BSc Psychology

What seems to be the Problem Officer: A look at burnout and depression among Icelandic police officers

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Foreword

Submitted in partial fulfilment of the requirements of the BSc Psychology degree, Reykjavik University, this thesis is presented in the style of an article for submission to a peer-reviewed journal.
Abstract

Depression and burnout are prevalent problems among police officers since their repeated exposure to critical incidents can put them at increased risk of developing these disorders. In this study a questionnaire, comprised of several subscales that measure depression, burnout, perceived stress, social support, as well as resilience, was sent to all working police officers working in Iceland. The purpose of this study was to identify risk factors as well as protective factors for burnout and depression among Icelandic police officers. A total of 301 police officers finished the questionnaire, of those 49 were female. The prevalence of depression in the sample was 17.8% and the prevalence of burnout was 34.0%. Perceived stress had a high positive correlation as well as a high effect on both burnout and depression. Resilience was found to have a buffering effect on perceived stress for both burnout and depression while social support did not have a buffering effect. More research is needed to identify more potential factors that can influence the development of these disorders, and to confirm this buffering effect.

Keywords: Depression, burnout, police officers, critical incidents, protective factors, resilience, social support.

Útdráttur

Þunglyndi og kulnun eru algeng vandamál meðal lögregluþjóna þar sem þeir lenda ítrekað í hættulegum aðstæðum, þessar hættulegu aðstæður geta aukið líkur á þróun þessara sjúkdóma. Í þessari rannsókn var spurningalisti settur saman úr ýmsum kvörðum sem meta hugtök eins og þunglyndi, kulnun, skynjaða streitu, félagsstuðning og seiglu, og sendur til allra starfandi lögregluþjóna á Íslandi. Tilgangur rannsóknarinnar var að finna áhættuþætti og verndandi þætti fyrir þunglyndi og kulnun meðal íslenskra lögregluþjóna. Alls svöruðu 301 lögregluþjónn spurningalistanum, af þeim 49 kvenkyns. Alls var algengi þunglyndis í úrtakinu 17.8% og algengi kulnnar var 34.0%. Skynjuð streita hafði há á jækvæða fylgni, sem og mikil áhrif á bæði kulnun og þunglyndi. Hamlandi áhrif seiglu á skynjaða streitu fyrir bæði þunglyndi og kulnun voru uppgötvuð en félagsstuðningur hafði ekki þessi sömu hamlandi áhrif á skynjaða streitu. Þörf er á frekarri rannsóknnum til að bera kennsl af fleiri þætti sem geta haft áhrif á þróun kulnnar og þunglyndis og til að staðfestu hamlandi áhrif seiglu á skynjaða streitu.

Lykilhugtök: Þunglyndi, kulnun, lögregluþjónar, verndandi þættir, áhættuþættir, seigla, félagsstuðningur.
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Icelandic police officers

Police officers are those tasked with maintaining order in our societies. Their duties range from traffic control, maintaining the peace, and helping those in distress. These duties often involve confrontations with law-breaking individuals, and these confrontations can cause distress and emotional anguish upon those who have to enforce the laws (Patterson, 2003).

Stress is a natural and often helpful state for most people. Stress can, for example, make individuals more focused in dangerous or critical situations, which in turn can help them to deal with the stressful situation (Ursin & Eriksen, 2009). High stress, however, can have the opposite effect and can, over a long time, erode at the mental health of the sufferer, contributing to disorders such as depression and high long-lasting job stress can contribute to the development of burnout (Burke, 1994; Gershon, Barocas, Canton, Xianbin Li, & Vlahov, 2008). Depression and burnout in police officers is a prominent topic of research since they as a group are repeatedly exposed to high stress situation, often termed critical incidents, and this exposure to acute stress has been shown to negatively affect their mental well-being (Benedek, Fullerton, & Ursano, 2007; Spitzer & Neely, 1993).

