# Monthly hurdles at work: investigating the relationship between period pain and contextual performance and the role of presenteeism and workaholism

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#### Abstract

Drawing from the Conservation of Resources (COR) theory, this cross-sectional study investigated the relationship between period pain and contextual performance through workaholism. The relationship between period pain and presenteeism was predicted to be curvilinear, in which the positive relationship between period pain and presenteeism is stronger for women experiencing less pain versus women experiencing more period pain positive. Additionally, the study assessed whether workaholism moderated the relation between period pain and presenteeism and period pain and workaholism. Based on data from 250 respondents, multiple regression analyses were performed. As hypothesized, the results showed that period pain was positively related to presenteeism, and period pain was less strong related to presenteeism beyond higher pain levels. However, presenteeism did not negatively affect contextual performance. This study could not find evidence for the mediating role of presenteeism. In addition, workaholism could not be established as a moderator as was predicted. The results imply that research practice should allow for possible curvilinear effects concerning period pain and presenteeism. Based on this study, it is advisable for organizations to invest in fostering openness about menstruation at work. Also, it is advisable for HRM professionals to invest in adjustment latitude arrangements.

Keywords: period pain, menstruation, presenteeism, contextual performance, workaholism

#### Introduction

Currently, more and more women enter the labor market and deal with increased contractual hours (Centraal Bureau voor de Statistiek [CBS], 2020). The majority of these women is employed in sectors where there are currently significant labor shortages, i.e., education and health services (CBS, 2022). Consequently, increased productivity is highly required but women deal with hormonal processes which could impede their productivity (Schoep et al., 2019). Different from biological men, for biological women each three to five weeks menstruation takes place. This menstrual phase is characterized by lower levels of estrogen, which are associated with several physical symptoms such as blood loss, fatigue, and pain (Motro et al., 2019). With 85% of the women experiencing period pain, period pain turns out to be the most common symptom of the menstruation. Moreover, it was found that 1 in 3 women experience period pain in such a way that it interferes with their ability to work and exercise (Schoep et al., 2019). In terms of productivity, the experience of period pain causes women to call in sick on average one day each year (Schoep et al., 2019). In addition, period pain affects women's functioning at work as it is associated with an average productivity loss of nine days each year (Schoep et al., 2019). Furthermore, period pain not only forecasts a reduction in the quantity of work, but also a decline in the quality of overall work performance (Fooladi et al., 2023). All in all, these studies suggest that, in addition to absenteeism, being present while experiencing period pain (i.e., presenteeism) can be even more detrimental to an organization in terms of lost productivity.

In the present study, people who menstruate will, regardless of gender, be referred to as menstruators. This was done to also include people who do not identify as female but still menstruate (Babbar et al., 2023). Theoretically, a menstruator's decision to call in sick or to go to work while experiencing period pain (i.e., period pain presenteeism) might be explained by symptom severity and experienced stigma. For example, whereas menstruators with less severe symptoms could benefit from engaging in presenteeism behaviors, for those with more severe symptoms it is more advantageous to call in sick (Cook et al., 2023; De Arruda et al., 2024). In addition, choices to be present at work despite feeling ill due to period pain could also be made because of stigma (Johnston-Robledo & Chrisler, 2020). Experiencing social unacceptability of the discussion of menstrual symptoms in general could lead menstruators to keep period pain hidden from coworkers and managers, and force menstruators to not call in sick despite experiencing pain (Johnston-Robledo & Chrisler, 2020). However, despite stigma and symptom severity being studied considerably more, other characteristics may also play a role. For example, previous research showed that personal characteristics and characteristics

of the work environment could also alter presenteeism behavior. For example, the quality of relationships between leaders and members (i.e., Leader-Member Exchange; Graen & Uhl-Bien, 1995) was found to mitigate the relation between period pain and presenteeism (Cook et al., 2023), whereas workaholics tend to exhibit more presenteeism (Gillet et al., 2021).

All in all, there is some evidence that period pain affects a menstruator's performance at work. However, it is still unclear which mechanisms explain the effects of period pain on work performance. Kennett and colleagues (2015) describe how several influences on period pain, such as beliefs with regards to menstruation, influence the extent to which period pain interferes with a menstruator's functioning. Therefore, Gervais (2016) argued that it is not menstruation symptoms, but rather a physical and psychological discomfort resulting from some menstrual symptoms that affects functioning at work. Together, these studies indicate a need to conduct more research on the relationship between period pain and performance. Moreover, the studies of Gervais (2016) and Kennet and colleagues (2015) underscore the importance of incorporating possible moderating and mediating variables to broaden the knowledge about the theoretical mechanism underlying the relationship between period pain and performance. This way, it is possible to gather more insight into whether it is necessary to develop policies that aim to improve the ability to perform tasks during menstruation. In addition, gaining a deeper understanding helps to develop interventions on creating comfort for employees struggling with period pain.

This study aims to tighten the knowledge gap concerning period pain and performance outcomes by investigating the relationship between period pain and contextual performance through presenteeism. Here, contextual performance refers to all interpersonal and volitional behaviors supporting the social and motivational context in which organizational work is accomplished (e.g., actively engaging in meetings; Borman & Motowidlo, 1993). Contextual performance is included because a previous study showed that the behaviors that contribute to contextual performance are influenced by period pain (Motro et al., 2019). Additionally, it will be investigated whether the relationship between period pain and presenteeism and period pain and contextual performance was different for individuals with varying levels of workaholism. Workaholism is included because it is assumed that workaholics are more inclined to be present at work despite experiencing period pain since external motivational standards (e.g., social approval), which can be derived from performance, are highly important to them (Schaufeli & Salanova, 2014). As a consequence, workaholics are expected to be more sensitive to pressure to perform and stigma.

