Does Workplace Procrastination Strengthen the Relationship Between Unfinished Tasks and Competence Need Satisfaction?

Pauline Frank

S5481627

Department of Psychology, University of Groningen

PSB3E-BT15: Bachelor Thesis

Group 25

Supervisor: Dr. Oliver Weigelt

Second evaluator: Marcel Näther, Msc.

In collaboration with: Theo Ebeling, Beibei Ji, Malina Mallawaratchi, Tom Piper, and Siebren Tiemersma

June 24, 2026

A thesis is an aptitude test for students. The approval of the thesis is proof that the student has sufficient research and reporting skills to graduate, but does not guarantee the quality of the research and the results of the research as such, and the thesis is therefore not necessarily suitable to be used as an academic source to refer to. If you would like to know more about the research discussed in this thesis and any publications based on it, to which you could refer, please contact the supervisor mentioned.

Declaration of AI use

In designing our survey, we translated our questionnaire from English into German, Dutch, and Slovak with the help of artificial intelligence chatbot ChatGPT (OpenAI, 2026). The output was carefully checked and adjusted by native speakers on the research team. Otherwise, no content generated by AI technologies has been presented as my own work.

Abstract

Unfinished tasks are a common stressor in the workplace and are associated with adverse outcomes such as work-related rumination, sleep disturbances, and lower job satisfaction. A recent study has suggested that unfinished tasks may also threaten competence need satisfaction, the basic psychological need to feel effective and capable at work. Apart from some initial evidence, research on this relationship is very limited, and little is known about factors that may strengthen or weaken it. The present study aimed to replicate the negative association between unfinished tasks and work-related competence need satisfaction and to examine workplace procrastination as a potential strengthening moderator. We collected data from a multinational sample ($N = 92$) of working professionals in an online cross-sectional survey study. Hypotheses were tested using correlations and regression analysis, including moderator analysis. In line with our hypothesis, unfinished tasks showed a moderate negative association with competence need satisfaction at $r = -.334$. Workplace procrastination did not significantly moderate this relationship but was strongly correlated with both unfinished tasks ($r = 0.599$) and competence need satisfaction ($r = -.470$). Our findings extend the literature connecting unfinished tasks to work-related need satisfaction and provide initial insight into the role of behavioral tendencies like workplace procrastination. Future interventions to preserve competence need satisfaction could draw on techniques aimed at reducing procrastination at work.

Keywords: unfinished tasks; competence need satisfaction; workplace procrastination; self-determination theory; employee well-being

Does Workplace Procrastination Strengthen the Relationship Between Unfinished Tasks and Competence Need Satisfaction?

Work occupies a substantial portion of our daily lives (Eurostat, 2024), and it should come as no surprise that work is a major source of stress for many of us (Agolli & Holtz, 2023). One factor that has repeatedly been identified as a significant job stressor is having to leave work with tasks left undone (Wendsche et al., 2026). According to the Zeigarnik effect, when a task is not finished, it creates a mental tension or a need that is only resolved once the task is completed. Consequently, people are much more likely to remember or repeatedly think about an unfinished task than a finished one (Zeigarnik, 1938). As a result, employees may struggle to disengage from unfinished work. Research has linked unfinished tasks to various negative outcomes, such as work-related rumination (Weigelt et al., 2019; Wendsche et al., 2026), impaired sleep (Syrek et al., 2017), and lower job satisfaction (Kerman et al., 2022). Unfinished tasks represent unattained goals, and when they linger in the minds of employees, they may consistently remind them that they were unable to achieve their set goals. Therefore, recent research has proposed that unfinished tasks at work threaten competence need satisfaction (Weigelt, Syrek et al., 2019), the basic psychological need to feel capable and effective, which is grounded in self-determination theory (Deci & Ryan, 2000). This theory proposes that fulfilling basic psychological needs is essential for motivation, work performance, and well-being (Coxen et al., 2021; Deci & Ryan, 2000).

While the link between unfinished tasks and other negative outcomes is established, considerably less research has focused on competence need satisfaction, especially in relation to work. Additionally, we don’t yet know how this link shows up in different employees or the conditions it depends on. Factors that strengthen or weaken this relationship should be studied because they can identify leverage points for intervention. Workplace procrastination will be considered as one such factor that may strengthen the relationship due to its role as a

common self-regulation failure (Steel, 2007) that may characterize behavior at work to varying extents (Prem et al., 2018).

Overall, this study aims to partially replicate the pre-established link between unfinished tasks and competence need satisfaction. We focus on work-related competence need satisfaction and aim to extend the literature by studying workplace procrastination as a moderator, which may be a future target of intervention to preserve work-related competence need satisfaction when unfinished tasks cannot be prevented.

Unfinished Tasks and Competence Need Satisfaction

Unfinished tasks are defined as work-related tasks that an employee intended to complete but left undone by the end of the work period for any reason (Syrek et al., 2017; Wendsche et al., 2026). Unfinished tasks signal a lack of goal attainment, since the employee set out to complete them but did not achieve this goal. Building on this, Weigelt, Syrek et al. (2019) proposed that unfinished tasks may threaten the satisfaction of competence needs.

This is consistent with control theory described by Carver and Scheier (1990), which states that behavior is guided by the self-regulation effort to close the gap between a current state and a desired state, and that making progress towards personally relevant goals is important for well-being. Additionally, Sheldon and Elliott (1999) state that goal attainment is connected to well-being because it influences basic psychological need satisfaction: attaining a goal strengthens need satisfaction, while not achieving a goal may leave needs unfulfilled. Employees may view the discrepancy between intended and achieved work goals as an indication that they were unable to effectively accomplish their tasks, which may specifically undermine their competence need satisfaction.

Competence need refers to the basic psychological need to feel like we can achieve mastery at a certain task, that we are capable of taking on challenges, and that we are effective at what we do (Coxen et al., 2021; Sheldon et al., 2001; Van Den Broeck et al., 2010).

Together with autonomy and relatedness need satisfaction, competence need satisfaction is one of the three basic psychological needs of the self-determination theory (SDT) by Deci and Ryan (2000). This theory is used to describe human motivation in general, but also applies to the workplace (Deci et al., 2017). When basic needs are satisfied, motivation, work performance, positive attitudes, and well-being are facilitated (Coxen et al., 2021; Deci & Ryan, 2000; Van Den Broeck et al., 2016).

