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The Swedish mailman

**- a study about incipient exhaustion and its association with
psychosocial and demographic factors**

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Abstract

Objective. The study examines the prevalence of incipient exhaustion among Swedish mailmen and its association with the psychosocial variables community and reward, and the demographic variables age, gender and leisure time physical activity (PA). **Background.** Mental health is a growing issue in postindustrial countries, and in Sweden the diagnosis exhaustion disorder has been introduced. Recent studies suggest the importance for investigating early signs for exhaustion. Mailmen is an occupational group that has an physically and mentally demanding work which makes them an interesting group to examine in regards to this topic. **Method.** The study used a cross-sectional electronic questionnaire design and had a sample of $n = 112$ (response rate 7 %) mailmen from PostNord. The Lund University Checklist for Incipient Exhaustion (LUCIE) was used to measure incipient exhaustion. **Results.** The prevalence of incipient exhaustion was 15.2 %. There were significant associations between scores on LUCIE and both community and reward. No significant associations were found between LUCIE and the demographic variables age, gender and PA. **Conclusion.** This sample of mailmen report more strain than the general population. The findings adds to previous research investigating mailmen. Due to the low response rate, generalizations must however be done with great caution.

Key words: exhaustion disorder, LUCIE, mailmen, community, reward, age, gender, physical activity

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Introduction

This study is about the prevalence of early signs for exhaustion among Swedish mailmen and its association with the psychosocial variables community and reward, and demographic variables such as sex, age and level of leisure time physical activity.

Stress-related health problems have increased since the 1990s in many postindustrial countries, including Sweden, and hence this topic has been of great interest to researchers (Glise, Hadzibajramovic, Jonsdottir, Ahlborg, 2010; Persson, Österberg, Viborg, Jönsson & Tenenbaum, 2016; Schaufeli, Leiter & Maslach, 2009). The Swedish National Board of Health and Welfare (NBHW) has shown that in the late 1990s there was also an increase in long-term sick leave due to stress-related mental illness, especially among young women (NBHW, 2003). In a report by Försäkringskassan (2017) it is stated that psychiatric diagnoses have been the most common reason for sick leave in Sweden since 2014, and that severe stress reaction accounts for half of these cases. In everyday language the word “burnout” is often being used as a generic term for psychological distress (Grossi, Perski, Osika & Savic, 2015). However, in 2005 the NBHW adopted the diagnosis “exhaustion disorder” (ED; Glise, 2013; NBHW, 2003). The research on this diagnosis is mainly based in Sweden and much of the research has been focusing on already full-blown ED. However, recent studies by Persson et al. (2016), Österberg, Persson, Viborg, Jönsson and Tenenbaum (2016) and Glise, Ahlborg and Jonsdottir (2012) suggest the importance of investigating signs for incipient exhaustion.

Much of the existing research on burnout has primarily focused on occupational groups who's work is conducted in relation to other people, such as clients, customers or patients, for instance nurses (Schaufeli et al., 2009). One occupational group that research seems to have missed is mailmen. In Sweden, mailmen is a large occupational group, with unique work tasks and work environment. The work is both physically and psychologically demanding (Lagerstedt, 2014), which would suggest that this group is prone to stress and burnout. This study will therefore examine the prevalence of signs for incipient exhaustion among Swedish mailmen, and its association with both psychosocial and demographic factors.

Postal work

Historically, the mail service in Sweden has primarily been handled by Posten AB and has been owned by the state. However, in 2009 Posten AB and the Danish mail service Post Danmark A/S were merged into PostNord. The company is one of the biggest in Sweden with about 35000 employees (PostNord, 2015), and is a universal service, which means that the business is serving a mission for society and therefore must be located in the whole country,

all the way from the north to the south (Lindberg, 2015; Wahlstedt, 2001). However, in 2009 the state regulation was released which made it possible for other companies to compete in the mail service business, Bring Citymail is for example such a competitor (Lindberg, 2015). PostNord is however still the major employer for mailmen in Sweden. In 2015, PostNord delivered 5,2 billions of letters and 130 millions of packages to the 25 millions inhabitants and around 2 million companies in the Nordic countries (Postnord.com). Even though the figures seem high, the mail service industry has undergone a major change in recent years due to the fact that fewer letters are being sent. Between the years of 2000 and 2015 the letter volumes fell by 39 % in Sweden and the prognosis is that it will continue to decrease the upcoming years. This is mainly because of the digitalization of society which has led to more e-mails are being sent (Postnord, 2015). As Lindberg (2015) argues, we are living in a world that is characterized by technical innovations, openness and rising competitiveness. In order to adjust and streamline the organization according to these current conditions in society and new market demands, PostNord has been, and still is, undergoing an extensive modernization (Postnord.com). This has resulted in several reorganizations, downsizings and implementation of new work methods the last decade (Lindberg, 2015). All these changes some how affect the personnel in the organization.

Work load. Working as a mailman often means starting the work day early in the morning by sorting the post, then after a few hours go out on the delivery round, regularly either by bike, moped or car. The round is done alone (Arbetsförmedlingen, 2016). Several studies have shown that the work performed by mailmen is physically demanding (Cahill & Landsbergis, 1996; Erlandsson, 2002; Oja, Louhevaara & Korhonen, 1977; Reinert & Lucio, 2012). In the report by Erlandsson (2002) it is described that 53 % of the mailmen think that their work conditions are negatively affecting their health, 52 % are always feeling tired and 26 % are even feeling exhausted. Further, more than half of the mailmen that participated in the study thought that the work was very physically demanding. Lagerstedt (2014) describes how the energy consumption for a delivery round by bike is relatively high, up to 3000 kcal can be spent on a normal work day. In comparison, this is four times as much as for an office worker. Lagerstedt (2014) further argues that mailmen is an occupational group that reports troubles with pain in the neck and shoulders, something that can be explained by the work being manual and very heavy.

Gender. Even though the common term in the English language for someone delivering mail is “mailman”, there are also women working in this profession. Wahlstedt (2001) describes how it has been an increase in the amount of female mailmen during the past 50

years, both in Sweden and in the United States. He also reported that more women than men got injured during their first year working as a mailman, which he speculated could be due to the fact that women had a lower physical capacity than men to perform the physically demanding job. Oja et al. (1977) concluded in their study about Finnish mailmen that women reported more strain than men, and that it increased with age. After the age of 50 it was systematically increasing, especially for women. This finding thus is in line with Wahlstedts (2001) assumption. In the study of American mailmen by Cahill and Landsbergis (1996), their findings were similar to Oja et al. (1977). They found that women reported higher strain than men, but also a higher degree of job dissatisfaction and sleeping problems. Thus it is beyond doubt that the work for mailmen is physically demanding, but the extensive organizational changes during the years could be assumed to create psychological demands on these mailmen as well, since change in any form can be stressful (Lindberg, 2015). Due to the changes in society and in the organization, downsizing has been done several times, and this creates worry among the personnel (Lindberg, 2015; Wahlstedt, 2001). Besides this, the work of a mailman is characterized by a heavy workload and time pressure (Lagerstedt, 2014). All of this creates an unique work environment for mailmen that is not only physically demanding, but mentally demanding as well.

This is why it also can be assumed that this group is at risk for incipient exhaustion and ED, which in turn also is why this occupational group has been chosen for the study.

Stress – the link between the work environment and burnout

An important connection between the physically and mentally demanding work environment for mailmen and the mental illness that may arise, i.e. burnout and ED, is stress. Hans Selye (1956) was one of the first researchers that used the term stress and he means that stress is a non-specific response of the body to any demand made on it (Selye, 1956). Selye was the first to distinguish between good stress (eustress) and bad stress (distress). Whereas the eustress can provide the motivation for the individuals to reach their goals, the distress arises from stressful situations and may produce negative health outcomes if sustained over time (Selye, 1956). This study is however only interested in the sustained “bad” stress.

There are several definitions of stress. The one by Selye is just one of many, and this is because the concept of stress is so multifaceted (Allvin et al., 2011). However, Persson and Ørbæk (2014) have described three fundamental perspectives of stress; stress as a physiological response in a homeostatic system, stress as a conscious state of mind caused by interpretations and stress as a negative influence by external factors. This study takes its

theoretical starting point in the first of these, i.e. stress as a physiological response in a homeostatic system. This is actually also the starting point for the Swedish National Board of Health and Welfare (NBHW, 2003) in the understanding of ED.

What happens in the body when an individual is experiencing some life-threatening and stressful situation is that the stress response activates the hypothalamus-pituitary-adrenal axis (HPA-axis). The activation results in the release of the stress hormone cortisol from the adrenal cortex, which supports the sympathetic activation and leads to elevated levels of sugar and other nutrients in the blood stream (Glise, 2013; NBHW, 2003). The activation is thus triggered in stressful situations and during these the individual will feel a certain amount of discomfort which in turn will make him or her strive for a solution to alleviate the stress (Ursin & Eriksen, 2004). The activation therefore has an important role, although if sustained or too frequent it can be harmful in that it can lead to several stress diseases, e.g. ED (NBHW, 2003).

The link between environmental stimuli and inner experiences can be understood with two well-known theories of stress; allostasis (Sterling & Eyer, 1988) and the Cognitive Activation Theory of Stress (CATS; Ursin & Eriksen, 2004). Whereas allostasis seeks to explain the physiological components during stress, CATS explains the psychological mechanisms that trigger the stress response. These models are fundamental in the understanding of how stress arises in the body, which is why these models will be explained briefly before moving on to the core concepts of this study – burnout and ED.

Allostasis theory. Sterling and Eyer (1988) founded the allostasis model. The term allostasis refers to a specific process whereby an individual preserves physiological stability by reevaluate and/or adjust the internal environment by matching it to external factors (Juster, McEwen & Lupien, 2010; Sterling & Eyer, 1988). Thus, like homeostasis, allostasis refers to the idea of balance and to the process through which the body, and specifically the brain, constantly adapts itself to the demands of the environment (Allvin et al., 2011). The individual adapts to the external factors or threats by increasing the physiological activation, a response that will make the individual capable of defending him- or herself against the threat (McEwen, 1998). The activation enhances the individual's ability to protect the body in that sense that the body is getting ready for fight by providing more blood flow to the muscles, the heart and the brain (Allvin et al., 2011). When the challenge has been handled, the activation is followed by a period of rest (McEwen, 1998). An adequate and normal allostatic response shall thus be activated by an external stressor, be maintained in order to handle the threatening situation and then be shut down (McEwen, 1998). In the theory of allostasis there is also the

concept of allostatic load (AL), which represents the ‘wear and tear’ that the body experiences when allostatic responses are continually activated, due to frequent exposure to external stressors (Juster et al., 2009; McEwen & Stellar, 1993). Expectations are also an important part of the allostasis model. McEwen (1998) argues that anxiety and worry can contribute to AL, since it can trigger the secretion of cortisol which in turn if sustained will lead to AL. Even though the allostasis model emphasizes the expectations (a psychological aspect) as an important factor, it is for the most part the physiological response it seeks to explain. To better understand the connection between the physiological and psychological response of stress let us turn to CATS.