#### **Period Pain and Contextual Performance**

According to the conservation of resources (COR) theory, individuals strive to obtain, foster and protect resources which are important to them (Hobfoll et al., 2018). Valued resources are, for example, health, well-being, family, self-esteem and a sense of purpose and meaning in life. COR theory states that the loss of such resources is considered to be more salient than the gain of resources, motivating people to further invest in resources to prevent additional resource loss and recovering from resources losses (Hobfoll et al., 2018). Moreover, attributing value to resource gains increases as loss circumstances occur more frequently (Hobfoll et al., 2018). In the view of COR theory, period pain can be considered as a loss of health resources, motivating menstruators to invest in other resources to protect and strengthen those resources. However, based on COR theory it can also be assumed that menstruators experiencing have fewer resources (i.e., health) to compensate for resource loss (i.e., period pain; Hobfoll et al., 2018). Thus, since resources are needed to perform but resources diminish when period pain increases, COR suggests that more period pain is associated with a decreased ability to perform.

Indeed, several studies have already revealed that period pain negatively affects organizational outcomes (Aboagye et al., 2019; Schoep et al., 2019; Shdaifat, 2023). More specifically, one study found that period pain negatively affected the ability of Turkish nurses to communicate with teammates and patients, negatively affecting their task performance and work satisfaction (Yöndem & Çıtak-Bilgin, 2022). In another study, women who experienced period pain were 50% more likely to rate their work performance worse than other woman (Fooladi et al., 2023). Thus, period pain negatively affects a menstruator's official tasks at work, also defined as task performance (Borman & Motowidlo, 1993). However, period pain not only impairs task performance, but may also interfere with contextual performance or the interpersonal and volitional behaviors that support the social and motivational context in which menstruators accomplish organizational work (Borman & Motowidlo, 1993). This is considered as undesirable since contextual behaviors add to organizations by shaping the objectives of the organization and the social context that support task activities. From this perspective, contextual behavior is vital for organizational success. Although these behaviors are seen as crucial for organizations, it is suggested that those behaviors may be the first behaviors to be affected by period pain, inducing menstruators to not invest in additional resources such as helping others (Motro et al., 2019). Therefore, based on COR theory (Hobfoll et al., 2018) and the study of Motro and colleagues (2019), Hypothesis 1 was formulated:

H1: More period pain is related to lower levels of contextual performance.

# **Mediating Role of Presenteeism**

As COR theory predicts, menstruators are motivated to go to their work despite experiencing pain to prevent further resource loss. Indeed, there is a lot of empirical support for the COR reasoning behind motives for period pain presenteeism. Menstruators might engage in period pain presenteeism behavior because it provides fulfillment of basic psychological needs (Kubiak, 2022) and fulfillment (Tokar et al., 2024). Conversely, not being able to work could lead to an increased workload, financial difficulties and stress (Mathieu & Gilbreath, 2023). Additionally, in the long run, it could threaten one's self-esteem and identity (Nicola et al., 2022). As such, it is likely for menstruators to experience period pain as resource loss, encouraging them to still invest in their working life since it enables them to invest in and protect other meaningful resources. Thus, it is expected that menstruators continue to go to their work despite experiencing period pain. Indeed, earlier studies showed that period pain is associated with presenteeism (Cook et al., 2023; McGregor et al., 2018; Schoep et al., 2019). As such, it is proposed that more period pain is associated with more presenteeism. However, it is expected that from a certain point, increases in period pain will not further increase presenteeism behavior. Instead, menstruators experiencing severe period pain will call in sick because pain interferes too much with their ability to invest in work-related resources, leaving them with no choice other than remaining at home. Consequently, Hypothesis 2a is formulated:

H2a: More period pain is associated with more presenteeism, however, beyond a certain pain level, the level of presenteeism will not increase further.

Presenteeism, subsequently, is predicted to affect contextual performance. As Aboagye and colleagues (2019) elaborated, presenteeism may be viewed as at least somewhat contributing to organizational productivity, while in fact the reverse might be the case. For example, in their study, Collins and colleagues (2012) discovered that presenteeism but not absenteeism has negative implications for work performance. In line with COR theory, De Vroome and colleagues (2010) found that compared to absenteeism, recurring presenteeism leads to more emotional exhaustion and increased future absence. This suggests that resource depletion occurs as a result of presenteeism requiring additional effort (Hobfoll et al., 2018). In addition, presenteeism could thwarts work performance since it is associated with making

more mistakes on the job (Niven & Ciborowska, 2015). However, it should be noted that the cited studies focused on sickness in general, which is different from period pain in two ways. First, in general, period pain is a monthly recurring phenomenon and secondly, period pain without underlying medical diagnosis captures no more than several days (Goss, 2023). Nevertheless, on the basis of COR theory (Hobfoll, 2018) it can be predicted that both non-period pain and period pain presenteeism is related to less contextual performance, since engaging in presenteeism predicts being preoccupied with preventing further resource loss such as increased workload, while at the same time there are fewer resources to perform. As a result, Hypothesis 2b and 2c are formulated:

H2b: More presenteeism is related to lower contextual performance.