Depression is believed to be present in almost 10% of the human population (World Health Organization, 2015). It can be a debilitating disorder often resulting in loss of interest in things the sufferer might have enjoyed before. Depressed individuals tend to isolate themselves, thoughts of death are common (American Psychiatric Association, 2013) and in some cases depression can lead to suicide. Suicide is believed to be the second leading cause of death for individuals aged 15-29 years old (World Health Organization, 2015). Depression in police officers is often attributed to stress, and police officers are exposed to two specific types of stress. The first would be critical incidents, dangerous situations, which only police officers or other first responders have to endure. Examples of critical incidents are terrorism, responding to active crime scenes and accidents. Critical incidents can cause great emotional
anguish and spikes of depression have been observed following times of exceptional hardship (Alexander & Klein, 2009). While critical incidents can be a major cause of depression and other mental anguish among police officers, chronic stressors have been found to be the most common cause of depression among police officers; these stressors include deadlines, bureaucracy, and difficult work hours (Violanti & Aron, 1993; Wang, Inslicht, Metzler, Neylan, & Marmar, 2010). In that regard, police officers can develop depression from chronic stressors in the same way as non-police civilians, as well as from critical incidents, and since critical incidents are more common among police officers, they tend to have a higher occurrence of depression. These levels have been shown to reach up to an occurrence rate of depression of 16.2% (Darensburg et al., 2006).

Burnout is another prevalent problem, among police officers, that has been reported to increase adverse health outcomes (Martinussen, Richardson, & Burke, 2007). Burnout as a syndrome is based on three factors: emotional exhaustion, depersonalization, and reduced personal accomplishment. Burnout is a result of constant stress and/or boredom at work, the person might start to dislike their job, and might even dread having to show up. They feel as if their profession is eating up their life or that they are not making any difference by showing up (Maslach, Jackson, & Leiter, 1997). Since work is such a huge factor in one’s life it is imperative to be able to find joy in that work, or at the very least not be distressed while performing it.

But why do some seem to be more affected by stress? Everyone has to find a way to resolve stressful events but not everyone suffers from depression. Stress is always objectively interpreted as stress is a cognitive process, and thus one’s own view can affect its impact. A pessimist may view their stressors as overwhelming or insurmountable while an optimist might not give them too much thought (Cohen, Kamarck, & Merzelstein, 1983; Hammen, 2018). If there are factors that can increase the chances of developing burnout or depression,
are there any factors that can protect from that evolution or help mitigate these harmful factors?

One such factor might be resilience. Everyone has a coping strategy when dealing with stress and hardship. Coping strategies can be helpful where the individual uses the adversity to rise to the occasion and learn from the experience. Conversely, they can have malicious coping strategies, causing the individual to give up on or avoid the problem instead of solving it. The definition of resilience is pretty vague, and is most often merely described as the ability to overcome stress and traumatic events. Resilience as a trait can be taught, and those who are older often tend to be more resilient, and it can even be hereditary (Southwick & Charney, 2012). It is considered that resilience is simply the ability to remain positive under difficult circumstances: to be able to see the good or useful side of things and thus be relatively unaffected by the adversity and reducing the likelihood of developing depression (Southwick, Vythilingam, & Charney, 2005). Resilience has also been found to decrease the emotional distress of police officers following exposure to critical incidents as well as reducing the effects of chronic stress (McCraty & Atkinson, 2012). They have also found that they could train resilience, resulting in a happier and less fatigued police officer (Galatzer-Levy et al., 2013).

Another possible protective factor is social support. Social support is the bond that a person shares with others, as for example, one’s significant other, family or friends. It can give an individual the feeling of belonging, that one’s actions are understood and supported, and that there is someone to count on when things are not going one’s own way (Berkmann & Glass, 2000). A common symptom of those with depression is social withdrawal. They feel as if they are not liked or that they are unwanted (American Psychiatric Association, 2013), but a good supportive background can help mediate these effects. Social support has been found to reduce work strain and increase job satisfaction in police officers, especially social support from co-workers and superiors (Brough & Frame, 2004; Lord, 1996). Social support
needs more research due to its complexity and to reach a better understanding of its effect.
The effects are never clear since a person with high social support can suffer from depression
and a person with low or no social support can be happy and healthy. However, a positive
correlation between social support and depression is rare, while a negative correlation is the
expected outcome (Choenarom, Williams, & Hagerty, 2005; George, Blazer, Hughes, &
Fowler, 1989) Even though social support should conceptually act as a buffer for stress, or at
least reduce the harmful effects of stress this relationship has not been conclusively proven
(Uchino, Cacioppo, & Kiecolt-Glaser, 1996).