Cognitive Activation Theory of Stress (CATS). CATS is an expansion of physiological activation theories, e.g. the allostasis model (Ursin & Eriksen, 2004). However, it does not seek to better explain the physiological responses that occurs during stress rather how these responses are linked to psychological mechanisms as well. The theory emphasizes the role of interpretation (Levine & Ursin, 1991). Ursin and Eriksen (2004) mean that whether a stimulus is perceived as pleasant or threatening is dependent on the individual’s appraisal of the situation and stimulus. The appraisal is based on previous experiences and the expected outcome. If a stimuli is perceived as threatening and negative it would be reported as stress. Ursin and Eriksen (2004) mean that the response to this threat then is a “non-specific alarm response” (p. 571), which for example generates an increase in wakefulness and arousal of the brain. The final link is the feedback loop, which is the experience of the stress response. Specific responses and different coping strategies, may alter the stimulus, and these will be stored as response outcome expectancies (Ursin & Eriksen, 2004).

The allostasis model, AL and CATS together provide a thorough picture about how environmental factors and the interpretation of these factors may in fact have a negative impact on the individual’s mental health. The present study seeks to investigate the experience of stress and the feedback from the stress response, in other words the individual perception of stress. Thus the stressors and physiological activation are not measured, it contributes however to the understanding of how external factors, in this case stress at work, if sustained over a long period of time can lead to incipient exhaustion, ED and burnout.

Burnout

As was described briefly in the introduction, that mental illness is a problem in Sweden, and many other industrial countries (Persson et al., 2016). Maslach, Schaufeli and Leiter (2001) mean that the phenomenon burnout is significant for modern age. Burnout as a term

began to be used in the 1970s in the United States and those who experienced it were mainly human service professionals. The word is a metaphor for the draining of energy and implies that a fire has been burning once, but is not anymore unless there are sufficient resources to keep it alive (Schaufeli, Leiter & Maslach, 2009). Halbesleben and Buckley (2004) mean that burnout is a “psychological response to work stress” (p. 859). However, one of the first researchers that was interested in this phenomenon was Christina Maslach. Maslach, Jackson and Leiter (1996) defined burnout as “... a state of exhaustion in which one is cynical about the value of one’s occupation and doubtful of one’s capacity to perform” (p. 20). Burnout has further been described as a psychological syndrome that arises in response to long-lasting interpersonal stressors on the job (Maslach et al., 2001). Maslach et al. (2001) also argue that burnout is characterized by three dimensions; emotional exhaustion, cynicism and reduced personal accomplishments. Emotional exhaustion symbolizes the basic stress dimension of burnout, and it refers to feelings of fatigue and the individual being depleted of his or her emotional and physical resources. Cynicism, or depersonalization, is the dimension that represents the interpersonal context of burnout. It refers to the individual becoming negative and detached to various aspects of the work. Lastly, the dimension of reduced personal accomplishments is a component that represents reduced efficacy and self-evaluation. This dimension embodies feelings of incompetence and lack of both achievement and productivity at the job (Maslach et al., 2001). First, researchers were only interested in measuring burnout among human service professionals, but later the interest was extended to include all occupations (Schaufeli et al., 2009). This has been reflected in what instruments that have been used to measure burnout. One that has dominated the field of burnout is the Maslach Burnout Inventory (MBI), which has later been further developed into the Maslach Burnout Inventory – General Survey (MBI-GS). The latter fills the purpose of being able to measure burnout in any occupation (Schaufeli et al., 2009).

During the years there have been more researchers interested in the phenomenon burnout, and thus there exist more definitions with related instruments. Kristensen, Borritz, Villadsen & Christensen (2005) criticized the MBI and developed a new measure for burnout; the Copenhagen Burnout Inventory (CBI). The criticism was about the fact that Maslach’s three dimensions on burnout are measured independently in MBI and thus the same individual can have three different levels of burnout. Kristensen et al. (2005) also argue that the dimension of reduced personal accomplishments in studies seem to differ significantly from the two other dimensions, suggesting that this dimension should be excluded from the burnout theory. Instead Kristensen et al. (2005) suggest a theory for burnout where fatigue and

exhaustion are the core components. Shirom and Melamed (2006) have suggested another definition of burnout, in which they mean that burnout is characterized by exhaustion, more specifically the individual's experience of exhaustion, both emotionally, physically and cognitively. This theory is based on Hobfoll's (2011) Conservation of Resources (COR) theory, which assumes that the human being has a basic instinct to defend and keep valuable resources. COR-theory assumes that there are several kinds of resources, for example social, material and energetic (Hobfoll, 2011; Shirom & Melamed, 2006). Shirom and Melamed (2006) argue that exhaustion is caused by reduced energy resources and if it is sustained over a long time, this will eventually lead to burnout. Thus the dimension of exhaustion seems to be more thoroughly analyzed than the other two by Maslach et al. (2001). The strong association of exhaustion with burnout has led some to argue that the other two dimensions (cynicism and reduced personal accomplishments) are unnecessary (Shirom, 1989). Grossi et al. (2015) mean that in spite of some differences, all definitions of burnout involve the dimension exhaustion as a key factor. These arguments, among others, were used by the Swedish National Board of Health and Welfare (NBHW) when they in 2005 adopted a diagnosis for the phenomenon.

Exhaustion disorder (ED)

In everyday language the word "burnout" is being used as a generic term for psychological distress (Grossi et al., 2015), and even though emotional exhaustion is an important component of burnout, it is not enough of a definition in clinical practice. An agreed diagnostic criteria for burnout was lacking (Glise et al., 2010). Because of this fact, the increase in stress-related ill-health and the lack of consensus about terminology, the Swedish NBHW introduced the diagnosis "exhaustion disorder" (F43.8A) into the Swedish version of the 10th revision of the International Classification of Diseases (ICD-10-SE; NBHW, 2010). In contrast to Maslach's burnout, ED is more physiologically oriented as it is primarily characterized by exhaustion, reduced activity level and the individual having an increased need for recovery. Other symptoms can arise as well, such as pain, insomnia and impaired memory. All these symptoms cause distress in both the individual's work and private life (Persson et al., 2016; Österberg et al., 2016). Halbesleben and Buckley (2004) and Persson, Österberg, Viborg, Jönsson and Tenenbaum (2017) state that the mainstream burnout research primarily rely on psychological theories such as COR theory (Hobfoll, 2011) and six areas of work-life (Leiter & Maslach, 1999), as explanatory theories of burnout. In contrast, the ED diagnosis has a clear connection to a biomedical and physiological understanding of the stress

response (NBHW, 2003). Persson et al. (2017) further argue that this is more in line with the theory of allostasis (Sterling & Eyer, 1988) and CATS (Ursin & Eriksen, 2004), since it is assumed that insufficient recovery and very frequent, or too long lasting, stress responses will lead to a harmful physiological imbalance that may cause ED (NBHW, 2003; Persson et al., 2017).

An important criterion for the diagnosis of ED is the relationship with defined stressors, which are assumed to be the cause of the exhaustion the patient is experiencing (Hasselberg, Jonsdottir, Ellbin & Skagert, 2014). ED is thus more closely related to the definition of burnout by Shirom and Melamed (2006) than the one by Maslach et al. (2001). Sweden was one of the first countries in the world to adopt a diagnosis for ED (Schaufeli et al., 2009). Soon after it was done, it became one of the five most common diagnoses and the one that showed the sharpest increase (Friberg, 2006). The adaption of a diagnosis mainly served the purpose to provide a tool to diagnose clinical burnout, since many patients showed similar symptoms that however differed from the diagnoses for depression and anxiety (Glise et al., 2010).

Table 1. *The criteria for exhaustion disorder as proposed by the Swedish National Board of Health and Welfare (NBHW, 2003).*

- A.** Physical and mental symptoms of exhaustion with a duration of at least 2 weeks. The symptoms have developed in response to one or more identifiable stressors, which have been present for at least 6 months.
- B.** Markedly reduced mental energy is a predominant feature, as manifested by reduced initiative, lack of stamina or increase in time needed for recovery after mental efforts.
- C.** At least four of the following symptoms have been present nearly every day, during the same 2-week period:
 - 1. Concentration difficulties or impaired memory.
 - 2. Markedly reduced capacity to deal with demands or to work under time pressure.
 - 3. Emotional instability or irritability.
 - 4. Sleep disturbances.
 - 5. Marked physical weakness or fatigability.
 - 6. Physical symptoms such as muscular pain, chest pain, palpitations, gastrointestinal problems, vertigo or hypersensitivity to sounds.
- D.** The symptoms cause clinically significant distress or impairment in social, occupational or other important areas.
- E.** The symptoms are not due to the direct physiological effects of any substance (e.g. a drug

of abuse, a medication) or a physical illness/injury (e.g. hypothyroidism, diabetes, infectious disease).

F. If the criteria for major depression, dysthymia or generalized anxiety disorder are met simultaneously, exhaustion disorder is set only as an additional specification to any such diagnosis.

(NBHW, 2003)

Exhaustion disorder (ED) in relation to gender and age. The association between ED and demographic variables such as gender and age has not been widely researched. However, according to Försäkringskassan (2015) 65 % of the individuals on long-term sick leave in 2014 in Sweden were women. Half of these women were working in female-dominated professions, such as healthcare or teaching. Among the 35 % men, half of them were doing typical male dominated blue-collar work (Försäkringskassan, 2015). Among women the increase in mental health is more accentuated than among men, and in 2014 38 % of the women on long-term sick leave suffered from mental illness, the primary diagnoses being stress reaction and anxiety (Försäkringskassan, 2015). In the report by Sverke, Falkenberg, Kecklund, Magnusson Hanson and Lindfors (2016), they add to these statistics by conclude that if women and men are exposed to the same work environment, containing the same conditions, the level of illness are similar regardless of gender. Further, in a study by Glise et al. (2012) they found that the prevalence of ED and course of symptoms were not related to neither sex nor age. However, they argue that burnout in many studies have been shown to be more common among women than men. These studies, however, are based on Maslach's definition of burnout and are thus measuring burnout with the Maslach Burnout Inventory and not based on the diagnosis for ED by NBHW (2003). Norlund et al. (2010), for example, found that burnout was more common among women, in the general population in the north of Sweden. They further argue that these differences could be explained by the women having more unfavorable working conditions than men in general, making gender segregation at the labor market a possible explaining factor. Försäkringskassan (2015) reports, for example, that the high amount of women on long-term sick leave can be explained by women working in the female-dominated professions. However, Maslach et al. (2001) argue that the demographic variable gender has not been a strong predictor for burnout, since the research findings have not been consistent. Some show higher burnout for women, and some show higher scores for men. Others find no difference at all. However, there is a slight

difference in that men tend to score higher on the dimension cynicism, whereas women in some studies have scored slightly higher on the dimension exhaustion (Maslach et al., 2001).