H2c: The relationship between period pain and contextual performance is partly mediated by presenteeism.

## **Moderating Role of Workaholism**

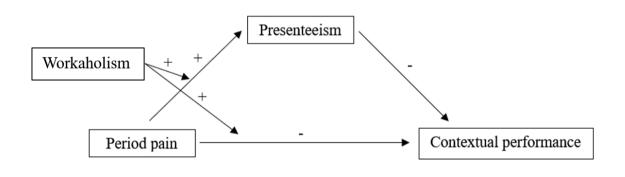
This study further examines the extent to which menstruators exhibit levels of workaholism to assess whether the relationship between period pain and presenteeism, and between period pain and contextual performance is different for menstruators who are less versus more workaholic. Hereby, a menstruator's workaholism is defined as the extent to which menstruators are working in an excessive and compulsive manner (Schaufeli et al., 2009). Excessive work refers to the behavioral components of workaholism (i.e., working excessively hard) whereas compulsive work captures the cognitive aspects of workaholism (i.e., the existence of a strong, irresistible inner drive; Schaufeli et al., 2009). Those with higher levels of workaholism are characterized by high performance standards which result from adopting external motivational standards of self-worth and social approval (Deci & Ryan, 2000; Schaufeli & Salanova, 2014). In this regard, COR theory (Hobfoll et al., 2018) would predict that menstruators who are more workaholic value work resources more strongly than those who are not or less workaholic. Indeed, Mazetti and colleagues (2019) found that workaholism predicts more presenteeism. To prevent feelings of failure and feeling bad about oneself, workaholics are expected to be more present at work despite experiencing period pain. As a result, Hypotheses 3a and 3b were formulated:

H3a: The curvilinear relationship between period pain and presenteeism is stronger for employees who display higher levels of workaholism versus employees who display lower levels of workaholism.

H3b: The negative relationship between period pain and contextual performance is stronger for employees who display higher levels of workaholism versus employees who display lower levels of workaholism.

All hypothesized relations are depicted in Figure 1.

**Figure 1.** *Hypotheses of the study* 



#### Method

## **Participants and Procedure**

For the present study, respondents were recruited through convenience and snowball sampling. First, the researchers contacted their social environment through social media (Instagram, LinkedIn and WhatsApp) and let them forward the survey to their social environment. Second, within the team of researchers there was close contact with employees working at an airline company in the Netherlands, enabling the researchers to request whether those employees were willing to participate in the survey. The HR granted permission to deploy the questionnaire in this company.

Following previous research, inclusion criteria for this study were being eighteen years or older, having a menstrual cycle and being employed for at least twenty hours. Also, it was required to have a direct supervisor and not to be on longterm sick leave or maternity leave (Cook et al., 2023). Participation in the study was voluntary, and data collection was

anonymous. The study obtained ethical approval (UU-SER 24-0640) from the Ethics Committee of the faculty of Social Sciences, Utrecht University guaranteeing that filling out the questionnaire does not impose any risks or side effects on respondents. After providing information about the study and receiving informed consent (see Appendix A) from respondents, respondents were asked to fill out the questionnaire. The questionnaire (see Appendix B) was offered via Qualtrics (Qualtrics, 2020) and completion of the questionnaire occurred on respondents' own phone, computer or laptop.

In total, 324 respondents participated in the study, of which 250 respondents met the inclusion criteria and completed all the questionnaires. This study only included data of respondents who fully completed the questionnaire. As a result, the data of 250 respondents was processed in this study, of which 249 respondents identified themselves as female and one respondent identified themself as 'otherwise' or did not specify. The average age was M = 30.30 years (SD = 8.13 years), the average work experience was M = 8.88 years (SD = 8.16 years) and the average contractual hours M = 32.44 hours (SD = 5.71). Of all participants, 25.6% mentioned having children. 11.6% of the respondents mentioned currently being in a managerial position. Comprising 86.8% of the sample, most respondents indicated their highest obtained degree was a higher vocational degree/an university degree.

#### Measures

**Period Pain.** Period pain was measured using two items. The first item is derived from the pain scale of the SF-36 health survey (Ware, 1999), namely: "In the past six months, how much period pain and symptoms have you experienced?" Answering options varied between 1 = none at all to 5 = very severe. In addition, this study included a second item to assess interference at work: "To what extent did period pain and symptoms interfere with your work (both paid and domestic) in the past 6 months?" Answering options ranged from 1 = not at all to 5 = to a very large degree. Cronbach's alpha was  $\alpha = .85$ .

**Presenteeism.** Presenteeism, referring to going to work despite feeling ill (McGregor et al., 2018) was assessed using an adapted version of the five-item presenteeism scale of Hägerbäumer (2017). Respondents were asked to fill out the scale based on experiences of the past six months. Answers were given on a five-point Likert-type scale, ranging from 1 = never to 5 = very often. Additionally, a sixth answering option was included "Not applicable to me, since I do not experience any symptoms". An example item is "I have gone to work even though I was experiencing severe symptoms" ( $\alpha = .84$ ).

Contextual Performance. Contextual performance was captured using a Dutch version of the contextual performance subscale of the Individual Work Performance Questionnaire (IWPQ) (Koopmans et al., 2014), consisting of eight items (e.g., "I took on extra responsibilities", Cronbach's  $\alpha = .87$ ). Items had a recall period of six months and were answered using a rating scale ranging from 1 = seldom to 5 = always.