Empirical evidence for the link between unfinished tasks and competence need satisfaction is very limited. Weigelt, Syrek et al. (2019) were the first to study this association. They proposed that competence need satisfaction could constitute a link between

unfinished tasks and work-related rumination, a more established relationship (Wendsche et al., 2026). They conducted a week-level diary study over the course of twelve weeks with 58 participants from a psychology program at a German distance-learning university, yielding 377 observations in total. Unfinished tasks were measured on Friday at the end of the workweek, while competence need satisfaction and work-related rumination during the weekend were assessed the following Monday to study spillover. Indeed, they found a moderate negative correlation of unfinished tasks and general competence need satisfaction on the weekend, with r = -.21 at the person-level (so between participants), and r = -.27 at the week-level. In their study, unfinished tasks were associated with affective rumination – a negative and emotional form of persistently thinking about work (Cropley et al., 2012) – via competence need satisfaction, which served as a mediator.

Extending their research, a previous bachelor's thesis studied unfinished tasks and work-related basic need satisfaction (Svetlošáková, 2026). This study employed a cross-sectional survey design, which instructed 75 participants to think about an average workweek. They found a moderate negative correlation between unfinished tasks and work-related competence need satisfaction of r = -.384. In contrast to Weigelt, Syrek et al. (2019) who

assessed general competence need satisfaction, this study focused on specifically work-related need satisfaction, which may explain the greater strength of the association.

The evidence points to a negative relationship between unfinished tasks and competence need satisfaction, with more unfinished tasks predicting lower levels of competence need satisfaction, but the link is not yet well-established. With only two studies on this link, aiming to replicate and extend findings is important. We follow Svetlošáková (2026) and focus on competence need satisfaction in the work domain. We propose our first hypothesis:

*H*1: Unfinished tasks at work are negatively associated with competence need satisfaction.

To go beyond a replication of previous findings, we will also consider the contingencies underlying the link between unfinished tasks and competence need satisfaction. Identifying moderators is practically relevant, since they identify leverage points for interventions. For instance, they indicate which employees to target or which behaviors to address (Brincks et al., 2022). In this study, we will consider a common self-regulation failure that may contribute to lower competence need satisfaction when facing unfinished tasks: workplace procrastination.

Workplace Procrastination, Self-Regulation, and Self-Efficacy

Procrastination is defined as the voluntary delay of intended tasks despite anticipating negative consequences, and is commonly regarded as a failure of self-regulation (Prem et al., 2018; Steel, 2007). Workplace procrastination specifically refers to delaying important work tasks by engaging in alternative tasks or non-work-related activities (Metin et al., 2016). Procrastination is associated with worse work outcomes overall, including missed deadlines and less successful projects (Steel, 2007; Van Eerde, 2003). It may also contribute to unfinished tasks, since the chronic delay of tasks will lead to an accumulation of them.

Procrastination constitutes a relatively stable behavioral disposition (Kühnel et al., 2016), with about 20 percent of adults being chronic procrastinators (Steel, 2007). is and Pychyl (2013) have described procrastination as a maladaptive attempt at coping with negative emotions when facing adverse tasks. While it may help to regulate emotions short-term, procrastinators usually feel worse in the long-term (Steel, 2007).

According to Tuckman (1991), the tendency to procrastinate is partly related to the extent to which individuals believe that they can succeed in a task. This refers to Bandura's concept of self-efficacy, which is described as a person's belief in their capacity to execute tasks successfully (Stajkovic & Luthans, 1998).

The relationship between self-efficacy and procrastination (Steel, 2007; Tuckman, 1991) serves as indirect evidence that procrastination may also relate to similar perceptions of capability. According to the authors of self-determination theory, self-efficacy and competence need are two distinct constructs: Self-efficacy is focused on perceived future capability and contributes to satisfaction and well-being because it helps to achieve desired outcomes. Competence need, on the other hand, is focused on present or past experiences of competence. It is an inherent need, and its satisfaction is rewarding in itself, disconnected from the outcomes (Deci & Ryan, 2000). However, both concepts deal with personal capability and effectiveness. Therefore, a behavioral tendency that is related to self-efficacy may also be related to competence needs.

Workplace Procrastination as a Moderator of Unfinished Tasks and Competence Need Satisfaction

In addition to its relationship with competence need satisfaction, workplace procrastination may intensify the threat that unfinished tasks pose to competence need satisfaction. Whether competence need satisfaction is threatened by unfinished tasks may not be the same for all employees; a maladaptive behavioral tendency such as procrastination may

strengthen it. Weigelt, Syrek et al. (2019) argued that lower competence need satisfaction when facing unfinished tasks constitutes a sense of failure. Additionally, procrastination leads to frustration because it signals a gap between a set goal and the action that an employee needs to take to achieve it (Kühnel et al., 2016). Employees who procrastinate more when facing unfinished tasks may experience an increased sense of failure or frustration due to their unsuccessful self-regulation efforts (Prem et al., 2018) and inability to act on goals, on top of the sense of failure already arising from unfinished tasks.

Unfinished tasks are already seen as unattained goals, but there are various reasons why they occur, for instance, high workload (Paquette et al., 2025) or not having enough time to complete a task (Wendsche et al., 2026). Employees who procrastinate may attribute the task being unfinished not only to external circumstances but also to their own failure to self-regulate. According to attribution theory, whether we attribute behavior to internal or external circumstances depends in part on how consistently it occurs across situations. If an individual acts similarly across situations, they likely make internal attributions (Kelley, 1967). Individuals with a stronger procrastination tendency may have observed this behavior across many situations and are likely to attribute it to their own shortcomings. Therefore, when unfinished tasks and procrastination are combined, the threat to competence may arise from the unattained goal but also from an employee's awareness that they voluntarily delayed working on it.

This paper, therefore, asks the question whether procrastination moderates the relationship between competence need satisfaction and unfinished tasks, more specifically, whether it strengthens the association. We propose our second hypothesis:

*H*2. Workplace procrastination strengthens the association between unfinished tasks and competence need satisfaction.