The main goal of this research was to examine the relationship of depression and
burnout with perceived stress, resilience and social support, since this has not yet been
examined among Icelandic police officers. The main hypotheses were: (1) perceived stress
will be associated with higher levels of depression and burnout. (2) Social support and
resilience will be associated with lower levels of depression and burnout. Whether the effects
of perceived stress on depression and burnout would be moderated by social support and
resilience was explored was well. The explorative analyses were as follows: perceived stress
would have less impact on depression and burnout among those (1) high on resilience and
among those (2) with high levels of social support

Method

Participants

An online questionnaire was sent via email to all working police officers in Iceland. A
total of 301 police officers completed the questionnaire; of those 49 were female (16.3%) and
251 were male (83.7%) meaning one participant chose not to reveal their gender. There were
706 police officers working in Iceland making the response rate about 42.5%.

Age was measured in intervals, where those being of the age between 20-29 years
were 27 (9.1%); those who were between 30-39 years of age were 80 (26.9%); those between
40-49 years of age were 98 (33.0%); those between 50-59 years of age were 71 (23.9%); and
those who were older than 60 years of age were 21 (7.1%). Three participants chose not to reveal their age.

An educational matriculation degree or a comparable degree is required to work as a police officer in Iceland so information on what education the participants had was gathered. In total, 96 participants (31%) had completed the standard matriculation exam; 140 participants (46.5%) had completed a comparable matriculation exam; 46 participants (15.3%) had completed and undergraduate degree (BA, BSc, or similar) and 19 participants (6.3%) had completed and advanced degree (MA, MS or similar). All participants answered this question.

Measures

A questionnaire was compiled specifically for this research. It was comprised of several subscales measuring various constructs as well as some questions gathering further information about the participants and their work as police officers (Appendix A).

*Patient Health Questionnaire (PHQ-9).* The PHQ-9 is the depression-screening tool in the PHQ. This study used an Icelandic version (Appendix B). It uses a Likert scale ranging from 0-3: the values are 0 for not at all; 1 for a few times; 2 for more than half of the time; and 3 for nearly every day. The questionnaire consists of nine questions asking about the nine symptom criteria for depression from the DSM-IV (Kroenke, Spitzer, & Williams, 2001). Its total scores range from 0-27, with a total score of less than 5 indicating no or little signs of depression; a total score between 5-10 as mild depression; 10-15 as moderate depression; 15-20 as moderately severe depression; and a total score of over 20 as severe depression. Its internal reliability has been found to be over 0.8 in Cronbach’s alpha (Kroenke, Spitzer, & Williams, 2001), and in this research the score was 0.91.

*Copenhagen Burnout Inventory (CBI).* The CBI is a burnout-screening questionnaire intended to be an improved version of Maslach’s burnout inventory. This study used an Icelandic version (Appendix C). It has three different subscales measuring personal burnout,
work-related burnout, and client-related burnout. The client-related burnout subscale is optional since it may not always fit the individual being researched, and as such it was not used in this research. CBI uses a Likert scale ranging from 0-100: its values are 0= never/almost never; 25 = seldom; 50 = sometimes; 75 = often; and 100 = always. A total score of 50 and higher is the recommended cutoff point for burnout (Borritz & Kristensen, 2004). The internal reliability for both subscales has been found to be over 0.8 on Cronbach’s alpha (Kristensen, Borritz, Villadsen, & Christensen, 2005). In this research the reliability CBI was Cronbach’s α = 0.95.

*Multidimensional Scale of Perceived Social Support (MSPSS).* MSPSS is a scale designed to measure the levels of social support perceived by individuals in three circumstances with three subscales. These subscales are: significant other subscale, family subscale, and friend subscale. This study used an Icelandic version (Appendix D). MSPSS uses a seven point Likert scale ranging from 1 = very strongly disagree to 7 = very strongly agree; higher scores meaning higher levels of perceived social support. Internal reliability of the different subscales have been found to be in the range of Cronbach’s α = 0.8-0.9 (Zimet, Dahlem, Zimet, & Farley, 1988). The reliability of MSPSS in this research was Cronbach’s α = 0.96.