*Workaholism*. Workaholism was measured with the excessive work (EW) and compulsive work (CW) scales of the ten-item Dutch Workaholism Scale (DUWAS) (Schaufeli et al., 2009). Answering options varied from 1 = (almost) never up to 4 = (almost) always. The excessive work subscale consists of five items (e.g., "I continue to work, even though my colleagues have already went home",  $\alpha = .74$ ). The compulsive work subscale includes the other five items (e.g., "I feel guilty taking time off from work",  $\alpha = .71$ ). The overall Cronbach's alpha for the DUWAS was  $\alpha = .84$ .

# **Data Analysis**

In order to analyze the data, the software program SPSS 29 was used. Before the analyses were performed, several tests were conducted to asses possible violations of five assumptions, i.e., linearity, normally distributed residuals, multicollinearity, homoscedasticity and outliers (> 2.5 SD) (Pollet & Van der Meij, 2016). To avoid multicollinearity, variables were centered. The variable period pain was quadrated to test whether there was a curvilinear relationship between period pain and presenteeism. Since the first answering option "never" and sixth answering option "Not applicable to me, since I do not experience any symptoms" both represent the same meaning (i.e., no presenteeism behavior), these answering options were merged. Subsequently, analyses were performed using PROCESS model eight (Hayes, 2013) to examine whether there was a moderated mediation. We controlled for having a managerial position and having children. In line with the study of Cook and colleagues (2023), managerial position was included because it is possible that additional responsibilities explain the relation between period pain and presenteeism. Similarly, having children could alter period pain symptoms and is therefore added as potential covariate. To assess the significance of the indirect effect for different levels of workaholism, a bootstrapping approach was used (N = 5000). Further, the model included bias-corrected 95% confidence intervals to test the mediated pathway of the model.

#### **Results**

All correlations and descriptive statistics regarding the study variables can be found in Table 1. Except for revealing a relatively higher mean on the presenteeism scale, Table 1 shows no other notable average scores of the scales. The PROCESS analysis revealed being in a managerial position and having children did not significantly impact the relationship between period pain and presenteeism (b = .29, 95% CI [-1.25, 1.83], t(249) = .37, p = .71 and b = .57, 95% CI [-.67, 1.83], t(249) = .92, p = .36, respectively), and between period pain and contextual performance (b = 1.82, 95% CI [-1.06, 4.70], t(248) = 1.24, p = .21 and b = -1.66, 95% CI [-3.45, .13], t(248) = -1.82, p = .07, respectively). Therefore, the effects observed in this study were not significantly impacted by being in a managerial position or having children.

As expected, period pain and presenteeism were positively associated (r = .69, p < .01). Also in line with the predictions, period pain and contextual performance were negatively associated (r = -.23, p < .01). Although it was not explicitly hypothesized, Table 1 indicates a significant positive relationship between workaholism and period pain (r = .20, p < .01) and workaholism and presenteeism (r = .27, p < .01). Further, managerial position correlated positively with contextual performance (r = .13, p < .05), and negatively with having children (r = -.19, p < .01).

 Table 1

 Pearson correlation matrix

	M	SD	1	2	3	4	5	6
1. Period pain	3.05	1.20	1					
2. Presenteeism	3.63	1.11	.69**	1				
3. Contextual performance	3.38	0.78	23**	12	1			
4. Workaholism	2.37	0.56	.20**	.27**	.09	1		
5. Having children	1.74	.44	02	.03	12	.02	1	
6. Managerial position	1.12	.32	.01	.03	.13*	.12	19**	1

*Note.* N = 250.

$$* = p < .05, ** = p < .01$$

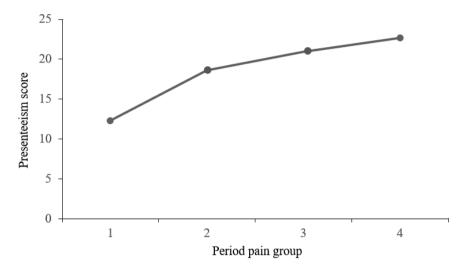
# **Hypothesis Testing**

Hypothesis 1 stated that more period pain is related to lower levels of contextual

performance. To test this hypothesis, a multiple regression analysis was performed. Findings revealed a significant, negative relationship between period pain and contextual performance with b = -.77, 95% CI [-1.25, -.29], t(243) = -3.15, p < .01. This means that more period pain was associated with lower contextual performance, which supports Hypothesis 1.

Hypothesis 2a stated that more period pain is associated with more presenteeism, however, beyond a certain pain level, the level of presenteeism will not increase further. To this end, this study first assessed whether the relationship between period pain and presenteeism could be most accurately characterized as curvilinear. Therefore, both a linear and a quadratic regression analysis were conducted. The linear regression analysis was conducted to examine the linear effect of period pain on presenteeism. Results showed that there was a significant effect of period pain on presenteeism (b = 5.61, t(248) = 10.88, p <.001). The linear model explained 47% of the variance in presenteeism ( $R^2 = .47$ ). The quadratic regression was conducted by adding period pain as a quadrated term to the model. The quadratic term was significant (b = -.32, t(247) = -7.93, p < .001). The model with the quadratic term explained 58% of the variance in presenteeism ( $R^2 = .58$ ), which was a significant improvement compared to the linear model ( $\Delta R^2 = .11$ , F(1, 247) = 170.92, p < .11.001). Subsequently, the multiple regression analyses revealed that period pain was significant, positively related to presenteeism (b = .11, 95% CI [.08, .13], t(244) = 9.32, p < .13.001). Thus, the relationship between period pain and presenteeism is curvilinear, meaning that period pain and presenteeism are less strongly related for higher levels of period pain versus lower levels of period pain. Consequently, Hypothesis 2a is supported. Figure 2 presents the presenteeism scores for the averages of four period pain groups, with the group experiencing the least period pain including the 26% lowest scores, the second group including the 27-48% lowest scores, the third group including the 49-77% lowest scores and the fourth group including the 78-100% scores.