Methods

Design and Procedure

This study was part of a broader bachelor's thesis project, investigating the link between unfinished tasks, work-related rumination, competence need satisfaction, and various aspects of employee well-being and occupational traits.

We employed a cross-sectional survey design, so we collected data at a single time point and compared observations at a between-persons level. To collect data, we designed a self-report questionnaire on the online survey platform Qualtrics (https://www.qualtrics.com/). In designing the survey, we employed validated scales with good reliability that are commonly used within the respective topics of study. Each scale covered a different construct to study potential interaction effects for the main effect between unfinished tasks and affective rumination or competence need satisfaction.

Due to its low-risk standard procedure, our study was exempt from a formal review by the Ethics Committee of the University of Groningen (application number: PSY-2526-S-0314). We preregistered our research questions, hypotheses, and methods on the PsychArchives website of the Leibniz Institute for Psychology prior to data collection (Ji et al., 2026).

To recruit participants, we distributed the link to the Qualtrics survey through our personal and professional networks by forwarding it to our contacts through messenger apps such as WhatsApp, resulting in a convenience sample. Data collection took place between April 24 and May 8, 2026, so participants had two weeks to complete the survey. The survey contained nine sections and took around 15 minutes to complete. Participants chose between an English, German, Dutch, and Slovak version. We started off with a section on acquiring informed consent. This section contained information regarding the goal of the study, the participation requirements (the individual should be working for a minimum of 20 hours a week and be above 18 years of age), and acknowledged that the participant data will be

collected and maintained anonymously and confidentially. Those who agreed to participate were directed to the next sections, and those who declined were redirected to an exit page and thanked for their time. After giving informed consent, participants completed a section regarding demographic information including nationality, gender, education, weekly working hours, years of work experience and occupation or job title. We included instructions for participants throughout the survey. After that, we asked participants to imagine their typical work week as they answered questions regarding unfinished tasks, affective rumination, competence need satisfaction, boundary management, proactive personality type, stress mindset, perfectionism, and workplace procrastination. At the end of the survey, we provided participants with information on how to contact the researchers to obtain a summary of the findings, if interested. No compensation was offered.

We stored the data confidentially and anonymously, in line with ethical guidelines. The demographic information collected cannot be linked to the identity of individual participants. No individual data will be made public.

Measures

Our survey consisted of multiple adaptations of existing validated scales that align with our own theoretical frameworks. These scales reflect the conceptual definitions we used in our project. To avoid creating an overly long and complicated survey, we omitted items that didn't capture the aspects of our variables that we were most interested in or that were redundant. To ensure reliability, we calculated Cronbach's alpha for each scale. We translated the scales from English into German, Dutch, and Slovak to attract more participants and to facilitate completion for native speakers. Native speakers on the research team translated the scales with the help of ChatGPT (OpenAI, 2026) and then corrected for idiomaticity and alignment with theoretical constructs.

We assessed all constructs using self-report questionnaires. Participants rated all items on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) to ensure consistency between measurements and to facilitate completion for the participants. Since this thesis examines the relationship between unfinished tasks and competence need satisfaction as well as the potential interaction with workplace procrastination, I will only describe the measures for these respective variables.

Unfinished Tasks

We measured Unfinished Tasks using six items developed by Syrek et al. (2017). All items concerned important or urgent work tasks that employees did not complete at the end of a typical workweek. Some examples are "I have not finished important tasks that I had planned to do" and "I need to carry many of that week's due tasks into the next week." A higher score on this scale indicated more unfinished tasks on average. With regard to the research question, unfinished tasks served as the predictor.

Competence Need Satisfaction

We assessed Competence Need Satisfaction using six items by Van den Broeck et al. (2010) derived from self-determination theory (Deci et al., 2017). We instructed participants to rate their feelings of competence and mastery regarding their work during a typical workweek. Example items included "I am good at the things I do in my job" and "I really master my tasks at my job". The scale also included two reverse-coded items ("I don't really feel competent at my job" and "I doubt whether I'm able to execute my job properly"). A higher composite score on this scale indicated higher levels of competence need satisfaction. Competence need satisfaction served as the outcome variable in the context of the research question.

Workplace Procrastination

We used two adapted scales to measure Workplace Procrastination. The first scale included five out of six items derived from Tuckman's procrastination scale (1991), such as "I needlessly delay finishing jobs, even when they are important". We excluded one double-barreled item ("I am an incurable time waster, but I can't seem to do anything about it"). Previous research has used this selection of six items with good validity results (Kühnel et al., 2016; Prem et al., 2018). It is important to note that the original scale aims to measure procrastination in general and not specific to the workplace, but we instructed participants to think about their behavior at work while completing the items.

The second scale measuring workplace procrastination was adapted from Metin et al. (2016), who specifically developed their scale to assess procrastination in the workplace. We chose seven items based on high factor loadings and alignment with our theoretical narrative. Examples are "At work, I crave a pleasurable diversion so sharply that I find it increasingly hard to stay on track" and "I delay some of my tasks just because I do not enjoy doing them". The total workplace procrastination score was calculated by combining both scales. Higher scores on the scale indicated a greater tendency to procrastinate at work.

Attention Checks

Two attention check items were included in the survey. The items were "Please select Disagree" and "Please select Agree". Failed attention checks indicated that a participant did not put sufficient effort into completing the study to be able to give meaningful answers on the focal constructs.

Sample

We recruited a total of 105 participants who completed the survey in Qualtrics. To be included in the final sample, participants had to meet two requirements: working a minimum of 20 hours per week on average and being at least 18 years of age at the time of the survey. We excluded twelve participants due to working hours below 20 hours per week. We

excluded one participant for not meeting the informed consent criterion. There was no exclusion due to straight-lining, other response sets, or missing data. The final sample consisted of 92 participants.