Regarding age, Lindblom et al. (2006) found an association between a high risk for burnout and being woman and/or 50 years or older. Oja et al. (1977) also found evidence for women reporting higher strain than men among a population of Finnish mailmen, and that it increased with age. This is however not consistent with the findings by Maslach et al. (2001) who argue that among younger employees the level of burnout is shown to be higher than it is among people over 40 years old. In a third study by Ahola et al. (2006) they found that age had no buffering effect on burnout at all, which makes it evident that research have not shown consistent results on the matter of the relationship between age and ED either. Maslach et al. (2001) note that work experience can be a possible confounding variable in this association. Thus it can be concluded that most of the studies done on the relationship between exhaustion and demographic variables such as age and gender are not consistent and the majority is based on theories on burnout. Also, the association between these demographics and ED or incipient exhaustion have not been in focus in regards to a population of Swedish mailmen in previous studies.

Exhaustion disorder (ED) in relation to physical activity. Physical activity (PA) has been shown to have positive health effects in general, and recently there have been growing evidence on the positive effects on mental health such as depression, anxiety and ED (Josefsson, Lindwall & Archer, 2013; Lindegård, Jonsdottir, Börjesson, Lindwall & Gerber, 2015; Lindwall, Gerber, Jonsdottir, Börjesson & Ahlborg, 2014; Mammen & Faulkner, 2013). The idea that PA might have a buffering effect on stress has been discussed since the early 1980s (Gerber, Jonsdottir, Lindwall & Ahlborg, 2014). In a review by Gerber and Pühse (2009) they concluded that this buffering effect of PA was found in more than 50 % of the studies made on an adult population. The results obtained from empirical studies show that PA in general is associated with lower levels of stress (Gerber & Pühse, 2009). Evidence that support this were found in for example the studies by Aldana, Sutton and Jacobsson (1996), Lindwall et al. (2014) and Schnohr, Kristensen, Prescott and Scharling (2005). Schnohr et al. (2005) even found evidence of a causal link between PA and stress, more specifically that increased PA was followed by lower levels of stress. Regarding ED, Lindegård et al. (2015) found in their study that patients with ED who initially had inactive lifestyles, and who started to do PA once a week showed larger improvements in burnout than the patients who remained inactive. This is in line with the findings by Gerber et al. (2014) who found that PA is associated with resilience to occupational stress. Gerber, Jonsdottir, Arvidson, Lindwall and

Lindegård (2015) mean that increased stress levels are associated with lower levels of PA and this is because stress-related exhaustion and many other mental disorders are characterized by low physical and mental energy levels, and low motivation. This thus means that these individuals are exhausted to the extent that they do not have the energy to exercise, but if starting to exercise they will experience major improvements in lowering the levels of burnout (Lindegård et al., 2015).

Gerber and Pühse (2009) argue that even though chronic occupational stress is very common in modern society and many people experience it, or know someone that is, researchers still have put little attention to the potential of PA to reduce the harmful effects of occupational stress (Gerber & Pühse, 2009). Many studies have been conducted focusing on the relationship between PA and depression and anxiety (Lindegård et al., 2015), but less studies have been conducted focusing on the relationship between PA and ED, or even incipient exhaustion. Since stress and exhaustion can be assumed to be a major problem for mailmen (Lagerstedt, 2014; Lindberg, 2015), it is therefore of interest to examine how early signs of exhaustion may be related to the level of leisure time PA in this occupational group.

Measuring Exhaustion disorder (ED). When the diagnosis exhaustion disorder was adopted by the Swedish NBHW, instruments for the diagnostic procedure were needed. As a result, the Self-reported Exhaustion Disorder Questionnaire (s-ED) and the Karolinska Exhaustion disorder Scale (KEDS) were developed (Besèr et al., 2014; Glise et al., 2010; Persson et al., 2016). The s-ED consists of four items, one of which consists of six sub-items. The aim of the instrument is to measure exhaustion in compliance with the NBHW (2003) criteria for ED (Persson et al., 2016). Glise et al. (2010) proved that the s-ED instrument relates clearly to other established measures of mental health, such as depression, anxiety, burnout and stress. It also showed satisfactory construct validity (Glise et al., 2010). Concerning KEDS, this is a newly developed instrument for measuring the manifestation of ED (Besèr et al., 2014). The instrument consists of nine items involving 1) ability to concentrate, 2) memory, 3) physical stamina, 4) mental stamina, 5) recovery, 6) sleep, 7) hypersensitivity, 8) experience of demands, and 9) irritation and anger (Persson et al., 2016). The measure was developed by Besèr et al. (2014) who proved the measure to be internally consistent and discriminating between ED patients and a control group.

Measuring incipient exhaustion. Both KEDS and s-ED are self-report instruments that measure the presence of ED. Persson et al. (2016) and Österberg et al. (2016) mean that there is a lack of knowledge of the early signs of ED. If exhaustion is detected in its prodromal stages, rather simple interventions may suffice to reverse the development of a full-blown ED.

Drawing on this insight, the Lund University Checklist for Incipient Exhaustion (LUCIE) was developed (Persson et al., 2016; Österberg et al., 2016). LUCIE is based on qualitative analysis of ED patients' narratives in interviews regarding their earliest signs of ED. The measure involves 28 items covering six domains; 1) sleep and recovery, 2) separation between work and spare time, 3) sense of community and support in the workplace, 4) managing work duties and personal capabilities, 5) private life and spare time activities, and 6) health complaints. (Österberg et al., 2016). Persson et al. (2016) describe how the responses to the items are done on a four-point scale ranging from 1 = not at all, to 4 = very much. Further, the scoring is based on two algorithms that generate two indicators: the Stress Warning Scale (SWS) and the Exhaustion Warning Scale (EWS). Persson et al. (2016) mean that if the SWS-score reaches the red zone, it is advisable to check the EWS-score. If this score also is in the red zone this suggests that the individual has been experiencing severe lasting stress symptoms that might in fact indicate ED (Persson et al., 2016). However, it is important to note that LUCIE does not measure ED in compliance with the NBHW (2003) diagnosis; instead it is measuring the signs for incipient exhaustion. LUCIE has been validated against KEDS and s-ED, and Persson et al. (2016) found that increasing signs of exhaustion in LUCIE were positively related with signs of exhaustion on the KEDS and s-ED measures. They also found a negative association between LUCIE and job control, job support and work engagement.

LUCIE is thus a relatively new instrument that has not been used extensively in research studies yet. However, in the master's thesis by Janson and Wernbro (2016), LUCIE was used to examine incipient exhaustion among principals and managers in the teaching profession. They found a prevalence of incipient exhaustion of 6.8 % among this group ($n = 253$). This finding added to the study by Persson et al. (2016) in which they found a prevalence of incipient exhaustion of 5 % among a sample of the population ($n = 1355$). The present study is similar in its purpose for investigating the prevalence of early signs for exhaustion, although the occupational group of interest is mailmen.

Psychosocial factors

Most of the research on burnout have aimed to examine the factors that can predict it. Hasselberg et al. (2014) argue that "the concept of burnout is based on the fact that the exposure is due to work-related factors" (p. 2). One model that seeks to explain the environmental factors that affect the development of burnout is the six areas of work-life by Maslach and Leiter (1999), who extended the theory on burnout by including the concept job

engagement in this model. The model highlights six psychosocial factors as important aspects for the development of burnout (Leiter & Maslach, 1999; Maslach & Leiter, 1999).

Six areas of work-life. The model six areas of work-life is a mismatch model and it seeks to explain how the six areas have an impact on whether the employee becomes burned out or engaged. A fit between the work environment and the person will lead to job engagement, whereas a mismatch will lead to burnout. The six areas are: 1) demands, 2) control, 3) rewards and recognition, 4) community, 5) fairness, and 6) value congruity (Leiter & Maslach, 1999, 2004; Maslach & Leiter, 1999). Four of these areas are also found in other well-known explanation models for how work environmental factors are leading to work stress, e.g. the demand-control-support model by Karasek and Theorell (1990) and the effort-reward imbalance (ERI) model by Siegrist (1996). The main difference between these models and the six areas of work-life model is that the demand-control-support model and the ERI-model are models for work environmental factors that are associated with work stress in general, whereas the six areas of work-life model is a theory that is explaining how work environmental factors may trigger the development of specifically burnout (Leiter & Maslach, 2004).