**Figure 2.**Relationship between period pain and presenteeism



*Note.* Period pain groups are ordered from 1 = lowest levels of period pain up to 4 = highest levels of period pain.

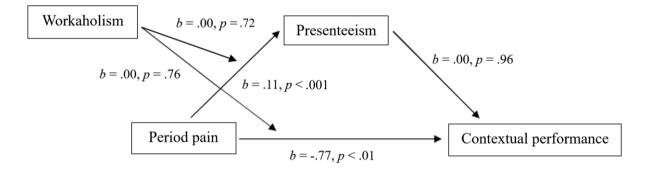
Hypothesis 2b supposed that more presenteeism is related to lower contextual performance. However, the multiple regression analysis revealed that presenteeism was not significant, negatively related to contextual performance (b = .00, 95% CI [-.15, .16], t(243) = .62, p = .96). This would mean that more presenteeism was not associated with lower contextual performance, thereby rejecting Hypothesis 2b. Together, these results indicated that no evidence is found for a partially mediating role of presenteeism, thereby rejecting Hypothesis 2c.

Concerning the moderating role of workaholism, the index of moderated mediation was not significant (b = .00, 95% [-.01, .00]), thereby failing to provide evidence for a moderated mediation. More specifically, Hypothesis 3a stated that the relationship between period pain and presenteeism is stronger for employees who display higher levels of workaholism versus employees who display lower levels of workaholism. Contrary to the predictions, it was found that workaholism did not significantly moderate the relationship between period pain and presenteeism (b = .00, p = .72, 95% CI [-.01, .00]). This means that the relationship between period pain and presenteeism did not differ for different levels of workaholism. Further, Hypothesis 3b stated that the relationship between period pain and contextual performance is stronger for employees who display higher levels of workaholism versus employees who display lower levels of workaholism. The analysis revealed that the relationship between period pain and contextual performance was also not significantly

moderated by workaholism (b = .00, p = .76, 95% CI [.00, .01]). This finding indicated that the relationship between period pain and contextual performance was not different for various levels of workaholism. Together, these results indicated that both Hypothesis 3a and Hypothesis 3b are rejected, meaning that workaholism did not moderate the relation between period pain and presenteeism, nor between period pain and contextual performance. Figure 3 presents an overview of the relationships between all variables.

Figure 3.

Overview of (non-)significant relationships between variables



#### **Discussion**

This study aims to tighten the knowledge gap concerning period pain and performance outcomes by investigating the relationship between period pain and contextual performance through presenteeism, and by investigating the moderating role of workaholism. The results showed that more period pain was associated with lower contextual performance, and that more period pain predicted more presenteeism and that this relationship was curvilinear (reverse U-shape), meaning that more severe levels of period pain did not predict more presenteeism.

#### Presenteeism and Contextual Behavior

The multiple regression analysis supported Hypothesis 1 that more period pain was associated with lower contextual performance. Thus, with regard to Hypothesis 1, the outcomes of this study are in line with the COR theory (Hobfoll et al., 2018) and provides preliminary evidence for a negative relationship between period pain and contextual performance. Similarly, the multiple regression analysis supported Hypothesis 2a in such a manner that a menstruator's level of period pain predicted more presenteeism up to a certain level. This provides preliminary evidence for a positive, curvilinear relationship between

period pain and presenteeism. As such, the results are in line with COR theory (Hobfoll et al., 2018), stating that menstruators experiencing resource loss due to period pain still continue to go to work to prevent further resource loss, such as financial security, increased workload and stress. The results also align with previous research in which a positive relationship was found (Cook et al., 2023; De Arruda et al., 2024; Schoep et al., 2019). However, this study extends previous studies by investigating and revealing a curvilinear relationship between period pain and presenteeism. Apparently, at certain levels of period pain, the choice to engage in presenteeism behavior will turn into calling in sick.

Furthermore, this study did not supported Hypothesis 2b and 2c. More presenteeism was not associated with lower contextual performance and presenteeism did not partly mediate the relationship between period pain and contextual performance. Two explanations may account for the absence of the hypothesized mediating effect. One explanation could be that the effect of presenteeism on contextual performance depends on various individual and work characteristics. For example, in a study examining the influence of presenteeism on employees' performance evaluations it was found that pro-active coping, affective commitment and workload moderated the relation between presenteeism and performance evaluations (Wang et al., 2023). This implies that a menstruator's contextual performance level could be adversely impacted in the absence of proactive coping mechanisms and affective commitment. Moreover, the study suggested that presenteeism more strongly affects contextual performance when menstruators face a high workload (Wang et al., 2023). Thus, whereas presenteeism in this study did not affect contextual performance, for some specific work environments or for individual characteristics presenteeism could impact contextual performance. Future studies should investigate whether pro-active coping, affective commitment and workload may act as a mediator in the relationship between presenteeism and contextual performance.