Participants were distributed across age groups with the largest group being the 18- to 29-year-olds ($N = 36$) and the 45- to 60-year-olds ($N = 39$). 60 percent of participants were male, 38 percent female. One participant identified as non-binary, and one didn't state their gender identity. A majority ($N = 49$) worked between 30 and 40 hours per week, 15 participants worked 20 to 30 hours, and 28 participants worked for more than 40 hours. Education level was high in the sample with the majority having a bachelor's or master's degree, although participants with a high school diploma or vocational training were also significantly represented. Participants had varying levels of work experience with the largest groups having more than 20 years of work experience ($N = 38$), and two to four years of experience ($N = 21$). Regarding nationality, the largest participant groups were Sri Lankan ($N = 26$), German ($N = 15$), and Dutch ($N = 13$). The remaining 40 percent made up a diverse sample from Europe and Asia, Australia, and Canada. Participants worked across a range of occupations, with a majority being white-collar workers. Most participants worked in the finance sector, or in other office jobs. Some worked in health care, in academia, and in the service industry. Around 24 percent of participants occupied management and leadership positions.

Participants who failed the attention checks remained in the sample. We planned to exclude participants who failed at least one of the attention checks from the final dataset, as we assumed that they did not put in sufficient effort to provide accurate answers, in line with recommendations for self-report questionnaires (DeSimone et al., 2015). However, many participants stated their confusion about the attention check items in the feedback box at the end of the survey, as they assumed content was missing. Therefore, we assume that failed

attention checks do not necessarily indicate low effort. We retain all participants who failed attention checks for the primary analysis and run robustness checks (see additional analyses below).

Analytical Strategy

To analyze our data, we used the software R (R Core Team, 2025) and R Studio (Posit team, 2025). Before the analysis, we screened the dataset for extreme outliers and missing data. We excluded extreme outliers that meaningfully affected the data to prevent skewed results. Cases with incomplete data were still included in the analysis if data were complete on all variables necessary to analyze a specific research question. If there were incomplete data within a scale, we computed composite scores from the remaining responses of the participant.

We report means and standard deviations of all variables, as well as the bivariate correlations between variables (see Table 1). We used the bivariate correlations to answer hypotheses regarding the main effects of unfinished tasks and affective rumination or competence need satisfaction.

Before running a regression analysis to detect interaction effects, we checked the assumptions of normality, homoscedasticity, linearity, and independence by inspecting suitable plots and statistics, such as scatterplots, residual plots, the Durbin-Watson statistic, and the Breusch-Pagan statistic. The threshold for significance was $\alpha = .05$ for all analyses. We conducted a moderator analysis by including an interaction term of the predictor and moderator in our regression model. We mean-centered the variables to reduce multicollinearity. The criterion variable, competence need satisfaction, was regressed on the focal predictor (unfinished tasks), the moderator (workplace procrastination), and the interaction term of focal predictor and moderator. Therefore, the final model included three predictors. A significant regression coefficient of the interaction term indicates support for an

interaction between unfinished tasks and workplace procrastination. We also inspected the simple slopes to identify the pattern of the interaction. Parallel lines indicate no significant interaction effect.

Results

We aimed to examine the link between unfinished tasks and competence need satisfaction, as well as workplace procrastination as a boundary condition. We hypothesized that unfinished tasks would have a negative linear relationship with competence need satisfaction. Furthermore, we hypothesized that workplace procrastination would function as a moderator and strengthen the relationship between unfinished tasks and competence need satisfaction.

Preliminary Analyses

Before conducting the main analyses, we assessed the reliability of the scales. The Unfinished Tasks scale showed excellent internal consistency with a Cronbach's alpha of .90. All items contributed to the score, and there was no indication that one of them should be dropped. The Competence Need Satisfaction scale showed good internal consistency with a Cronbach's alpha of .80. There was no indication that an item should be dropped, and the reverse-coded items were unproblematic regarding the internal consistency of the scale. Workplace procrastination, which consisted of items from both Tuckman (1991) and Metin et al. (2016), showed a very strong Cronbach's alpha of .95. Individually, the scales both had excellent internal consistency with a Cronbach's alpha of .91, respectively, but combined, Cronbach's alpha increased. However, the increased score may be explained by the greater length of the measure and may not actually indicate improved internal consistency. Some redundancy may be present in the scale (Tavakol & Dennick, 2011). For an overview of Cronbach's alpha, see Table 1.

Table 1

Means, Standard Deviations and Bivariate Correlations of Study Variables

	M	*SD*	*α*	1	2	3
Unfinished tasks	2.27	0.87	.90	-		
Competence need satisfaction	4.10	0.67	.80	-.334**	-	
Workplace procrastination	2.50	0.91	.95	.599***	-.470***	-

Note. $N = 92$. *M* = Mean; *SD* = Standard Deviation; *α* = Cronbach's alpha. *$p < .05$. **$p < .01$. ***$p < .001$.

There was a generally low level of unfinished tasks in the sample, with $M = 2.27$ and $SD = .87$. Therefore, the average answer on the UT items was between "Disagree" and "Neither agree nor disagree". Answers ranged from the minimum of 1, strongly disagree, to the maximum possible score of 5, strongly agree.

Competence need satisfaction was generally high in the sample with $M = 4.10$ and $SD = .67$. A 4 on the scale indicates that the average participant endorsed "Agree". Answers ranged from 1.8 to 5, which indicates that no participant endorsed "Strongly Disagree" on all items.

Workplace procrastination was low to moderate in the sample, with $M = 2.50$ and $SD = .91$. Answers ranged from the possible minimum of 1 to the possible minimum of 5. Table 1 reports means and standard deviations of all variables

Correlations

Unfinished tasks and competence need satisfaction show a moderate negative relationship with $r = -.334$. The relationship is significant with $p < .01$. This is in line with hypothesis 1, which predicted a negative relationship between UT and competence need satisfaction.

The second predictor, workplace procrastination, has a moderate to strong negative correlation with competence need satisfaction ($r = -.470$, $p < .001$). The two predictors are strongly correlated with $r = .599$ and $p < .001$. See Table 1 for an overview of the correlations.

Assumption Checks

Before conducting the regression analysis, the assumptions of multiple linear regression were checked. Multiple linear regression assumes linearity, independence, homoscedasticity, and normality. Additionally, no multicollinearity and no extreme influential outliers should be present. Refer to the appendix for a graphical summary.

A Residual vs. Fitted plot (Figure 1, see appendix) showed linearity but indicated some heteroscedasticity. To investigate this further, a Breusch-Pagan test was carried out. The test was significant with $BP = 20.394$, $df = 3$, and $p < 0.001$. Therefore, the assumption is violated. To ensure homoscedasticity, corrected Standard Errors were applied to the variables, however, this did not significantly change the results of the regression analysis.