The first area, demands, Maslach and Leiter (1999) mean is about the demands that are put on the employee at work, if they are manageable or too demanding. If too demanding this area will fall at the negative side of the continuum, thus increase the risk for burnout (Leiter & Maslach, 2004; Maslach & Leiter, 1999). Demands have been shown to have the strongest relationship with the exhaustion dimension, however demands in itself are not a problem. It is when the demands are sustained for a long period of time that it becomes a risk factor for burnout (Leiter & Maslach, 1999, 2004; Maslach, 2003). Leiter and Maslach (2004) argue that the critical point is about whether the individual has the opportunity to rest and recover. If the demanding job situation is chronic rather than a temporary work accumulation, the possibility for recovery is often very slim (Leiter & Maslach, 2004). The second area, control, is about how much the employee perceive that he or she has control in the work, for example that the individual has the authority to make decisions about how one's own work task is to be conducted (Maslach & Leiter, 1999). The first and second areas, demand and control, are reflected in the demand-control model of job stress by Karasek and Theorell (1990). In concordance with this model, the combination of high demands and low control is the strongest predictors for stress, whereas high demands and high control seem to foster motivation, commitment and engagement (Karasek & Theorell, 1990; Leiter & Maslach, 2004). The third area, rewards and recognition, refers to the effectiveness in the systems for

rewards in the organization (Maslach & Leiter, 1999). Leiter and Maslach (2004) mean that rewards, such as monetary, social or intrinsic, should be in harmony with expectations. If the employee feels a lack of recognition from colleagues or managers, the value of the work gets diminished. This is closely related to the dimension reduced personal accomplishments in the burnout theory (Maslach & Leiter, 2004). Thus a mismatch in rewards and recognition will make the employee more prone to burnout (Leiter & Maslach, 1999). This is also in line with the ERI model which is about the social contract at work (Siegrist, 1996). This model means that a lack of reciprocity at work will lead to higher risk for stress and if sustained over a long period of time also burnout (Bakker, Killmer, Siegrist & Schaufeli, 2000). The employee's efforts should be in harmony with the reward and recognition he or she is receiving for the work. Siegrist (1996) means that reward can come in different forms such as monetary, recognition or career. Factors that have been seen to have an impact on a perceived imbalance are for example poor job stability, occupational change or lack of promotion prospects (Bakker et al., 2000). The fourth area, community, refers to the organizations perceptiveness for the employees and society (Maslach & Leiter, 1999). Maslach and Leiter (2004) mean that "community is the overall quality of social interaction at work, including issues of conflict, mutual support, closeness, and the capacity to work as a team" (p. 98). However, burnout research has put a lot of emphasis on social support from colleagues and supervisors, something that has been shown to mediate the relationship between demands and burnout (Leiter & Maslach, 1999). This factor also became important in the famous demand-control model by Karasek (1979), as it was actually later extended to include social support as a third factor (Karasek & Theorell, 1990). Halbesleben and Buckley (2004) argue that there have been many studies where they have found statistically significant relationships between social support and burnout, but the results have however been inconsistent. Burke and Greenglass (1996) found for example that social support had little effect on emotional and physical health in a sample of teachers. Lack of supervisor support has however been shown to have an association with exhaustion, which reflects the impact that this kind of support has on perceived workload (Maslach & Leiter, 2004). In a study by Norlund, Fjellman-Wiklund, Nordin, Stenlund and Ahlgren (2013) they found that social support was of significance for patients suffering from ED and who were coming back to work. External support from the supervisor was shown to be especially important. The fifth area, fairness, refers to that people are treating each other with respect and fairness within the organization and that decisions are perceived as being fair (Maslach & Leiter, 1999, 2004). Finally, the sixth area, value congruity, is about congruence between personal and organizational values. It refers to the

individual's belief that the work he or she conducts provides opportunities to do something that is believed to be important (Maslach & Leiter, 1999). Maslach and Leiter (2004) describe it as "the motivating connection between the worker and the workplace that goes beyond the utilitarian exchange of time for money or advancement" (p. 99). When the personal and organizational values are mutually compatible, job engagement arises. And if the personal and organizational values are incongruent, the individual will be disengaged and in the long run at risk for being burned out (Maslach & Leiter, 2004). Leiter and Maslach (1999) describe how an individual that experiences a mismatch in values will perceive his or her work as less meaningful, a feeling that in turn encourages cynicism, indifference and depersonalization.

The six areas of work-life model has been important for the burnout research. For the purpose of this study however, two of the areas have been chosen; 1) community and 2) rewards and recognition. As mentioned above, community (and social support) have been shown to have an effect on burnout in previous studies (Leiter & Maslach, 1999), and thus it is interesting to see if there is any association with incipient exhaustion measured with LUCIE based on a population of Swedish mailmen. However, it is important to note that even though LUCIE contains two items measuring social support, the variable community has a broader definition and therefore does not measure the same thing as the social support dimension in LUCIE. Besides supervisor and coworker support, the community variable also includes themes such as organizational climate, conflicts and teamwork (Maslach & Leiter, 2004). It is also interesting to investigate the relationship between the LUCIE score and perceived reward and recognition, since it seems to be an important and relevant factor in the understanding of the development of burnout. However, no studies have been conducted investigating the association between this variable and incipient exhaustion measured with LUCIE in a population of Swedish mailmen.

Research aim and hypothesis

Based on previous studies regarding the physical and psychologically demanding work for mailmen, the main aim for this study is to investigate the prevalence of signs for incipient exhaustion among a population of Swedish mailmen. It will then be examined if there are any associations between the prevalence of signs for incipient exhaustion and the psychosocial variables community and reward and recognition. It is also of interest to investigate the association between the prevalence of early signs for exhaustion and the demographic variables age, gender and leisure time PA. This study will thus provide new insight to the work for mailmen in Sweden and how different variables, both psychosocial and

demographic, are associated with incipient exhaustion for this occupational group. Based on the argumentation above, the following research questions have been formulated:

1. What is the prevalence of incipient exhaustion among Swedish mailmen measured with the Lund University Checklist for Incipient Exhaustion (LUCIE)?
2. To what extent are the demographic variables age, gender and leisure time physical activity associated with the prevalence of incipient exhaustion among Swedish mailmen?
3. To what extent are perceived community and reward and recognition associated with the prevalence of incipient exhaustion among Swedish mailmen?

Method

Selection and participants

The population was Swedish mailmen and the study was conducted at PostNord, which is the largest logistics company in Sweden. A sample was drawn from the south region of the organization due to practical reasons. Thus all mailmen in this region were invited to participate. The sample was considered representative for Swedish mailmen since it is a public organization with fairly the same conditions in all parts of Sweden.

Of the 1679 mailmen working in the south of Sweden 112 ($n = 112$) chose to participate, which gave a response rate of 7 %. Known reasons for not participating were not getting any information about the study and/or feeling too stressed to do it. The respondents were between 20 and 63 years of age with a mean age of $M = 42$ and $SD = 13.18$. 49 ($n = 49$) were women whereas 62 ($n = 62$) were men. One participant did not disclose the gender information. The majority of the participants ($n = 73$) had worked as a mailman for ten or more years and 81.3 % had a permanent full-time employment. 92.9 % of the participants stated that their main activity the past 12 months had been “working”. Only 2.7 % had been on long-term sick leave (for three months or longer). A majority (64.3 %) of the sample worked up to 5 hours per week overtime. 26.7 % of the sample reported not having felt stressed lately or only a little stress. However, there were 73.2 % that reported that they had been feeling stressed to a certain degree, pretty much and very much. For a demographical overview of the participants, see Table 2 and Table 3.

Table 2. Demographical data regarding the private life of the participants (n and %).

| | <i>n</i> | % |
|------------------------------------|----------|------|
| Gender | | |
| Women | 49 | 43.8 |
| Men | 62 | 55.4 |
| Other | 1 | 0.9 |
| Age | | |
| <= 35 | 42 | 37.5 |
| 36-51 | 33 | 29.5 |
| 52+ | 37 | 33.0 |
| Access to social support | | |
| Living with a partner | 38 | 33.9 |
| Living with partner and children | 29 | 25.9 |
| Living with children | 4 | 3.6 |
| Living with parents | 7 | 6.3 |
| Living alone | 28 | 25.0 |
| Other | 6 | 5.4 |
| Physical activity (PA) | | |
| Sedentary leisure | 13 | 11.6 |
| Some PA 4 h/week | 48 | 42.9 |
| Regular moderate PA | 37 | 33.0 |
| Regular hard training | 14 | 12.5 |
| General stress (self-rated) | | |
| Not at all | 8 | 7.1 |
| Only a little | 22 | 19.6 |
| To a certain degree | 31 | 27.7 |
| Pretty much | 29 | 25.9 |
| Very much | 22 | 19.6 |

Table 3. Demographical data regarding the participants' work (n and %).

| | <i>n</i> | % |
|----------------------------|----------|------|
| Years in profession | | |
| < 6 months | 3 | 2.7 |
| 6 months – 1 year | 8 | 7.1 |
| 1-3 years | 10 | 8.9 |
| 3-5 years | 7 | 6.3 |
| 5-10 years | 11 | 9.8 |
| 10+ years | 73 | 65.2 |
| Employment rate | | |
| Permanent full-time | 91 | 81.3 |
| Permanent part-time | 14 | 12.5 |

| | | |
|---|-----|------|
| Temporary | 6 | 5.4 |
| Extra employee | 1 | 0.9 |
| Activity past 12 months | | |
| Worked | 104 | 92.9 |
| Off duty/parental leave | 1 | 0.9 |
| Long-term sick leave (more than 3 months) | 3 | 2.7 |
| Other | 4 | 3.6 |
| Overtime | | |
| No | 35 | 31.3 |
| Up to 5 h/week | 72 | 64.3 |
| Between 6 and 10 h/week | 5 | 4.5 |
| More than 10 h/week | 0 | 0 |

Design and procedure

The study was a cross-sectional questionnaire study, consisting of primarily an electronic questionnaire. This method was chosen because it was suitable for the research questions and it also made it possible to reach out to many possible participants in a short amount of time (Shaughnessy, Zechmeister & Zechmeister, 2015), which was adequate for the time frame of the study.

After contact with the regional HR manager, the information about the study was provided by e-mail. The regional HR manager then sent forward the information about the study to the organization and managers across the south of Sweden, in order for them to inform their employees about the study. In this information, the link to the survey was included. The managers were encouraged to print the information letter with the link to the survey and hand it out to their employees in order for them to conduct the survey at home. The HR business partners in the south of Sweden did some marketing of the study in their daily communication with the managers, and reminded them about the importance of them giving the information to the employees. The survey allowed responses for three weeks and the deadline was set to the 12th of March 2017. After one week, the HR manager sent out a reminder to all managers to not forget to inform the mailmen about the survey and how to participate. After another week, a second reminder was sent out and before the last three days, a third reminder was sent out. However, after the deadline an adequate amount of participants had not been reached. Therefore, the data collection for the online survey was prolonged for a fourth week. During this week, the researcher took personally contact by telephone with ten managers in parts of the region where there had been a low amount of participation so far.

Lastly, the researcher also visited one workplace in Malmö where the employees had the opportunity to conduct the survey with pencil and paper. Thus, after 4,5 weeks the data collection phase was completed and the final sample size was $n = 112$.

Instruments

The electronic questionnaire involved two different instruments for measuring the main variables for the study, and also a couple of background questions in order to get the demographics of the participants. The two main instruments was included in the LUQSUS-K package that is provided by Arbets- och Miljömedicin in Lund (Österberg, 2016). The different measurements will be described in detail below.