Another explanation would be that it is not presenteeism, but other mechanisms that mediate the relation between period pain and contextual performance. For example, one study found that more period pain was associated with more energy depletion and higher levels of energy depletion were associated with less helping behavior (Motro et al., 2019), which can be considered as essential for contextual performance (Pradhan & Jena, 2017). Thus, it is possible that factors that correlate with presenteeism exert a greater influence on contextual performance than presenteeism itself. Future studies should examine energy depletion or other correlates of presenteeism instead of assessing whether presenteeism in general is detrimental

for performance. This also mitigates the contention surrounding whether presenteeism is beneficial (Wang et al., 2023) or detrimental to performance (Johns, 2010).

#### Workaholism

Contrary to Hypothesis 3a, workaholism did not moderate the relationship between period pain and presenteeism. This implies that the relationship between period pain and presenteeism is not stronger for those displaying higher workaholism levels. It is possible that, as a consequence of stigma (Johnston-Robledo & Chrisler, 2020), feelings of shame or weakness may cause menstruators to continue working, regardless of their level of workaholism. These feelings might be so intense that they override the influence of workaholism on presenteeism, which could explain why the positive association between pain and presenteeism is not stronger for those scoring higher on workaholism. However, although not hypothesized, this study did reveal a significant positive relationship between workaholism and period pain and workaholism and presenteeism (see Table 1). In line with previous research, these results imply that higher levels of workaholism are associated with higher levels of presenteeism (Gillet et al., 2021; Mazetti et al., 2019). This relationship might be plausible because, as COR theory (Hobfoll et al., 2018) predicts, workaholics are expected to value work resources more strongly.

Furthermore, workaholism did not moderate the relationship between period pain and contextual performance, thereby rejecting Hypothesis 3b. This implies that the relationship between period pain and contextual performance is not stronger for those who display higher workaholism levels. The absence of a moderating effect of workaholism on the relationship between period pain and contextual performance in this study can be attributed to workaholism being both beneficial and detrimental for contextual performance. For example, whereas working compulsively reflects characteristics that may increase contextual performance, e.g., a stronger positive coping ability (Shimazu & Schaufeli, 2009) and achievement orientation (Balducci et al., 2020), working compulsively also involves factors hindering contextual performance, e.g., reluctance to authorize (Gorgievski et al., 2010) and negative emotions (Balducci et al., 2020). Therefore, the lack of a moderating effect of workaholism on the relationship between period pain and contextual performance may be due to workaholism being as favorable as unfavorable for contextual performance, which explains that the relationship between period pain and contextual performance was not different for workaholics versus non-workaholics.

Interestingly, although we did not hypothesize this relationship in advance, this study revealed a significant positive relationship between workaholism and period pain (see Table 1). This relationship could be explained by the finding that workaholics experience more stress (Meijer et al., 2021), which has been found to exacerbate pain (Reinhardt et al., 2013). Future studies should assess whether workaholism actually predicts higher period pain levels through stress as a mediating mechanism.

# **Managerial Position and Having Children**

We controlled in this study for being in a managerial position and having children. Although not hypothesized, managerial position correlated positively with contextual performance. This result could be explained by managers having more work resources (Lundqvist, 2022) resulting in an increased ability to exhibit extra-role behavior which contributes to contextual performance (Borman & Motowidlo, 1993). Future research should delve further into this, and establish how the relationship between managerial position and contextual performance is mediated. For example, managerial position being associated with increased organizational commitment would predict higher contextual performance (Pazetto et al., 2024)

Additionally, managerial position correlated negatively with having children. This is consistent with previous research, describing that motherhood status negatively influences perceptions of managerial suitability, which could lead to discriminatory assignment of managerial roles (Taparia & Lenka, 2022). These perceptions and discriminatory practices could explain the negative relationship between managerial position and having children.

## **Theoretical and Practical Implications**

The results of this study provide support for the predictions of COR theory (Hobfoll et al., 2018). COR states, amongst others, that individuals experiencing resource loss engage in behavior fostering other resources in order to prevent further loss, referred to as the resource investment principle (Hobfoll et al., 2018). Our results show that period pain was associated with more presenteeism and lower contextual performance, implying that individuals indeed are motivated to invest in other resources as a result of experienced resource loss.

In addition, this study provides initial support for a curvilinear relationship between period pain and presenteeism, suggesting that period pain and presenteeism are less or not at all related at the highest levels of pain but instead may be related to more absenteeism. This adds to the theory since COR theory does not explicitly describe the circumstances under

which the resource investment principle does not take place anymore. Furthermore, the results of this study suggest that curvilinear effects may exist more often than just related to specific work characteristics as hypothesized in the model of Warr (1987). However, our results not only contribute to existing theories, but this study is also the first study that provides empirical evidence for the existence of a curvilinear relationship between period pain and presenteeism. To date, only linear relationships between period pain and presenteeism are investigated (Cook et al., 2023; Schoep et al., 2019). Therefore, future studies examining period pain presenteeism should also consider curvilinear effects.

From a practical point of view, the outcomes of this study suggest that it may be beneficial for organizations to consider not only absenteeism, but also presenteeism in relation to a menstruator's health and performance. Knowing that there is still a stigma on talking about menstruation (Johnston-Robledo & Chrisler, 2020), it is advisable for HRM professionals and managers to promote openness around menstruation and its impact at work. This is an important first step; as long as taboo prevails and openness around menstrual complaints is lacking, specific arrangements or adjustments may create resistance among managers and colleagues. Once this is accomplished, it is recommended to invest in adjustment latitude and attendance requirements such as taking breaks more frequently or working remote when suffering from period pain (Johanson et al., 2012). This way, period pain negatively affecting contextual performance can be counteracted. In addition, to prevent menstruators from engaging in presenteeism behavior, managers should make clear to those who call in sick due to period pain that this does not influence their perception of a menstruator's reliability and commitment (Lohaus et al., 2022).