For a multiple linear regression, residuals must be normally distributed. A QQ-Plot (Figure 2, see appendix) showed strong alignment, and the Shapiro-Wilk test showed a value of $W = .987$, with $p = .389$. Therefore, there is no significant deviation from normality, and the assumption is met.

Despite, a strong correlation between predictors, multicollinearity was unproblematic with $VIF < 2$ for each variable.

A Residuals vs. Leverage plot (Figure 3, see appendix) showed three significant outliers (observations 19, 30, and 73), and five observations (19, 20, 30, 73, 75) showed a Cook's distance above the cut-off at 4/n. Therefore, we analyzed the results with and without the outliers but found no significant difference. Due to the already low sample size, we decided not to exclude the outliers from the regression analysis.

Regression

We included both predictors (unfinished tasks and workplace procrastination) as well as the interaction term computed from the predictors (UT×WP) in a linear regression model. We centered the predictors to reduce multicollinearity and to facilitate interpretation (Cohen et al., 2013). The model was significant with $F(3, 88) = 8.625$, $p < 0.001$ and explains 20.09 percent of variance ($R^2adj. = .2009$). The interaction effect was not statistically significant ($t = -.466$, $p = .643$). Therefore, hypothesis 2, a moderating effect of workplace procrastination, is not supported. Interestingly, when workplace procrastination was included in the model alongside unfinished tasks, it became the sole predictor of competence need satisfaction, with $B = -0.309$, $SE = 0.087$, $t = 3.568$, and $p < .001$. Unfinished tasks was no longer a significant predictor in the model, with a p-value far above the cut-off at .05 (t = -0.574, p = .568).

Table 2

Regression Coefficients

	B	*SE*	*t*	*p*
Intercept	4.118	0.071	57.660	< .001
Unfinished tasks	-0.054	0.094	-0.574	.568

Workplace procrastination	-0.309	0.087	-3.568	< .001
UT×WP	-0.034	0.072	-0.466	.643

Note. $N = 92$. B = Unstandardized Regression Coefficient; SE = Standard Error.

Additional Analyses

Attention Checks

We ran three Welch Two-Sample t-tests comparing the means of the participants who passed the attention checks ($N = 68$), to those who failed ($N = 21$). The t-test did not indicate significant differences between the samples, with $t = 0.558$, $df = 26.927$, $p = 0.582$ for unfinished tasks, $t = 1.019$, $df = 31.63$, $p = 0.316$ for competence need satisfaction, and $t = -0.249$, $df = 28.449$, $p = 0.805$ for workplace procrastination. Since the samples are comparable, including the 21 participants who failed the attention checks most likely doesn't distort results.

Mediation Analysis

Since unfinished tasks became an insignificant predictor once we added workplace procrastination to the model, we suspected that a mediation effect, instead of a moderation, may be present. This was not part of our preregistered hypotheses or methods and is therefore exploratory. Especially since our design was cross-sectional, temporal precedence cannot be established, and no causality can be inferred.

A mediation analysis using nonparametric bootstrapping with 1000 simulations found a significant result for an indirect effect of unfinished tasks on competence need satisfaction via workplace procrastination with $b = -0.196$ and $p = .002$ (ACME). The direct effect of UT on competence need satisfaction once the path through workplace procrastination was removed was no longer significant (ADE: $b = -0.064$, $p = .582$). About 75 percent of the total

effect were transmitted through workplace procrastination (Prop. Mediated: b = 0.754, p = .008)

Discussion

This study aimed to answer the question of whether unfinished tasks at work relate to lower work-related competence need satisfaction, and if workplace procrastination strengthens this link. The results showed a moderate negative association of competence need satisfaction and unfinished tasks (r = -.334), suggesting that employees who have more unfinished tasks during a typical workweek may experience somewhat lower levels of work-related competence need satisfaction. We found no evidence that workplace procrastination may strengthen the relationship. Whether competence need satisfaction was threatened when facing unfinished tasks did not depend on the level of workplace procrastination that participants reported. However, in a post-hoc analysis, workplace procrastination emerged as a potential mediator: when workplace procrastination was added as a predictor, unfinished tasks no longer significantly predicted competence need satisfaction; instead, workplace procrastination became the only significant predictor. An additional mediation analysis was significant. However, we interpret this finding with caution since it was hypothesized after results were known, and it is beyond the scope of this study.

Theoretical Implications

This study partially replicated the relationship between unfinished tasks and competence need satisfaction found by Weigelt, Syrek et al. (2019). We found a moderate correlation of r = -.334, while they found a somewhat weaker correlation of r = -.21, at the person level. (They also found a correlation of r = -.27 at the week-level, but due to our cross-sectional design, our finding is more comparable to their person-level correlation). The previous bachelor's thesis by Svetlošáková (2026), which employed similar measures and design as we did, found a correlation of r = -.384, which is comparable to our result. An

important conceptual difference between our study and Weigelt, Syrek et al. (2019) that may explain our stronger finding is that we (and also Svetlošáková) measured work-related competence need satisfaction, while they measured general competence need satisfaction. Our scale used items that revolved around feeling competent at one's job or mastering work tasks. The items used by Weigelt, Syrek et al. (2019) referred to how competent individuals feel regarding any given task, not specific to the workplace. Even if competence need satisfaction is threatened regarding the occupational domain, individuals may still feel competent in other areas of life, such as family life, hobbies, or volunteer work, to name a few. Additionally, Weigelt, Syrek et al. asked about competence during the weekend, when other life domains may be more present than during the workweek. The impact of unfinished work on competence feelings may be weaker if individuals can compensate with competence in other areas. But if competence need is only measured in relation to work, no other areas can balance this, which may create a stronger effect. Lastly, sample differences may also have played a role: Weigelt et al. surveyed employees in Germany, while we surveyed employees from a broad range of different countries, with a large proportion from South Asia, but also Germany and the Netherlands.