Incipient exhaustion. For measuring incipient exhaustion, LUCIE was used (Österberg, 2016). The instrument consists of 28 items describing behaviors and feelings that are related with early stages of ED. The questionnaire is based on qualitative analyses of ED patients' interviews and narratives concerning their earliest signs of ED (Persson et al., 2016). The items cover six domains; 1) sleep and recovery, 2) separation between work and spare time, 3) sense of community and support in the workplace, 4) managing work duties and personal capabilities, 5) private life and spare time activities, and 6) health complaints (Persson et al., 2016). It has been validated against instruments that measure ED, for example the KEDS and the s-ED (Persson et al., 2016). The domain sleep and recovery contains three items, for example "are you having difficulties falling asleep?". The domain separation between work and spare time includes four items, e.g. "Do problems at work make you annoyed at home?". The third domain, sense of community and support in the workplace, includes two items, for example "Do you experience lack of support and/or help from your work colleagues?". The next domain, managing work duties and personal capabilities, contains five items, e.g. "Have you starting to loose your enthusiasm/joy for the work tasks?". The fifth domain, private life and spare time activities, includes three items, such as "Do you experience too little time for socializing with friends or acquaintances?". The last domain, health complaints, contains 12 items such as "Do you experience feelings of hopelessness or powerlessness?" or "Do you experience impaired short-term memory?".

As described earlier the responses to the items are done on a 4-point scale ranging from 1 = not at all to 4 = very much. The scoring is based on two algorithms that generate two indicators: the Stress Warning Scale (SWS) and the Exhaustion Warning Scale (EWS). The algorithms to get these scales are found in the LUQSUS-K package (Österberg, 2016). For

more details about the calculation with the algorithms see the appendix in Persson et al. (2016).

Demographics. The survey also contained a couple of demographic items addressing gender, age and living situation. Each was measured with one item and the living situation had pre-selected categories; 1) yes, with a partner, 2) yes, with a partner and a child/children, 3) Yes, with my child/children, 4) Yes, at home with my parents, 5) No, I am living alone and 6) Other. The questionnaire also included a couple of background questions concerning the work for the participants, such as for how long the participant had worked as a mailman and level of employment rate. One single item about stress was chosen from the QPS Nordic-34+ questionnaire (Dallner et al., 2000) because of its broad and general nature. The purpose of this item was to describe the respondents in regards to stress. In this item a brief definition of stress was provided. The item was “Have you been feeling stressed lately?” and it was rated on a 5 point likert scale ranging from 1 = not at all to 5 = very much.

Physical activity (PA). Level of leisure time PA was measured with the Saltin-Grimby Physical Activity Level Scale (SGPALS; Saltin & Grimby, 1968), more specifically the Swedish version of it (Grimby, Börjesson, Jonsdottir, Schnohr, Thelle & Saltin, 2015). The respondents were asked to estimate their level of leisure time PA according to four levels; (1) almost completely inactive, (2) some physical activity during at least 4 hours per week, (3) regular activity, and (4) regular hard physical training for competition (Saltin & Grimby, 1968). This scale is among the most widely used for measuring level of PA, and has been used in previous studies which aimed to examine the relation between mental health and leisure time PA (see for example Lindwall et al., 2014). PA was measured with one item and a high value indicated a high level of leisure time PA.

Psychosocial factors. The psychosocial factors of interest for this study were community and reward and recognition. These areas stem from the model six areas of work-life by Leiter and Maslach (1999).

Community. The original instrument by Leiter and Maslach, the Areas of work-life survey (AWS), was deselected because of its foundation in Maslach’s burnout theory. Instead community was measured with the instrument Questionnaire for Psychological and Social Factors at Work – Mismatch (QPS-M), which is a shortened version of the more wide-ranging Questionnaire for Psychological and Social Factors at Work – Nordic (QPS-N; Dallner et al., 2000). The QPS-M is arranged according to the model six areas of work-life and thus covers the six areas; demand, control, reward, community, fairness and values (Leiter & Maslach, 1999, 2004; Maslach & Leiter, 1999). For the purpose of this study only the items for the area

of community were selected. It was favorable to draft the items from this questionnaire since they are carefully chosen to be especially sensitive to ED (Österberg, 2016). In QPS-M the area of community consists of 13 items. For the purpose of this study however, two items were deleted, since these items were inappropriate for the occupational group of mailmen. The final eleven items were rated on a 5 point likert scale ranging from 1 = very seldom or never to 5 = very often or always. The eleven items were comprised into a scale. It had a Cronbach's alpha coefficient of $\alpha = .88$, which suggests good internal consistency of the scale (Pallant, 2013). The items were addressing the community at the workplace, with questions such as "If you need it, is your manager willing to listen to troubles that concern your work?" or "Have you noticed any disturbing conflicts between your coworkers?".

Reward and recognition. For measuring reward and recognition the ERI questionnaire was chosen (Siegrist et al., 2004), although modified from ten to seven items. Thus three items were deleted because they were addressing the variable effort in the ERI-model, and only the items addressing reward were of interest for the present study. The items were rated on a 4-point likert scale ranging from 1 = strongly disagree to 4 = strongly agree. The seven items were comprised into a scale and it had an acceptable internal consistency, since the Cronbach's alpha was $\alpha = .72$ (Pallant, 2013). Two examples of the items were "My job promotion prospects are poor" and "Considering all my efforts and achievements, my salary/income is adequate".

Ethical considerations

The study followed the guidelines regarding anonymity and informed consent. At the first page of the questionnaire there was information about the ethics and the participant had to tick the box "I understand, and would like to participate" in order to get to the actual survey. There was no way for the researcher to trace back data to one single individual. The participants were also informed that the participation was voluntary and that one was free to withdraw participation at any time without any negative outcomes. The data were only accessible for the researcher and the data analysis was only done at a group level, which secured the anonymity of the participant and the confidentiality. The questionnaire did not handle any sensitive information, however, if the participants had any questions or wanted to discuss something after their participation, contact information to the researcher and supervisor was provided.

Data management and statistical analysis

The analysis of the data was done using IBM SPSS Statistics 23, and the analysis were performed with a two-tailed significance level of $p < .05$. Demographic tables were created for the variables concerning private life and work conditions for the participants, see Table 2 and Table 3.

Prevalence of incipient exhaustion. To answer the first research question, a frequency analysis was performed where the prevalence of incipient exhaustion was examined. This was done using a syntax from the LUQSUS-K package (Österberg, 2016). The syntax presents four groups; a green, yellow and red zone for the Stress Warning Scale (SWS) and the red zone for the Exhaustion Warning Scale (EWS). These groups were given the names LUCIE step 1 (GG), LUCIE step 2 (YG), LUCIE step 3 (RG) and LUCIE step 4 (RR). Cut-offs for the different scales can be accessed from the LUQSUS-K package (Österberg, 2016), and Österberg et al. (2016) provide an explanation in detail about the different cut-offs for the four groups. They also mean that the four LUCIE groups shall be seen as a severity ladder of stress symptomology:

1. LUCIE step 1 (GG) – SWS green zone and EWS green zone. No or negligible lasting stress symptoms.
2. LUCIE step 2 (YG) – SWS yellow zone and EWS green zone. Possible slight lasting stress symptoms.
3. LUCIE step 3 (RG) – SWS red zone and EWS green zone. Mild to moderate lasting stress symptoms, but less severe than ED.
4. LUCIE step 4 (RR) – SWS red zone and EWS red zone. Lasting stress symptoms of a severity indicating possible ED.

The result of the LUCIE syntax was used as a grouping variable in the subsequent analysis, where the differences among the four LUCIE groups were further examined.

Incipient exhaustion in relation to the demographics. To answer the second research question the age variable had to be calculated from the original variable “year of birth”. The age variable was computed and then visually binned into three groups approximately similar in sizes (≤ 35 , 36-51 and 52+). A correlation of the binned age variable and the variable for years in profession was done, resulting in a Pearson correlation of $r = .69$, $p < .01$. This suggested a large correlation (Cohen, 1988) and therefore the variable years in profession was eliminated from further analysis. For the variable PA, the four levels were binned into two

groups, low and high PA. This was done because group one and four were small in comparison to group two and three, see Table 2. The uneven sizes of groups created problems with the assumption that no more than 20 % of the expected counts should be less than five when using crosstab analysis (Field, 2013). Therefore two groups were created and the assumption was not violated anymore. For the variable gender, some data cleaning had to be done before performing the analysis. One participant had chosen to tick the box for “other”, which made it unusable for the chi-square analysis. When the three variables were all manipulated and cleaned, three chi-square tests for independence were performed examining the association between each of these demographic variables with the LUCIE grouping variable. Pearson chi-square was used to determine significance.

Incipient exhaustion in relation to the psychosocial factors. To answer the third research question two scales had to be created, one for reward and recognition and one for community. Before this could be done, some questions had to be reversed.

Reward and recognition. For the variable reward, three questions (question 2, 3 and 4) were reversed. The Kolmogorov-Smirnov test for normality of the scale showed a significant value of $p = .005$, which indicated violation of normality. However, the distribution was approximately normally distributed looking at the histogram. Therefore an ONE-WAY ANOVA was performed with both a transformed and untransformed variable for reward and recognition, to compare the results. The transformation was done in line with Julie Pallant’s (2013) and Andy Field’s (2013) recommendations, and the method applied was square-root. However, approximately the same results were generated when doing the two ONE-WAY ANOVA, including the values regarding effect sizes and post hoc tests. Also, when performing the nonparametric Kruskal-Wallis test approximately the same result was generated. Since the literature is ambiguous when it comes to transformation of the data and Borg and Westerlund (2012) argue that it is more accepted and known today that the parametric tests are robust for examining variables that are not perfectly normally distributed, the subsequent analysis was performed with the untransformed variable and with the parametric statistical method ONE-WAY ANOVA. This made the statistical analysis more uniform with the analysis performed on the other psychosocial variable; community. For the ONE-WAY ANOVA performed with the untransformed variable, Levene’s test showed a non-significant value of $p = .38$, indicating that homogeneity of variance could be assumed. The effect size (η^2) was calculated and post hoc comparisons were performed using Tukey HSD.

Community. Regarding the variable community, three questions had to be reversed (question 5, 6 and 10). The normality of the scale was assessed using the Kolmogorov-Smirnov test and it came out non significant, and thereby normality could be assumed (Pallant, 2013). A ONE-WAY ANOVA was performed with the LUCIE grouping variable as the independent variable and the community scale as the dependent variable. The Levene's test showed a non significant value at the $p < .05$ level, which suggested that homogeneity of variance could be assumed. Effect size (η^2) was calculated and post hoc comparisons were performed using Tukey HSD.

Results

Prevalence of incipient exhaustion

In the sample of 112 mailmen, 41.1 % ($n = 46$) showed no signs or negligible symptoms for stress (LUCIE step 1 GG). The amount of participants that showed possible slight lasting stress symptoms (LUCIE step 2 YG) were 28.6 % ($n = 32$). There were 15.2 % of the participants ($n = 17$) that had a result that indicated mild to moderate lasting stress symptoms, but less severe than exhaustion disorder (LUCIE step 3 RG). The amount of participants that showed a result that indicated lasting stress symptoms of a severity that is indicating possible exhaustion disorder (LUCIE step 4 RR) were 15.2 % ($n = 17$). No other combinations of SWS and EWS were found in the sample.