## **Strengths and Limitations**

This study adopted a cross-sectional study design, enabling to investigate the relationship between period pain and performance in an efficient and relatively low-cost manner. Together with the possibility to use a large sample and include multiple variables, the use of this design allows for gathering insights within a short period of time (Wang & Cheng, 2020). On the other hand, the use of a cross-sectional study design does not allow for drawing causal interferences, thereby rendering it a disadvantage as well (Wang & Cheng, 2020).

Furthermore, several other limitations should be taken into consideration as well. The first limitation concerns the generalizability of the sample. Since respondents are recruited by a combination of convenience and snowball sampling, this could end up in a more homogeneous sample in which respondents share important characteristics (Andrade, 2021).

For example, as already elaborated on, in this study most of the respondents had a higher educational background whereas respondents from other educational background are highly underrepresented. Therefore, the results of this study are not generalizable to all menstruators.

A second and related limitation is that the study design did not assess whether menstruators were able to work remote. It is possible that actual presenteeism rates were higher if there was controlled for abilities to work remote. This is even more a concern since 53,2% indicated their highest obtained degree was an university degree, which is typically associated with more theoretically-oriented occupations that may be more readily performed remotely. Future studies need to assess to what extent menstruators are able to work remote, and whether this subsequently influences performance in a different manner than working on location. For example, one study found that working from home increased self-assessed workability (Johansson et al., 2012), suggesting that performance could be different for those who are able to work remote.

A third limitation of this study is the use of self-reporting measures recalling data over the past six months, increasing the risk that participants inaccurate reflect on their feelings, thoughts and behaviors. Accurately judging past levels of period pain is difficult because menstruators rely on extensive inference and estimation strategies to arrive at an answer (Stone et al., 2007). Consequently, menstruators may tend to underestimate their pain (Babel et al., 2018). Though self-report measures still provide valuable information, to minimize the risk on recall bias it is advisable for future studies to make use of experience sample methods (ESMs), allowing to gather information with regard to period pain and presenteeism behavior more accurately (Myin-Germeys, & Kuppens, 2022). Also, the use of ESMs such as a diary study could provide additional relevant information since it allows for capturing daily fluctuations in pain levels and workaholism levels (Gillet et al., 2023). The latter is important since workaholism is not only a trait, but can also be considered as a state and thus fluctuating within an individual across moments (Xu et al., 2021). Thus, the use of a diary study would provide a more accurate and profound understanding of the relation between period pain and presenteeism, and between period pain and contextual performance, as well as the precise role of workaholism.

#### Conclusion

All in all, the present study has demonstrated a positive relationship between period pain and contextual performance. In addition, it has shown that more period pain does relate to more presenteeism. However, evidence for the mediating role of presenteeism could not be

provided, along with evidence for the moderating role of workaholism between period pain and presenteeism and period pain and contextual performance. As this is one of the first studies examining the role of period pain on contextual performance, there is a need for studies using ESM and incorporating different (mediating) variables as energy depletion. This way, organizations will be able to better foster employee health and attenuate the negative implications of period pain on organizational outcomes.

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## Appendix A

## Purpose of the study and informed consent

Beste deelnemer,

Hartelijk dank voor uw deelname aan dit onderzoek. Dit onderzoek gaat over de relatie tussen menstruatiepijn en werkgerelateerde uitkomsten. Om u te helpen een weloverwogen beslissing te nemen over uw deelname, wordt in deze brief uitgelegd wat het onderzoek inhoudt en wat uw rechten als deelnemer aan het onderzoek zijn. Als u vragen of zorgen heeft, aarzel dan niet om contact met ons op te nemen.

#### Doel van het onderzoek

In dit onderzoek kijken wij naar de invloed van menstruatiepijn op prestaties en de manier waarop emoties worden ervaren. Volgens eerder onderzoek wordt menstruatie nog steeds gestigmatiseerd op het werk, wat een significante negatieve invloed kan hebben op iemands gevoelens en gedrag op het werk. Met dit onderzoek willen we meer inzicht krijgen in de effecten van menstruatie op het welzijn en de prestaties van werknemers. Op die manier hopen we de kenniskloof met betrekking tot menstruatie en de mogelijke effecten ervan op het werk te dichten. Wij voeren dit onderzoek uit in het kader van onze masterthesis aan de Universiteit Utrecht.

## Uitvoering van het onderzoek

Deelname aan het onderzoek is alleen mogelijk als u menstrueert en ten minste 20 uur per week werkt. Let op, u kunt niet deelnemen aan het onderzoek als u geen leidinggevende heeft en/of wanneer er sprake is van (ziekte)verlof voor de langere termijn. Het invullen van de vragenlijst duurt ongeveer tien minuten. Naast algemene vragen naar bijvoorbeeld leeftijd worden er vragen gesteld die gaan over menstruatiepijn, de mate waarin u presteert op uw werk en op welke manier u uw emoties ervaart. Ook worden er vragen gesteld over uw werk en werkomgeving. Het onderzoek is goedgekeurd door de Ethische Toetsingscommissie van de faculteit Sociale Wetenschappen van de Universiteit Utrecht. Dit garandeert dat deelname aan dit onderzoek geen risico's of bijwerkingen met zich meebrengt voor de deelnemer.