*Connor-Davidson Resilience Scale (CDRS).* The CDRS is a scale designed to estimate resilience of individuals. This study used an Icelandic version (Appendix E). It is comprised of 10 questions, and the answers are on a Likert scale ranging from 0-4, with 0 being not true at all and 4 being true nearly all of the time; a higher score meaning more resilience. In the original 25-question resilience scale the internal reliability had a Cronbach’s alpha score of 0.89 (Connor & Davidson, 2003). The reliability in this research was Cronbach’s α = 0.92.

*Perceived Stress Scale (PSS).* The PSS is a questionnaire used to assess the amount of stress an individual feels in his life. This study used an Icelandic version (Appendix F). It
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The CES-D consists of 10 questions and uses a Likert scale ranging from 0 being never to 4 being very often. Questions 4, 5, 7, and 8 have their scores reversed. Total scores of 0-13 mean the individual is not very stressed, 14-26 meaning moderate stress, and 27 and up being high stress. It has been found to have an internal reliability Cronbach’s alpha of over 0.7 (Cohen, Kamarck, & Mermelstein, 1983). The reliability in this research was Cronbach’s $\alpha = 0.96$.

*Work-Related Basic Need Satisfaction Scale (W-BNS).* The W-BNS is a scale used to assess basic need satisfaction. This study used an Icelandic version (Appendix G). The test is comprised of three subscales: Autonomy, competence, and relatedness. It contains 18 questions, with six questions per subscale. In this research, only the relatedness subscale was used, assessing social support and camaraderie from colleagues. The scale uses a Likert scale ranging from zero to four, with zero being: completely agree, and four being: completely disagree. Half of the items had to be reversed. The relatedness subscale has been found to have an internal reliability Cronbach’s $\alpha = 0.82$ (Broeck, Vansteenkiste, Witte, Soenens, & Lens, 2010). In this research the internal reliability was Cronbach’s $\alpha = 0.84$.

**Procedure**

The National Bioethics Committee approved the study, and then the questionnaires were distributed in April 2017. They were sent via email to all working police officers in Iceland. Included in the email was an informed consent form where the purpose of the study and confidentiality was stated (Appendix H). The email also stated that they could discontinue answering the questionnaire at any time, and included information on how to contact those conducting the research. Clicking on the link was considered as having given consent. The link directed the participants to a QuestionPro website where the information was gathered.

**Statistical Analysis**

All data was gathered from QuestionPro and uploaded on Microsoft Excel and uploaded from there onto IBM’s SPSS statistical software version 24.0, which was later used
for all data analysis. There were two dependent variables in this research, that of depression (PHQ-9) and burnout (CBI), and four independent variables, that of perceived stress (PSS), resilience (CDRS), social support from co-workers (W-BNS), and perceived social support (MSPSS). Descriptive and inferential statistics were used to present results from the data analysis. First presented are the mean scores of the two dependent variables, by age and gender as well as the distribution of the scores, then a Pearson’s correlation matrix between all used variables. To find coefficients for burnout and depression, a linear regression was used with either depression or burnout as the dependent factor and the total scores of the independent variables loaded in. To find out if there was a moderating effect from protective factors with perceived stress on either burnout or depression, the variables were split into two groups based on their median point (median split) and were then put through a univariate general linear model to calculate the main effect and interaction effect of the independent variables on the dependent variable.

**Results**

**Descriptive Results.**

The answers on the PHQ-9 scale can range from 0-27. In this research the highest and lowest values are 24 and zero respectively. The mean score was 5.90. There was no statistically significant difference between mean depression scores for both genders and there was no statistically significant mean difference between age groups. Table 1 shows the frequency of particular cases of depression when sorted by their PHQ-9 total score values.

**Table 1**

<table>
<thead>
<tr>
<th>PHQ-9 when sorted by values</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No signs of depression</td>
<td>165</td>
<td>55.6</td>
<td>55.6</td>
</tr>
<tr>
<td>Mild depression</td>
<td>79</td>
<td>26.6</td>
<td>82.2</td>
</tr>
<tr>
<td>Moderate depression</td>
<td>32</td>
<td>10.8</td>
<td>92.9</td>
</tr>
</tbody>
</table>
The answers from the CBI scale can range from 0-100. In this research the highest and lowest values were 100 and zero respectively. The mean score was 39.85. The x-axis represents the score on the PHQ-9 scale while the y-axis represents the number of cases that had that particular PHQ-9 score. Figure 1 shows the distribution of the total PHQ-9 scores.