Bivariate analysis with the LUCIE grouping variable

The results of the analysis for research question two and three will be presented below. The statistical methods used were the chi-square test for independence and two ONE-WAY ANOVA.

Incipient exhaustion in relation to demographics. The chi-square test for independence between the LUCIE grouping variable and the three age groups indicated no significant association, $\chi^2 (6, n = 112) = 4.30, p = .64$. The same analysis between the LUCIE grouping variable and gender also indicated no significant association, $\chi^2 (3, n = 111) = 1.20, p = .75$. The third chi-square test examining the association between the LUCIE grouping variable and high and low physical activity came out non-significant, $\chi^2 (3, n = 112) = 2.54, p = .47$. The crosstabs analysis thus showed no association at all between the demographics and signs for incipient exhaustion measured with LUCIE.

Incipient exhaustion in relation to community The ONE-WAY ANOVA examining the bivariate relationship between the four LUCIE groups and community showed a

significant difference between the groups, $F(2, 111) = 24.23, p < .001$. The effect size calculated using eta squared, was $\eta^2 = .40$. According to Cohen's (1988) conventions for effect sizes, this indicates a large effect size. Post hoc tests using Tukey HSD showed that the significant differences were found between LUCIE step 1 and LUCIE step 2 ($p < .01$), LUCIE step 1 and LUCIE step 3 ($p < .001$), LUCIE step 1 and LUCIE step 4 ($p < .001$), LUCIE step 2 and LUCIE step 3 ($p < .05$) and LUCIE step 2 and LUCIE step 4 ($p < .01$).

Incipient exhaustion in relation to reward and recognition. The ONE-WAY ANOVA examining the bivariate relationship between the four LUCIE groups and reward and recognition showed a significant difference between the groups, $F(3, 110) = 12.72, p < .001$. The effect size calculated using eta squared, was $\eta^2 = .26$. This also indicates a large effect size, according to Cohen's (1988) conventions for effect sizes. Post hoc tests using Tukey HSD showed that the significant differences were found between LUCIE step 1 and LUCIE step 2 ($p < .05$), LUCIE step 1 and LUCIE step 3 ($p < .001$), LUCIE step 1 and LUCIE step 4 ($p < .001$), and LUCIE step 2 and LUCIE step 4 ($p < .05$).

Table 4. LUCIE grouping variable on psychosocial factors. Position and measures of dispersion (n, M and SD). Significance level and eta squared for ONE-WAY ANOVA.

| | n | M | SD | ONE-WAY ANOVA (F-test) | |
|-------------------------------|----|----------------------|------|------------------------|----------|
| | | | | p-value | η^2 |
| Community | | | | p < .001 | .40 |
| LUCIE step 1 GG | 46 | 41.26 _a | 7.06 | | |
| LUCIE step 2 YG | 32 | 35.16 _b | 6.66 | | |
| LUCIE step 3 RG | 17 | 29.24 _c | 7.54 | | |
| LUCIE step 4 RR | 17 | 26.88 _c | 6.22 | | |
| Reward and recognition | | | | p < .001 | .26 |
| LUCIE step 1 GG | 46 | 17.74 _a | 3.95 | | |
| LUCIE step 2 YG | 32 | 15.34 _b | 3.71 | | |
| LUCIE step 3 RG | 16 | 13.31 _{b,c} | 2.94 | | |
| LUCIE step 4 RR | 17 | 12.00 _c | 3.42 | | |

Note: Subscripts a, b and c concern the statistical post-hoc testing between the four LUCIE groups. Values in the same column and same ANOVA *not* sharing the same subscript are significantly different at $p < .05$ in pairwise comparison. Scale range for community is 16-54. Scale range for reward and recognition is 7-27. n = number of respondents, M = mean, SD = standard deviation, η^2 = eta squared.

Table 5. LUCIE grouping variable on demographic factors (age, gender and PA). *n* and %. Significance level and χ^2 for Chi-Square test for independence.

| | LUCIE grouping variable | | | | | | | | Chi-Square test for independence | |
|-------------------------------|-------------------------------------|------|-------------------------------------|------|-------------------------------------|------|-------------------------------------|-----|----------------------------------|----------|
| | LUCIE step 1 GG (<i>n</i> = 46) | | LUCIE step 2 YG (<i>n</i> = 32) | | LUCIE step 3 RG (<i>n</i> = 17) | | LUCIE step 4 RR (<i>n</i> = 17) | | χ^2 | p- value |
| | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % | <i>n</i> | % | | |
| Age | | | | | | | | | 4.30 | .64 |
| <= 35 | 14 | 12.5 | 13 | 11.6 | 7 | 6.3 | 8 | 7.1 | | |
| 36-51 | 17 | 15.2 | 10 | 8.9 | 3 | 2.7 | 3 | 2.7 | | |
| 52+ | 15 | 13.4 | 19 | 8.0 | 7 | 6.3 | 6 | 5.4 | | |
| Gender | | | | | | | | | 1.20 | .75 |
| Men | 28 | 25.2 | 16 | 14.4 | 10 | 9.0 | 8 | 7.2 | | |
| Women | 18 | 16.2 | 16 | 14.4 | 7 | 6.3 | 8 | 7.2 | | |
| Physical activity (PA) | | | | | | | | | 2.54 | .47 |
| Low PA | 23 | 20.5 | 16 | 14.3 | 12 | 10.7 | 10 | 8.9 | | |
| High PA | 23 | 20.5 | 16 | 14.3 | 5 | 4.5 | 7 | 6.3 | | |

Note: *n* = number of participants.

Discussion

In this study, with a sample of 112 Swedish mailmen, the prevalence of incipient exhaustion was investigated with the Lund University Checklist for Incipient Exhaustion. The prevalence of these early signs for exhaustion was further examined in regards to differences between three different age groups, gender and high and low level of leisure time PA for the four LUCIE groups (LUCIE step 1-4). The psychosocial factors community and reward and recognition were also of interest for the study, more precisely the association between these variables and the LUCIE grouping variable. The results will be discussed in regards to the three research questions below.

Prevalence of incipient exhaustion

This is the first study done using the instrument LUCIE to investigate incipient exhaustion among the occupational group of mailmen. There is not much previous research done with LUCIE, and therefore the findings of this study will also be put in relation to previous studies that have investigated ED and burnout with other measures.

For the sample investigated ($n = 112$), 41.1 % showed no signs or negligible symptoms for stress. There were 28.6 % that ended up in the yellow zone for the stress warning scale with possible slight lasting stress symptoms. Thus more than half of the mailmen did not show any symptoms of stress or just slight symptoms. However, 30.4 % showed a result that indicated a lasting stress response. Of these, 15.2 % had a result that indicated the red zone for the exhaustion warning scale, possibly indicating lasting stress symptoms. This in turn means that 15.2 % have lasting stress symptoms of a severity that are indicating possible ED. It can be compared with the result of the study done by Persson et al. (2016), where they found a prevalence of 5 % in a sample of the population ($n = 1355$). In Addition, Janson and Wernbro (2016) found a prevalence of 6.8 % in their sample of Swedish principals and school managers ($n = 253$). The results of the present study thus suggest that the occupational group of mailmen is a strained group. This is in line with previous research by Erlandsson (2002), who found that 52 % of the group investigated are always feeling tired, and that 26 % even feel permanently exhausted. That the work for mailmen is physically demanding is already well-documented (Cahill & Landbergis, 1996; Erlandsson et al., 2002; Oja et al., 1977; Reinert & Lucio, 2012), but this study provides new insight into how psychologically demanding it is as well. The findings is in line with the argumentation by Lindberg (2015), who argues that the constant organizational changes creates a mental stress for the employees. Continuous organizational changes is part of the conditions at work for Swedish mailmen

since a couple of years back, and how this may have affected the result will be discussed further below.

As mentioned above, 15.2 % of the mailmen in the sample report exhaustion that may indicate ED. Thus it is of utter importance that this is being noticed in order to prevent full blown ED. However, the rating on LUCIE may just be an expression of natural fluctuations in the health and strain among these individuals. It is also important to note that signs for incipient exhaustion may not lead to only ED. The symptoms may heal by themselves or develop into another diagnosis since exhaustion is a common symptom in other conditions besides ED. However, LUCIE fulfills the purpose to detect signs for incipient exhaustion which in turn creates the opportunity to deploy the adequate resources for reducing the potential development of full-blown ED.

Incipient exhaustion and demographics

The discussion of the results for the demographics in relation to incipient exhaustion will be done for each variable separately.

Age. The chi-square test did not show any significant differences between the three age groups (≤ 35 , 36-51 and 52+) in regards to the level of stress and early signs for exhaustion that the mailmen are perceiving. This differs from previous research by Lindblom et al. (2015) and Oja et al. (1977), who found that the risk for exhaustion increase with age. When taking studies done on burnout into account, the result is in line with the findings by Ahola et al. (2006) who found that age had no buffering effect on burnout. It is also interesting to consider the findings by Glise et al. (2012) who found that there are no age differences in regards to prevalence of ED and the course of symptoms. For the sample examined in the present study the three age groups were approximately similar in size. 65.2 % of the sample had worked as a mailman for ten years or longer. The variables of age and years in profession was significantly correlated, which indicates that the older the participant, the more years he or she has worked as a mailman. It would be fair to assume that individuals who have experienced many organizational changes during the years and been invested in the work for that long would show more signs for incipient exhaustion, than the individuals who are new to the work and the organization. However, as the results show, there were no statistically significant differences between the three age groups in how they reported on LUCIE. The findings thus is in line with the claim by Maslach et al. (2001) that age has not been a strong predictor for burnout.

