a general email address of a complaint officer

whom the participant can contact?

The UU complaint officer's email address is noted in the information letter.

(klachtenfunctionaris-fetcsocwet@uu.nl)

28. Is there an independent contact person or a general email address of a complaint officer

whom the participant can contact in case of complaints?

The UU complaint officer's email address is noted in the information letter.

(klachtenfunctionaris-fetcsocwet@uu.nl)

#### Section 4: Data management

29. Who has access to the data and who will be responsible for managing (access to) the data?

The researcher has access to the data and is responsible for managing (access to) the data.

Besides the researcher, only the supervisor has access to the data.

30. What type of data will you collect or create? Please provide a description of the instruments.

Quantitative data are collected. An online survey contains a multi-sectional questionnaire. The second section- after the demographic-section- aims at identifying why employees are motivated. For that purpose, 12 items are used. The third section includes 34 items that show employees' preference to the motivational self-regulatory strategies when dealing with motivational barriers. The next section is about 15 items which depict the extent to which employees perceive their manager's autonomy support. 8 more items were added to measure employees' satisfaction of the need for autonomy (four items), the need for competence (four items). Finally, two short scenarios are presented with a description of two motivational problems (e.g., a difficult, an irrelevant task) and a third scenario where participants are asked to rate freely a demotivating job-task. Accordingly, employees should report the motivational regulation strategy proposed in each case as the best solution for changing their lacking motivational state.

31. Will you be exchanging (personal) data with organizations/research partners outside the

Yes / No

If yes: Explain.

UU?

32. If so, will a data processing agreement be made up?

Yes / No

If yes: Please attach the agreement.

If no: Please explain.

33. Where will the data be stored and for how long?

The anonymized data are stored in YODA (a folder on the faculty server created by the Tech-support staff) as long is necessary. The principle is that the data collected for the purpose of writing the thesis, thus the storage period is similar to the period for storing study results (maximum 10 years).

34. Will the data potentially be used for other purposes than the master's thesis? (e.g., publication, reporting back to participants, etc.)

The data are used to report participants about the findings of the study in the form of the results and discussion section, not the raw data. Moreover, the data might be used for publication in case the master's thesis can be published.

35. Will the data potentially be used for other purposes than the master's thesis? (e.g.,

publication, reporting back to participants, etc.)

The data are used to report participants about the findings of the study in the form of the results and discussion section, not the raw data. Moreover, the data might be used for publication in case the master's thesis can be published.

#### Appendix C. Information letter and Active consent

**Title:** Employees motivation regulation when facing motivational problems and the role of managerial need support.

**Faculty Supervisor**: Barbara Flunger, Assistant Professor at the Department of Education, of Utrecht University, E-mail: b.flunger@uu.nl

**Student investigator:** Arianna Kordoni, MSc at the Department of Education, of Utrecht University, E-mail: a.kordoni@students.uu.nl

To help you make an informed decision regarding your participation, this letter will explain the study's purpose, the possible risks and benefits, and your rights as a research participant. We ask you for your permission to process all data, also the personal data, made available for our research purpose. If you have any questions or remarks, please ask one of the investigators prior to consenting to the study.

#### What is the study about?

We invite you to participate in a study on employee's motivation and their strategies to deal with unmotivating tasks in their work environment. The purpose of the study is to find out how employees maintain their motivation when dealing with unmotivating tasks in their work environment, and how their managers' support helps them to stay motivated.

#### I. Your responsibilities as a participant.

#### What does participation involve?

If you decide to participate, you will be asked to complete the online survey that is expected to last approximately 30 minutes. You will first complete a short demographic survey (age, gender, ethnicity, work experience, time working at the current company, level of education), followed by four sections that include statements about your motivation at work, strategies you apply to maintain your motivation, and also the motivational support of your supervisor. The last section contains scenarios related to motivational problems that you may face at your workplace.

#### Who may participate in the study?

To participate in the study, you must be at least 18 years of age and able to speak and understand English. You must also be currently working at an organization and work under a supervision/direction of a person (can be a manager, boss, etc.).

#### **II.** Your rights as a participant?

#### What are the possible advantages and disadvantages of the study?

There are no anticipated risks associated with your participation in this study. Participation in this study is completely voluntary. If you withdraw from the study, you do not have to state why. Please do inform the researcher about your decision. All data already collected up until that moment will be used for the current and future research. Participation in this study may not provide any personal benefit to you. We hope the data from the online survey will contribute to the understanding of employees' motivation regulation in the work domain.

#### Will my information be kept confidential?

We strictly adhere to the privacy and conduct rules from the ethical and faculty committees of the Faculty of Social Sciences at Utrecht University. Any personal information that could reasonably identify you will be removed or changed before files are shared with other researchers or results are made public. The information in this study will only be used in ways that will not reveal who you are. You will not be identified in any publication from this study or in any data files shared with other researchers. Your participation in this study is confidential. This study requires us to collect some of your personal demographic data. We need this data in order to be able to answer

the research question properly. This personal demographic data will be stored on a different computer than the research data itself (the so-called raw data). The computer on which your personal demographic details is stored is secured to the highest standards, and only researchers involved will have access to these data. The data itself will also be protected by a security code. This information will be kept for the length of the study and a fixed period afterwards (10-years). After that time, it will be destroyed or de-identified, meaning we will replace your identifying information with a code that does not directly identify you.

#### III. Questions, comments, or concerns

#### Who should I contact if I have questions regarding my participation in the study?

If after reading this information letter you still have questions or would prefer to make an appointment with the researcher, you can always contact the researcher Arianna Kordoni, <u>a.kordoni@students.uu.nl</u> or the researcher supervising this study, Barbara Flunger, <u>b.flunger@uu.nl</u>. If you have an official complaint about the study, please contact the complaints officer at klachtenfunctionaris-fetcsocwet@uu.nl (<u>mailto:klachtenfunconaris-fetcsocwet@uu.nl</u>). Below you will find the consent form. You must sign this form to participate in the study. Thank you in advance for your interest in this study.

With kind regards,

Arianna Kordoni

#### Consent Form

By providing your consent, you are not waiving your legal rights or releasing the investigator(s) or involved institution(s) from their legal and professional responsibilities.

**Title of the study:** *Employees motivation regulation when facing motivational problems and the role of managerial need support.* 

I hereby declare that I have read the information letter about the "Master thesis research on employees' motivation regulation in light of motivational barriers and their managers' support" study and agree to participate in the study. I know that participating is entirely voluntary. I know that I can stop the investigation at any time, without having to give a reason. I agree that research data gathered for the study may be published or made available provided my name or other identifying information is not used.