CBI (burnout) does not have any tiers, as the depression scale does. It simply has a recommended cutoff point. This recommended cutoff point is a score of 50 and above for those who qualify for burnout. From a total of 294 answers for the CBI scale a total of 194 (66.0%) scored under the recommended cutoff point of 50 and a total 100 (34.0%) scored over the recommended cutoff of 50 points.
Figure 2. CBI = burnout, range 0-100, cutoff point for burnout is 50 and above. The x-axis represents the score on the CBI scale and the y-axis represents the number of cases that particular CBI score had.

In Table 2 the Pearson’s correlational coefficients are shown in regard to all the other used variables both independent and dependent. Table 3 shows the coefficients from a linear regression using burnout as the dependent variable. Table 4 shows the coefficients from a linear regression using depression as the dependent variable.

Table 2

<table>
<thead>
<tr>
<th></th>
<th>PHQ-9</th>
<th>CBI</th>
<th>CDRS</th>
<th>MSPSS</th>
<th>WBNS</th>
<th>PSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHQ-9</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBI</td>
<td>.801**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDRS</td>
<td>-.514**</td>
<td>-.572**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSPSS</td>
<td>-.414**</td>
<td>-.399**</td>
<td>.502**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WBNS</td>
<td>-.563**</td>
<td>-.565**</td>
<td>.497**</td>
<td>.564**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PSS</td>
<td>.710**</td>
<td>.758**</td>
<td>-.519**</td>
<td>-.387**</td>
<td>-.517**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. PHQ-9 = Patient Health Questionnaire-9 (depression); CBI = Copenhagen Burnout Inventory; CDRS = Connor-Davidson Resilience Scale; MSPSS = Multi-Dimensional Scale of Perceived Social Support; WBNS = Work-Related Basic Need Satisfaction Scale; PSS = Perceived Stress Scale. **Correlation is significant at the 0.01 level.

Table 3

Coefficients of burnout.
Table 4

Coefficients for depression.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>1.82</td>
<td>2.08</td>
<td>0.88</td>
</tr>
<tr>
<td></td>
<td>WBNS</td>
<td>-0.21</td>
<td>0.06</td>
<td>-0.19</td>
</tr>
<tr>
<td></td>
<td>PSS</td>
<td>0.45</td>
<td>0.04</td>
<td>0.59</td>
</tr>
<tr>
<td></td>
<td>MSPSS</td>
<td>-0.01</td>
<td>0.02</td>
<td>-0.03</td>
</tr>
<tr>
<td></td>
<td>CDRS</td>
<td>-0.07</td>
<td>0.04</td>
<td>-0.08</td>
</tr>
</tbody>
</table>

Note. Dependent variable PHQ9. PHQ-9 = Patient Health Questionnaire-9 (depression); CDRS = Connor-Davidson Resilience Scale; MSPSS = Multi-Dimensional Scale of Perceived Social Support; WBNS = Work-Related Basic Need Satisfaction Scale; PSS = Perceived Stress Scale. Neither MSPSS nor CDRS had a significant contribution to the model. \( R = 0.78, R^2 = 0.60, F(4, 274) = 103.91, p < 0.001. \)

Moderating Effects of Resilience and Social Support on Perceived Stress.

To examine if the relationship between perceived stress, depression and burnout was moderated by resilience and/or social support, series of 2 (perceived stress: high, low) x 2 (moderator: high, low) ANOVA’s were computed.
The results from the 2 (Perceived stress: high, low) x 2 (resilience: high, low) ANOVA for depression showed that the main effect for resilience was significant ($F(1, 270) = 6.94, p = 0.009$), as well as the main effect for perceived stress ($F(1, 270) = 90.28, p < 0.001$) and the interaction between perceived stress and resilience ($F(1, 270) = 5.75, p = 0.017$).

![Figure 3](image_url)

*Figure 3.* This figure shows the mean PHQ-9 score for those who are high or low on resilience compared with those who score high or low on the perceived stress scale. The y-axis represents mean PHQ-9 score.

The results from the 2 (perceived stress: high, low) x 2 (perceived social support: high, low) ANOVA for depression showed the main effect for perceived social support was significant ($F(1, 276) = 23.37, p < 0.001$) as well as the main effect for perceived stress ($F(1, 276) = 85.79, p < 0.001$). However, the interaction effect between perceived stress and perceived social support was not significant ($F(1, 276) = 0.09, p = 0.766$).