Gender. The chi-square test did not show any statistically significant differences between men and women in regards to the level of stress and early indicators for exhaustion among the mailmen. This is not in line with previous research by for example Lindblom et al. (2015) and Oja et al. (1977) who found that women reported more strain than men at work. The study by Oja et al., however, was conducted in 1977 and at present day it is about 40 years ago. During these 40 years society has undergone major changes and thus also the labor market (Allvin et al., 2011). The conditions for the mailmen have changed drastically in line with the digitalization of society (Postnord, 2015), and more women have started to work as mailmen (Wahlstedt, 2001). Therefore it can be difficult to compare the results of the present study with the findings by Oja et al. (1977). The conditions for the studies may actually differ to much. The report from Försäkringskassan (2015) suggests that women are highly overrepresented in the statistics when it comes to mental illness, primarily regarding the diagnosis for stress reaction and anxiety. Försäkringskassan (2015) also recognizes that among the many women who each year fall ill due to mental illness, many are working in the public sector in health care or in teaching. However, the fact that this study did not find any statistically significant differences in regards to gender is in line with the findings by Persson et al. (2016). As their result showed there were no significant differences in gender for the four LUCIE groups, however, it was a difference when using the instruments KEDS and s-ED. This is also in line with the conclusion by Sverke et al. (2016) that if men and women are exposed to the same work environment they will develop the same kind of illness with the same frequency. Thus what seems to be more of a deciding factor for the development of incipient exhaustion and ED are the conditions in the work environment (Sverke et al., 2016).

Physical activity. The chi-square test did not show any statistically significant differences between the mailmen who were physically active on a low versus high level in their leisure time in regards to the level of stress and early indicators for exhaustion they were feeling. This result was contradicting to previous studies that have shown the positive effect that PA has on ED and burnout. Gerber and Pühse (2009) reported that over 50 % of the studies done on an adult population found this positive effect. Also Aldana et al. (1996), Gerber et al. (2014), Lindwall et al. (2014) and Schnohr et al. (2005) found PA to have a buffering effect on stress. Schnohr et al. (2005) even found a causal link between PA and stress. However, non of the studies mentioned have been investigating the occupational group of mailmen. This group differs from others in that their work is both physically and psychologically demanding. The fact that as many as 65.2 % of the sample had worked as a mailman for ten or more years could be a possible explaining factor. The daily exercise this

group gets during their work is far more than for example an office worker, since the daily delivery round can burn up to as much as 3000 calories (Lagerstedt, 2014). Just by doing the job this group is quite active which makes it plausible to assume that this group has a relatively good physique. This could have implications for the variable leisure time PA in that the benefits from being active off work in their spare time may not have as big effect on the mental health as for other more sedentary occupational groups. When examining the crosstabs (see Table 5) it is evident that the more stress that is perceived (LUCIE step 3 and LUCIE step 4) there begins to show a slight difference in that there are more individuals in these groups that are physically active on a low level than on a high level. Even though these differences are not statistically significant, they are interesting to consider in relation to the findings by Gerber et al. (2015). They found that increased stress levels were associated with lower levels of PA and that this is due to the fact that stress-related exhaustion are characterized by both low physical and mental energy levels. These individuals do not have the energy to be active. This study does not support this finding, but the pattern of response is in line with it. With a larger sample perhaps these differences would even be statistically significant.

Incipient exhaustion and the psychosocial factors

The discussion of the results for the psychosocial factors in relation to incipient exhaustion will be done for each variable separately.

Community. The results showed statistically significant differences between the LUCIE groups in regards to perceived community. There were statistically significant differences between all LUCIE groups besides step 3 and step 4. This result indicates that mailmen that fall in the LUCIE step 3 and LUCIE step 4 groups are perceiving the community and social support at the workplace as rather the same. The overall association between incipient exhaustion and perceived community is however that the more persistent stress and exhaustion, the less community the mailman is perceiving to have at the workplace. Although the relationship could be the other way around as well, meaning that the less community the individual is perceiving, the more early signs for exhaustion this individual will show. Since the study is cross-sectional, it is not possible to draw any causal conclusions about the association. It thus remains unclear whether it is the perceived lack of community that affects signs for incipient exhaustion, or it is the other way around.

At first glance, it might seem like there is a content overlap between the dimension for social support in the LUCIE questionnaire and the psychosocial variable community. This

concern was already addressed in the background. However, it is important to emphasize that the two items regarding social support in LUCIE does not measure the same thing as the eleven items for community. The concept community refers to “the overall quality of social interaction at work, including issues of conflict, mutual support, closeness, and the capacity to work as a team” (Maslach & Leiter, 2004, p. 98). Thus this variable is based on a broader definition of community, than the social support dimension in LUCIE. The result testify the importance of perceived community and social support in order for the individual to withstand exhaustion. This finding adds to previous research by for example Persson et al. (2016) who found a negative association between LUCIE and job support. However, there have not been much research done on the association between perceived community at work and ED, and non to the best of the author’s knowledge, in relation to incipient exhaustion measured with LUCIE among a population of Swedish mailmen. The findings support however previous studies that show the importance of community and social support in order to prevent burnout (Leiter & Maslach, 1999). The findings by Norlund et al. (2013) suggested that social support was of significance for patients suffering from ED and who were coming back to work. The importance of community for the employees’ well-being becomes evident when also considering the expansion of the widely known demand-control model of work stress to include the third factor social support (Karasek & Theorell, 1990). The result is thus not surprising, however crucial for the understanding of the factors in the work environment for the mailmen that may act as possible mediators between physical and psychological demands and incipient exhaustion. This buffering effect has only previously been found between demands and burnout (Maslach & Leiter, 1999), not ED or incipient exhaustion measured with LUCIE.

Reward and recognition. The results showed statistically significant differences between the LUCIE groups in regards to perceived reward and recognition. As the result showed, the biggest differences were found between LUCIE step 1 and LUCIE step 3, and LUCIE step 1 and LUCIE step 4. No differences where found between LUCIE step 2 and LUCIE step 3, and between LUCIE step 3 and LUCIE step 4. Thus the reward and recognition that the individuals in these groups are experiencing does not differ. However, the overall association between the LUCIE score and reward and recognition can be interpreted as the less reward and recognition the individual is experiencing at the workplace, the more stress and incipient exhaustion arise. If the individual on the other hand are reporting high on reward and recognition, this individual also falls into a lower group for LUCIE. Thus the variables have a negative association. It is not possible to draw any causal conclusions from

the findings, since the study is cross-sectional. However, the findings testify the importance of perceived reward and recognition in order for the individual to feel well and in harmony at work. If the individual puts too much effort into his or her work and feel that one is not rewarded for that effort, there will be an imbalance that creates stress and even exhaustion. This imbalance can also be seen as a mismatch, and it is closely related to the dimension reduced personal accomplishments in the burnout theory (Maslach & Leiter, 2004). This is also in line with the ERI-model that is about the social contract at work (Siegrist, 1996). It seems fairly logical that reward and recognition would be negatively related with LUCIE. However, no previous studies have examined these variables. Thus this study provides valuable insight into the relationship between the variables in a population of Swedish mailmen. Bakker et al. (2000) have only previously done a study examining the relationship between lack of reciprocity and burnout, and they found a negative association. However, burnout is not the same as the Swedish diagnosis for ED and incipient exhaustion. This finding is thus valuable for organizations with mailmen in their understanding and preventive work to eliminate conditions in the work environment that may lead to stress and incipient exhaustion. It is important to see and recognize all employees in order for them to feel rewarded and in balance, and not develop symptoms for incipient exhaustion or fall ill to ED.

The findings regarding both the psychosocial factors are in line with the findings by Österberg et al. (2016), namely that negative changes in the work situation, which in this study is less community and reward and recognition, are related to a prolonged increase in LUCIE scores. This study thus also confirms that the conditions in the psychosocial work environment are important for the development of incipient exhaustion.

Strengths and weaknesses

The study has a couple of strengths, but also weaknesses that need to be acknowledged. One of the strengths is that the sample have a broad distribution regarding age and approximately as many women as men. The sample consists of mailmen working in all parts of the south region in Sweden. Another strength with the study is that no variables have been manipulated, thus the responses reflect the mailmen's perceived work- and life situation. This has probably led to the result being close to the true experiences for the mailmen. However, in retrospect the external validity can be discussed since the response rate was low ($n = 112$, 7 %). The administration of the survey link was tedious and depended on too many people in order for the researcher to have full control over how many mailmen in fact did get the information about the study. The data collection process was indeed very difficult, something

that is interesting in itself. However, the response rate could possibly have been higher if the time frame would have allowed the researcher to market the study and meet with all the managers that were responsible for informing the mailmen about the study and how to participate. Personal contact could perhaps have created more engagement overall. The fact remains that only 112 chose to participate, and the site visit in Malmö that the researcher did made this particular workplace overrepresented in the sample compared to other units across the south region of Sweden. The uneven distribution of participants between areas may be a potential problem for the external validity of the sample. The different areas are likely to have different leadership and community at the workplace, something that can affect the result of the study. Also, it is likely that the results of the study reflects how the situation is within the south region of the organization investigated, and not generalizable to the organization of PostNord as a whole or other smaller organizations with mailmen. Therefore the results of the study, can only with caution be generalized to the population of Swedish mailmen.

Regarding the internal validity of the study, it can be considered high since the survey used the complete instrument of LUCIE (28 items) and it had been validated against instruments measuring ED (Persson et al., 2016). Also the prospective validity for LUCIE has been shown to be satisfying in the study by Österberg et al. (2016). For the psychosocial variables community and reward and recognition, already constructed measures like the QPS-M and ERI-questionnaire were used. Only minor modifications were done. However, this fact may act as a threat against the already established validity of the measures. The reliability of the measures as a whole was high though, which indicates high internal consistency of the items of the different scales.

However, it is also important to note that the cross-sectional design of the study makes it impossible to draw any conclusions about cause and effect. This creates some limitations for the second and third research questions. The participants have only conducted the survey at one point in time, and it is thus not possible to say anything about which variable who is affecting the other, only the differences between groups can be examined. For example, it is unclear whether it is the LUCIE grouping variable that affects the perceived reward and recognition, or the other way around. However, regarding the variable gender, the same uncertainty does not exist since the LUCIE score can not affect as which sex an individual was born. Another strength with the study is that it can be considered groundbreaking in the sense that the knowledge about how both demographic and psychosocial factors are associated with LUCIE for Swedish mailmen has been expanded. Also, LUCIE has never been used in a study examining a population of mailmen before.

Another thing to consider is that by the time the data collection process started, PostNord had just undergone a major organizational change. How this had affected the employees are unknown, but the potential stress some may feel could have caused them to for example give lower priority to participation in the study or score higher on LUCIE than otherwise. However, continuous organizational changes are part of the work as a mailman nowadays since the organization constantly needs to adapt to new demands. The organizational changes could thus be seen as a natural part of the work conditions for a mailman. However, since organizational change has not been investigated statistically in this study, the scores on LUCIE in relation to this variable remains unknown.

Practical and theoretical implications

The theoretical implications for this study is the new knowledge it has provided about the prevalence of incipient exhaustion among Swedish mailmen. The study expands the knowledge base about this occupational group in relation to mental health and its association with several different variables, both demographic and psychosocial. The study also provides confirmation to earlier studies investigating the validity of LUCIE in that LUCIE not is sensitive to gender differences (Persson et al., 2016; Österberg et al., 2016).