#### Uw rechten

Uw deelname aan dit onderzoek is geheel vrijwillig. U kunt op elk gewenst moment, zonder opgave van reden en zonder voor u nadelige gevolgen, stoppen met het onderzoek. In dit onderzoek wordt niet gevraagd naar uw persoonlijke gegevens. Om deel te nemen aan dit onderzoek moet u toestemming geven aan het eind van deze pagina. Nadat u toestemming hebt gegeven, kunt u beginnen met de vragenlijst. Als u geen toestemming geeft, wordt u automatisch doorgestuurd naar het einde van de vragenlijst en wordt u bedankt voor uw tijd. De verzamelde informatie zal op geen enkele manier tot u te herleiden zijn. De verzamelde data wordt bewaard in overeenstemming met de richtlijnen met betrekking tot de gegevensbescherming en zal alleen beschikbaar zijn voor het onderzoeksteam.

## Klachten, vragen en opmerkingen

Als u vragen of opmerkingen heeft over het onderzoek in het algemeen, kunt u contact opnemen met de mastercoördinator, dr. Veerle Brenninkmeijer (v.brenninkmeijer@uu.nl). Als u een officiële klacht hebt over het onderzoek, kunt u een e-mail sturen naar de klachtenfunctionaris (klachtenfunctionaris-fetcsocwet@uu.nl). Als u vragen hebt over dit onderzoek kunt u een e-mail sturen naar een lid van het onderzoeksteam. Dit kunt u doen door contact op te nemen met onze teamvertegenwoordiger Debora Brouwer (e.d.brouwer@uu.nl).

Vriendelijke groet,

Sanne van Zijl, Juliëtte Hollaar en Debora Brouwer

Hierbij verklaar ik de informatiebrief over het onderzoek gelezen te hebben en akkoord te gaan met deelname aan het onderzoek. Dit betekent dat ik instem met deelname aan het onderzoek en dataverzameling voor onderzoeksdoeleinden.

- o Ik ben 18 jaar of ouder en geef toestemming.
- o Ik geef geen toestemming en trek mij terug.

## Appendix B

## Scales as used in this study

## Period pain

Antwoorden kunnen gegeven worden op een schaal van 1 = helemaal geen, 2 = mild, 3 = matig, 4 = ernstig en 5 = zeer ernstig.

Hoeveel menstruatiepijn en symptomen heeft u in de afgelopen 6 maanden gehad?

Antwoorden kunnen gegeven worden op een schaal van 1 = helemaal niet, 2 = in kleine mate, 3 = matig, 4 = in zekere mate en 5 = in zeer grote mate.

In welke mate belemmerden menstruatiepijn en -symptomen uw werk u in de afgelopen 6 maanden?

## Presenteeism over the past six months

Antwoorden kunnen gegeven worden op een schaal van 1 = nooit, 2 = zelden, 3 = soms, 4 = vaak, 5 = heel vaak en <math>6 = niet van toepassing, omdat ik geen symptomen ervaarde.

Ik ben gaan werken ondanks dat ik symptomen had

Ik ben gaan werken ook al ervoer ik ernstige symptomen

Ik heb de hele dag/de volle werktijd gewerkt ook al ervoer ik symptomen

Om te kunnen werken heb ik medicijnen ingenomen om acute symptomen te bestrijden Ik heb mezelf naar werk gesleept, ook al ervoer ik symptomen

## **Contextual performance**

Antwoorden dienen gebaseerd te worden op ervaringen over de afgelopen zes maanden. De volgende antwoordopties zijn mogelijk: 1 = zelden, 2 = soms, 3 = regelmatig, 4 = vaak, 5 = altijd.

Ik ben uit mezelf met nieuwe taken begonnen, als mijn oude taken af waren

Ik heb uitdagende werktaken op me genomen, als die er waren

Ik heb gewerkt aan het bijhouden van mijn vakkennis

Ik heb gewerkt aan het bijhouden van mijn werkvaardigheden

Ik kwam met creatieve oplossingen voor nieuwe problemen

Ik nam extra verantwoordelijkheden op mij

Ik zocht naar nieuwe uitdagingen in het werk

Ik had een actieve inbreng in werkoverleggen of vergaderingen

#### Workaholism

Antwoorden kunnen gegeven worden op een schaal van 1 = (bijna) nooit, 2 = af en toe, 3 = dikwijls en 4 = (bijna) altijd.

Ik heb haast en werk tegen deadlines aan

Ik werk door terwijl mijn collega's al naar huis zijn

Ik vind het belangrijk om hard te werken, zelfs als ik eigenlijk geen plezier heb in mijn bezigheden

Ik ben druk en heb veel ijzers tegelijk in het vuur

Ik heb het gevoel dat iets in mijzelf me dwingt hard te werken

Ik besteed meer tijd aan mijn werk dan aan mijn vrienden, hobby's of andere vrijetijdsactiviteiten

Ik voel me verplicht hard te werken, ook al vind ik dat niet altijd prettig

Ik ben met meerdere dingen tegelijk bezig, ik schrijf bijvoorbeeld een memo terwijl ik eet en met iemand telefoneer

Ik voel me schuldig als ik vrij neem van mijn werk

Ik vind het moeilijk om me te ontspannen als ik niet aan het werk ben