Our findings corroborate the evidence for the link between unfinished tasks and work-related competence need satisfaction and suggest that it may be stronger for work-related competence need than for general competence need. Although it may also depend on sample and design choices. We extend the knowledge on unfinished tasks and work-related basic need satisfaction by establishing it in a multinational sample, improving generalizability to other, possibly non-WEIRD, populations.

The interaction effect of workplace procrastination and unfinished tasks was insignificant in our study. That means, the combination of workplace procrastination and unfinished tasks does not pose an additional threat to competence need satisfaction at work. A

possible explanation is that workplace procrastination was already strongly related to competence need satisfaction, the outcome variable, which makes it much more difficult to find support for a moderation effect, especially in a small sample (Murphy, 2021). Similarly, although our sample size ($N = 92$) was large enough to detect a medium effect, it may not have been large enough to detect small effects (Cohen, 1988, p. 101), and interaction effects are often small in social science research (Fairchild & McQuillin, 2010). An alternative explanation why workplace procrastination was insignificant as a moderator is that it may not be a moderator of the main relationship at all. An exploratory post-hoc analysis suggested a mediation. In that case, workplace procrastination wouldn't strengthen or weaken the association but instead represent a link between UT and competence need satisfaction. This needs to be confirmed by future research employing a longitudinal design, before any conclusions can be drawn, but it is a surprising finding. Conceptually, this would indicate that unfinished tasks may trigger procrastination, even though, logically, one might expect that the relationship works in the opposite direction (procrastination leading to unfinished tasks). One explanation for this is that procrastination can be seen as a maladaptive emotion-regulation strategy (Sirois & Pychyl, 2013). Unfinished tasks have often been linked to negative outcomes, such as affective rumination, lower job satisfaction, well-being, etc. (see the meta-analysis by Wendsche et al. (2026)). By procrastinating, employees may attempt to reduce the negative emotions related to unfinished tasks in the short-term (Sirois & Pychyl, 2013), even though they are aware of the negative long-term consequences of delaying tasks (Steel, 2007).

Overall, our findings contribute to the literature linking unfinished tasks at work and self-determination theory applied to the workplace (Deci, 2017, Deci & Ryan, 2000). Satisfaction of basic psychological needs in the workplace is connected to well-being, job satisfaction, and work performance (Coxen et al., 2021; Deci et al., 2017), and unfinished tasks may be one of the significant threats to work-related basic need satisfaction.

Specifically, unfinished tasks signal a lack of progress towards relevant goals to employees, which makes them feel less capable and effective, so their competence needs cannot be fully satisfied. Procrastination and UT may not have an additive effect on work-related competence need satisfaction, but they are strongly related variables with potential reciprocal links that could be studied in the future.

Practical Implications

Due to the relevance of psychological need satisfaction for well-being and job satisfaction, they may be one of the areas to target in practice to ensure long-term health and work performance in employees.

Although there was no combined effect of unfinished tasks and workplace procrastination, workplace procrastination and competence need satisfaction are strongly related, so preventing procrastination in the workplace may also benefit work-related competence need satisfaction. Cognitive-behavioral therapy, a psychotherapy approach that intervenes on maladaptive thoughts and behavior pattern by identifying and replacing them, is generally effective in reducing procrastination (Van Eerde & Klingsieck, 2018). However, it is a clinical approach, and it may not always be suitable to apply to the workplace. Van Eerde & Klingsieck (2018) also propose that a Strengths and Assertiveness training, which focuses on promoting self-efficacy and personal resources, is a useful tool to reduce procrastination. Organizational psychologists could implement such trainings in the workplace.

Strengths and Limitations

Our study shows several limitations. First, we employed a cross-sectional design. With only one measurement time point, participants had to consider diverse situations and find an average, which may not be an easy task. Answers may also be biased since participants are thinking about them in retrospect. Therefore, the rating becomes somewhat hypothetical.

However, cross-sectional designs are considered safe to use when studying potential interaction effects. For interaction effects, it is unlikely that results will be artificially inflated or deflated by common method variance (Siemsen et al., 2010). A cross-sectional design is also less susceptible to attrition threat, since only one measurement is taken.

Secondly, the sample size was relatively small in this study. With 92 participants, we might not have had enough power, especially to detect small interaction effects (Cohen, 1988, p. 101). Therefore, workplace procrastination cannot be ruled out as a moderator completely. However, in social science research, true effects are rarely exactly equal to zero, and with a very large sample size, almost any correlation can become significant (Meehl, 1990), so merely increasing sample size is not useful. Lastly, workplace procrastination, the potential moderator, was strongly related to the other variables, so there was little chance to detect an interaction effect that explained additional variance on top of the predictors (Murphy, 2021).

Besides limitations, we would like to point out a few strengths of our study. We had a diverse, multinational sample with participants across large parts of Asia and Europe, but also Canada and Australia. Participants also worked in many different industries. Therefore, external validity may be high. Secondly, self-report is sometimes seen as a weakness in psychological research due to its subjective nature. However, in our study, it was useful because we weren't looking for actual competence but how satisfied someone feels in their competence need, which is inherently subjective. Lastly, we worked under severe resource constraints, especially time constraints, since this is a bachelor's thesis project. Within these constraints, our approach was suitable to gain initial insights that can guide future research.

Future Research

In this study, there was some indication of workplace procrastination as a mediator, with unfinished tasks being the antecedent instead of the consequence, but this was based on a post-hoc hypothesis and cannot be meaningfully assessed within our study design. Future

research could employ a longitudinal design to establish which one precedes the other temporally and whether there are reciprocal links.

Weigelt, Syrek and colleagues (2019) examined proactive work behavior as a moderator of the relationship between unfinished tasks and competence need satisfaction, which was found to weaken the negative relationship. Our study chose procrastination as a moderator that may strengthen it. Future research could look at a broad range of other potential moderators. In this bachelor's thesis project, we examined moderators for the relationship between unfinished tasks and affective rumination, such as perfectionism or proactive personality (Ji et al., 2026). It would be interesting to see if the findings also apply to competence need satisfaction, since competence need satisfaction has been proposed as the link between unfinished tasks and rumination (Weigelt, Syrek, et al., 2019).

Lastly, there was a low level of unfinished tasks in our sample, which indicates that our participants didn't experience significant issues in this context. Therefore, looking for correlates and contingencies that can later be used to develop interventions may be more useful when unfinished tasks are more prevalent. Future research could specifically target employees with high levels of unfinished tasks.