The practical implications for the study is that it is evident that the occupational group of mailmen is a strained group in comparison to the general population. The result of the study thus provides valuable information for PostNord and other logistics companies that have organizations consisting of mailmen. Knowing the prevalence of incipient exhaustion and its relation to different factors, makes it possible to work in a preventive manner in order to reduce the risk for the development of full-blown ED among the mailmen that are showing these early signs.

Future research

The purpose of this study was to fill the gap in the literature when it comes to mailmen and their mental health and psychosocial work environment. Even though the study has provided some new knowledge and insight into this matter, there are still much to be investigated in future research. There are for example probably several other factors in the work environment that may affect the development of incipient exhaustion. The model six areas of work life highlights six of these. By doing deep interviews with mailmen it would be possible to identify a couple that seem especially relevant for mailmen, in order to do further research on in relation to incipient exhaustion. One variable that was identified during the

study, that even may have affected the result, was organizational change. It would also be feasible to do a longitudinal study to be able to identify cause and effect of the psychosocial variables in relation to incipient exhaustion measured with LUCIE among the mailmen. Another variable that would be interesting to examine in regards to the population at hand is engagement, and its relation to incipient exhaustion.

Conclusion

It can be concluded that the sample of 112 mailmen is a strained group, since the prevalence of incipient exhaustion was 15.2 %. The associations between this prevalence and the demographic variables age, gender and leisure time PA were all non significant. This study thus suggests the non sensitivity of these demographics for LUCIE. However, the findings differs from previous studies in regards to leisure time PA and its association with exhaustion. The study also suggests that the conditions in the psychosocial work environment are important for the development of incipient exhaustion, and hence ED. The findings showed both a significant association between perceived community at the workplace and prevalence of incipient exhaustion and perceived reward and recognition at the workplace and prevalence of incipient exhaustion. However, due to the low response rate it is important to remember that all findings must be generalized to a population of Swedish mailmen with great caution.

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Enkät för brevbärare inom Postnord

Bästa deltagare, din medverkan i denna studie är helt frivillig, och du kan när som helst välja att avbryta din medverkan utan konsekvenser. Ditt svar kommer att vara anonymt och informationen som vi får genom denna studie kommer inte att användas i annat syfte än i just denna uppsats. Det är endast ansvarig för studien (Victoria Halin) och handledare (Docent Roger Persson) som kommer att ha tillgång till de individuella svaren och dessa kommer ej lämnas ut till utomstående. Resultatet kommer inte heller att tolkas på individbasis utan endast på gruppnivå. För mer information och kontaktuppgifter, se informationsbrevet.

Jag förstår och vill medverka!

Bakgrundsinformation

1. Vilket årtal är du född? (Ange i hela årtal, t.ex. 1985)

2. Vilket kön har du?

- Man
 Kvinna
 Annat

3. Bor du tillsammans med någon?

- Ja, med min partner
 Ja, med min partner samt ett eller flera barn
 Ja, med mina barn
 Ja, med mina föräldrar
 Nej, jag bor ensam
 Annat

Yrkesinformation

4. Hur länge har du arbetat som brevbärare?

- Mindre än 6 månader
- Mer än 6 månader, men mer än 1 år
- Mer än 1 år, men mindre än 3 år
- Mer än 3 år, men mindre än 5 år
- Mer än 5 år, men mindre än 10 år
- Mer än 10 år

5. Vilken anställningsform har du?

- Fast/heltid
- Fast/deltid
- Vikarie
- Extraanställd

6. Under de senaste 12 månaderna, har Du huvudsakligen varit:

- Yrkesverksam
- Tjänstledig eller föräldraledig
- Långtidssjukskriven (mer än 3 månader)
- Övrigt

7. Arbetar du övertid (betald och obetald) en genomsnittlig vecka?

- Nej
- Ja, upp till 5 timmar/vecka
- Ja, mellan 6 till 10 timmar/vecka
- Ja, mer än 10 timmar/vecka

Fysisk aktivitet

Välj det alternativet som stämmer bäst in på dig för det senaste året. Om dina aktiviteter varierar mycket, t.ex. mellan sommar och vinter, försök att ta ett genomsnitt. **Välj endast 1 alternativ.**

8. Hur fysiskt aktiv är du på fritiden?

- Stillasittande fritid – du ägnar dig mest åt läsning, tv, datorer eller annan stillasittande sysselsättning.
- Någon fysisk aktivitet på fritiden under minst 4 h/vecka - Du cyklar ett promenerar exempelvis till jobbet, promenerar eller åker skidor med familjen, trädgårdsarbete, fiske, bordtennis, bowling etc.
- Regelbunden måttlig fysisk aktivitet och träning under minst 2-3 h/vecka - Du ägnar dig åt t.ex. tungt trädgårdsarbete, löpning, simning, motionsgymnastik, tennis, badminton eller liknande aktiviteter.
- Regelbunden hård träning och tävlingsidrott (aktiviteter med hög intensitet) – Du ägnar dig åt löpning, orientering, gym, skidåkning, simning, fotboll, handboll etc. flera gånger i veckan.

Stress

Med stress menas en situation då man känner sig spänd, rastlös, nervös eller orolig eller inte kan sova på natten eftersom man tänker på problem hela tiden.

9. Har du känt dig stressad den senaste tiden?

| <i>Inte alls</i> | <i>Bara lite</i> | <i>I viss mån</i> | <i>Ganska mycket</i> | <i>Väldigt mycket</i> |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>5</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Stress och ork

Frågorna nedan handlar om olika upplevelser, beteenden och besvär som man kan få efter en tids stress. Syftet med frågorna är att ge en ungefärlig bild av din aktuella form, så som du upplever den själv.

Hur mycket har du under senaste månaden känt av eller lagt märke till följande?

Sätt ett kryss på det alternativ som stämmer bäst överens med din upplevelse.

10. Sömn och återhämtning

| | Inte alls | Lite | En hel del | Mycket |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| Svårigheter att somna? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Upprepade uppvaknanden eller störd/orolig sömn? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| För tidigt (slutgiltigt) uppvaknande och/eller för lite sömn (ej utvilad)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

11. Avgränsning mellan arbete och fritid

| | Inte alls | Lite | En hel del | Mycket |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| Att arbetet tar så mycket energi att du förlorar orken att ta itu med saker som behövs göras där hemma? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Att problem på arbetet gör dig irriterad därhemma? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Svårigheter att koppla av på fritiden pga. Ständiga tankar på arbetet? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Svårigheter att sova pga. ständiga tankar på arbetet? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

12. Gemenskap och socialt stöd på arbetsplatsen

| | Inte alls | Lite | En hel del | Mycket |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| Bristande stöd och/eller hjälp av dina närmaste arbetskamrater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Bristande stöd och/eller hjälp av din närmaste chef? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

13. Kontroll över arbetsuppgifterna eller egen förmåga

| | Inte alls | Lite | En hel del | Mycket |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| Att du börjat tappa kontrollen över dina arbetsuppgifter? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Att du börjat förlora din entusiasm/glädje för arbetsuppgifterna? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Att du börjat känna dig mindre effektiv i att sköta dina arbetsuppgifter? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Att du fått svårt att fatta beslut i arbetet? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Att du fått sämre tålamod eller ork för samarbete med arbetskamraterna? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

14. Privatliv och fritidsaktiviteter

| | Inte alls | Lite | En hel del | Mycket |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| För lite tid till umgänge med vänner och bekanta? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Nedsatt ork eller lust till umgänge med vänner? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Nedsatt ork eller lust till dina vanliga fritidsintressen?

15. Hälsobesvär

| | Inte alls | Lite | En hel del | Mycket |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| Hjärtklappning eller obehagskänsla i hjärtrakten (t.ex. tryck över bröstet) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ljud- eller ljuskänslighet | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Försämrat närminne | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Försämrad koncentrationsförmåga eller förvirring | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Yrsel, ångest eller oro | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Svår trötthet/energi-brist Som inte minskar efter vila | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Otålighet | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Brusar upp (blir irriterad) för småsaker | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Tar illa vid dig för småsaker (t.ex. haft nära till gråten) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Känslor av hopplöshet eller maktlöshet | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Känner dig initiativlös | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Psykosociala faktorer

Nedan finns frågor och påståenden om ditt arbete och din arbetsplats. Ta god tid på dig när du svarar.

Om du är helt sjukskriven just nu, besvara frågorna så som du tror att du skulle ha besvarat dem när du senast var i arbete.

Belöning

| | Stämmer inte alls | Stämmer inte särskilt bra | Stämmer ganska bra | Stämmer helt och hållet |
|---|--------------------------|------------------------------|--------------------------|----------------------------|
| Jag får det erkännande av mina överordnade som jag förtjänar. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Möjligheterna till befordran inom mitt arbetsområde är små. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Jag upplever för närvarande eller förväntar mig en försämring i min arbetsituation. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mitt arbete är hotat. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Med tanke på den möda jag har lagt ned och allt jag har uträttat, så får jag i mitt arbete det erkännande jag förtjänar. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Med tanke på den möda jag har lagt ned och allt jag har uträttat, är mina möjligheter att avancera inom yrkeslivet rimliga. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Med tanke på allt jag har uträttat, har jag en rimlig lön. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Gemenskap

| | Mycket sällan eller aldrig | Ganska sällan | Ibland | Ganska ofta | Ganska ofta eller alltid |
|---|-------------------------------|--------------------------|--------------------------|--------------------------|-----------------------------|
| Om du behöver, får du då stöd och hjälp med ditt arbete från arbetskamrater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Om du behöver, får du då stöd och hjälp med ditt arbete från din närmaste chef? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Om du behöver, är dina arbetskamrater då villiga att lyssna på problem som rör ditt arbete? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Om du behöver, är din närmaste chef då villig att lyssna på problem som rör ditt arbete? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Har du lagt märke till störande konflikter mellan arbetskamrater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Är förhållandet mellan dig och din närmaste chef en orsak till stress? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Är det tillräckligt med kommunikation på din arbetsplats? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Är din arbetsgrupp bra på att lösa konflikter? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Hurdant är klimatet på din arbetsplats?

| | Mycket sällan eller aldrig | Ganska sällan | Ibland | Ganska ofta | Ganska ofta eller alltid |
|---------------------------------|-------------------------------|--------------------------|--------------------------|--------------------------|-----------------------------|
| Uppmuntrande och stödjande? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Misstroget och misstänksamt? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Avslappnat och trivsamt? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Tack för din medverkan!