Lastly, there was a low level of unfinished tasks in our sample, which indicates that our participants didn't experience significant issues in this context. Therefore, looking for correlates and contingencies that can later be used to develop interventions may be more useful when unfinished tasks are more prevalent. Future research could specifically target employees with high levels of unfinished tasks.

References

Agolli, A., & Holtz, B. C. (2023). Facilitating detachment from work: A systematic review, evidence-based recommendations, and guide for future research. *Journal of Occupational Health Psychology*, *28*(3), 129–159. https://doi.org/10.1037/ocp0000353

Brincks, A. M., Perrino, T., & Howe, G. W. (2022). Secondary Analysis to Inform the Development of Adaptive Preventive Interventions. *Clinical Child and Family Psychology Review*, *25*(4), 646–657. https://doi.org/10.1007/s10567-022-00408-1

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review*, *97*(1), 19–35. https://doi.org/10.1037/0033-295X.97.1.19

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. Routledge.

Coxen, L., Van Der Vaart, L., Van Den Broeck, A., & Rothmann, S. (2021). Basic Psychological Needs in the Work Context: A Systematic Literature Review of Diary Studies. *Frontiers in Psychology*, *12*, 698526. https://doi.org/10.3389/fpsyg.2021.698526

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-Determination Theory in Work Organizations: The State of a Science. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*(1), 19–43. https://doi.org/10.1146/annurev-orgpsych-032516-113108

Deci, E. L., & Ryan, R. M. (2000). The “What” and “Why” of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

DeSimone, J. A., Harms, P. D., & DeSimone, A. J. (2015). Best practice recommendations for data screening: DATA SCREENING. *Journal of Organizational Behavior*, *36*(2), 171–181. https://doi.org/10.1002/job.1962

Eurostat. (2024). *How many hours per week do Europeans work?* European Commission. https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240530-1

Fairchild, A. J., & McQuillin, S. D. (2010). Evaluating mediation and moderation effects in school psychology: A presentation of methods and review of current practice. *Journal of School Psychology*, *48*(1), 53–84. https://doi.org/10.1016/j.jsp.2009.09.001

Ji, B., Mallawaratchi, M. N., Frank, P., Tiemersma, S., Ebeling, T., Piper, T., & Weigelt, O. (2026). *Correlates and Contingencies of Unfinished Tasks*. https://doi.org/10.23668/PSYCHARCHIVES.21855

Kelley, H. H. (1967). Attribution theory in social psychology. In D. Levine (Ed.), *Nebraska Symposium on Motivation*(Vol. 15, pp. 192–238). University of Nebraska Press.

Kerman, K., Korunka, C., & Tement, S. (2022). Work and home boundary violations during the COVID-19 pandemic: The role of segmentation preferences and unfinished tasks. *Applied Psychology*, *71*(3), 784–806. https://doi.org/10.1111/apps.12335

Kühnel, J., Bledow, R., & Feuerhahn, N. (2016). When do you procrastinate? Sleep quality and social sleep lag jointly predict self-regulatory failure at work. *Journal of Organizational Behavior*, *37*(7), 983–1002. https://doi.org/10.1002/job.2084

Meehl, P. E. (1990). Why Summaries of Research on Psychological Theories are Often Uninterpretable. *Psychological Reports*, *66*(1), 195–244. https://doi.org/10.2466/pr0.1990.66.1.195

Metin, U. B., Taris, T. W., & Peeters, M. C. W. (2016). Measuring procrastination at work and its associated workplace aspects. *Personality and Individual Differences*, *101*, 254–263. https://doi.org/10.1016/j.paid.2016.06.006

Murphy, K. R. (2021). In praise of Table 1: The importance of making better use of descriptive statistics. *Industrial and Organizational Psychology, 14*(4), 461–477. https://doi.org/10.1017/iop.2021.90

OpenAI. (2026). *ChatGPT(GPT-4) [Large language model]* [Computer software]. https://chat.openai.com

Paquette, V., Trépanier, S.-G., & Ménard, J. (2025). Off-work work-related rumination and psychological detachment: The predictive role of workload and need frustration. *Motivation and Emotion*, *49*(3), 312–326. https://doi.org/10.1007/s11031-025-10122-4

Posit team. (2025). *RStudio: Integrated Development Environment for R* [Computer software]. Posit Software, PBC. http://www.posit.co/

Prem, R., Scheel, T. E., Weigelt, O., Hoffmann, K., & Korunka, C. (2018). Procrastination in Daily Working Life: A Diary Study on Within-Person Processes That Link Work Characteristics to Workplace Procrastination. *Frontiers in Psychology*, *9*, 1087. https://doi.org/10.3389/fpsyg.2018.01087

Pychyl, T. A., & Sirois, F. M. (2016). Procrastination, emotion regulation, and well-being. In F. M. Sirois & T. A. Pychyl (Eds.), *Procrastination, health, and well-being* (pp. 163–188). Academic Press. https://doi.org/10.1016/B978-0-12-802862-9.00008-6

R Core Team. (2025). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org/

Sheldon, K. M., & Elliot, A. J. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*, *76*(3), 482–497. https://doi.org/10.1037/0022-3514.76.3.482

Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology*, *80*(2), 325–339. https://doi.org/10.1037/0022-3514.80.2.325

Siemsen, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational Research Methods, 13*(3), 456–476. https://doi.org/10.1177/1094428109351241

Sirois, F. and Pychyl, T. (2013), Procrastination and the Priority of Short-Term Mood Regulation: Consequences for Future Self. Social and Personality Psychology Compass, 7: 115-127. https://doi.org/10.1111/spc3.12011

Stajkovic, A. D., & Luthans, F. (1998). Social cognitive theory and self-efficacy: Goin beyond traditional motivational and behavioral approaches. *Organizational Dynamics*, *26*(4), 62–74. https://doi.org/10.1016/S0090-2616(98)90006-7

Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin*, *133*(1), 65–94. https://doi.org/10.1037/0033-2909.133.1.65

Svetlošáková, R. (2026). *The Role of Supervisor Support in the Relationship Between Unfinished Tasks and Basic Need Satisfaction at Work [Unpublished bachelor's thesis]*. University of Groningen.

Syrek, C. J., Weigelt, O., Peifer, C., & Antoni, C. H. (2017). Zeigarnik's sleepless nights: How unfinished tasks at the end of the week impair employee sleep on the weekend through rumination. *Journal of Occupational Health Psychology*, *22*(2), 225–238. https://doi.org/10.1037/ocp0000031

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, 53–55. https://doi.org/10.5116/ijme.4dfb.8dfd

Tuckman, B. W. (1991). The Development and Concurrent Validity of the Procrastination Scale. *Educational and Psychological Measurement*, *51*(2), 473–480. https://doi.org/10.1177/0013164491512022

Van Den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*(4), 981–1002. https://doi.org/10.1348/096317909X481382

Van Eerde, W. (2003). A meta-analytically derived nomological network of procrastination. *Personality and Individual Differences, 35*(6), 1401–1418. https://doi.org/10.1016/S0191-8869(02)00358-6

Van Eerde, W., & Klingsieck, K. B. (2018). Overcoming procrastination? A meta-analysis of intervention studies. *Educational Research Review, 25*, 73–85. https://doi.org/10.1016/j.edurev.2018.09.002

Weigelt, O., Syrek, C. J., Schmitt, A., & Urbach, T. (2019). Finding peace of mind when there still is so much left undone—A diary study on how job stress, competence need satisfaction, and proactive work behavior contribute to work-related rumination during the weekend. *Journal of Occupational Health Psychology*, *24*(3), 373–386. https://doi.org/10.1037/ocp0000117

Wendsche, J., Weigelt, O., & Syrek, C. J. (2026). Unfinished work tasks and work-related thoughts during off-job time: Meta-analysis of the Zeigarnik effect in a work-recovery context. *Anxiety, Stress, & Coping*, 1–23. https://doi.org/10.1080/10615806.2026.2616302

Zeigarnik, B. (1938). On finished and unfinished tasks. In W. D. Ellis (Ed.), *A source book of Gestalt psychology.* (pp. 300–314). Kegan Paul, Trench, Trubner & Company. https://doi.org/10.1037/11496-025

Appendix A

Figure 1

Residuals vs. Fitted Plot of Competence Need Satisfaction Regressed on UT, WP, and UT × WP

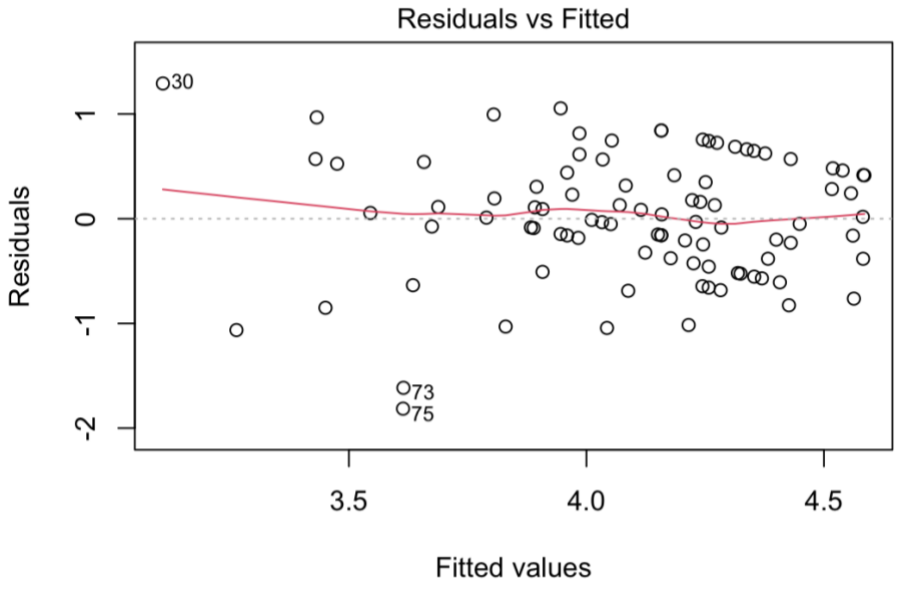


Figure 2

QQ-Plot of Competence Need Satisfaction Regressed on UT, WP, and UT × WP

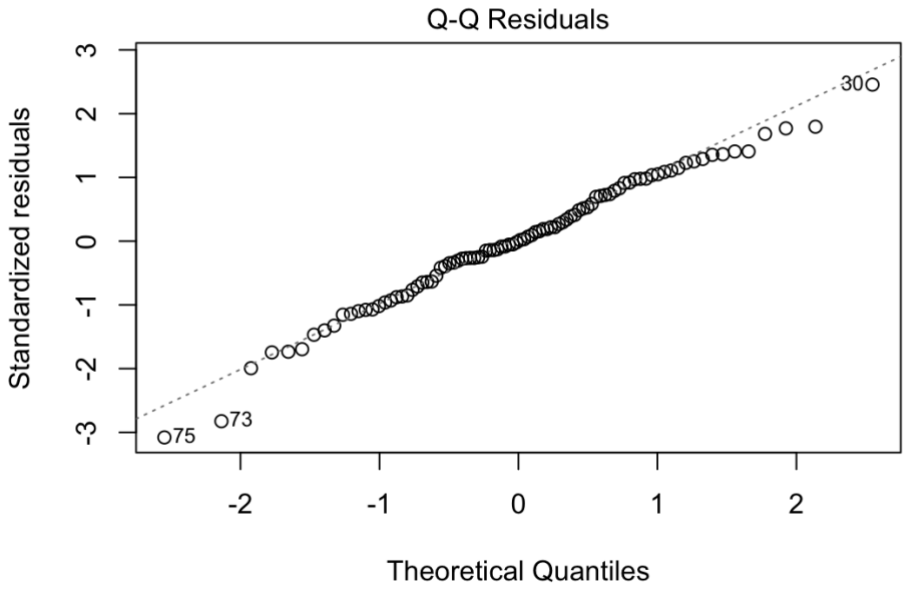


Figure 3

Residuals vs. Leverage Plot of Competence Need Satisfaction Regressed on UT, WP, and UT × WP