The results from the 2 (perceived stress: high, low) x 2 (social support from co-workers: high, low) ANOVA for depression showed that the main effect for social support from co-workers was significant ($F(1, 287) = 29.59, p < 0.001$) as well as the main effect for perceived stress ($F(1, 287) = 83.24, p < 0.001$). However, the interaction effect between perceived stress and social support from co-workers was not significant ($F(1, 287) = 0.23, p = 0.630$).
The results from the 2 (perceived stress: high, low) x 2 (resilience: high, low) ANOVA for burnout showed that the main effect for resilience was significant ($F(1, 270) = 15.66, p < 0.001$), as well as the main effect for perceived stress ($F(1, 270) = 133.71, p < 0.001$) and the interaction effect between perceived stress and resilience ($F(1, 270) = 3.96, p = 0.048$).

![Figure 4](image)

*Figure 4.* This figure shows the mean CBI score for those who are high or low on resilience compared with those who score high or low on the perceived stress scale. The y-axis represents mean CBI score.

The results from the 2 (perceived stress: high, low) x 2 (perceived social support: high, low) for burnout showed that the main effect for perceived social support was significant ($F(1, 276) = 13.16, p < 0.001$) as well as the main effect for perceived stress ($F(1, 276) = 140.77, p < 0.001$). However, the interaction effect between perceived social support and perceived stress was not significant ($F(1, 276) = 0.50, p = 0.478$).

The results from the 2 (perceived stress: high, low) x 2 (social support from co-workers: high, low) for burnout showed that the main effect of social support from co-workers was significant ($F(1, 285) = 26.61, p < 0.001$) as well as the main effect for perceived stress ($F(1, 285) = 138.55, p < 0.001$). However, the interaction effect between social support from co-workers and perceived stress was not significant ($F(1, 285) = 0.04, p = 0.848$).
Discussion

The aim of this study was to examine if perceived stress, social support, and resilience affected depressive and burnout symptoms among Icelandic police officers. The main findings from the multivariate analyses were that social support from coworkers, resilience, and low perceived stress was all associated with lower depressive symptoms but social support from friends and families was not related to depressive symptoms. Social support from coworkers and low perceived stress was also significantly related to lower burnout symptoms while social support from friends and family and resilience was not. Lastly, the resilience buffered the negative impact of perceived stress on depressive and burnout symptoms.

The mean score for burnout in Icelandic police officers was 39.84. The scale ranges from 0-100 and the recommended cutoff point for burnout is 50 (Borritz & Kristensen, 2004), so the mean was not far off from the cutoff point. 31.3% of the sample had a burnout score of 50 or over meaning that burnout might be a prevalent disorder for Icelandic police officers.

In comparison, the mean for depression in this sample was 5.43 on a scale ranging from 0-27, with the cut-off point being 10 or over to qualify as depression (Kroenke, Spitzer, & Williams, 2001). Only 17.8% of the participants would meet the criteria for depression according to the PHQ-9. The occurrence of depression in this research closely resembled that of Darensburg et al. (2006), where the occurrence of depression among police officers in Buffalo, NY was around 16%. These police depression rates are markedly higher than the estimated total score by the World Health Organization (World Health Organization, 2015).

Perceived stress has a high positive correlation with depression, and is the strongest effect of all the variables in the regression model for the disorder in this research. The first hypothesis is therefore in regards to depression, in that perceived stress seems to have an effect on depression. This relationship has been found before and stress, if not appropriately managed, has often been noted as one of the main inducers of depression (Hammen, 2018).
Perceived stress also had a high positive correlation with burnout and had the strongest effect on the regression model for the syndrome in this research. The first hypothesis was therefore confirmed in regards to burnout. Burnout is defined as a syndrome resulting from constant stress in a person’s job, hence the results indicating that perceived stress seems to have an effect is not surprising even though the Perceived stress scale only measures total stress as opposed to work stress (Maslach, Jackson, & Leiter, 1997).

The second hypothesis was that resilience and social support would serve as protective factors against burnout and depression. Resilience had a high negative correlation with both depressive disorder and burnout syndrome, supporting the hypothesis, and is in accordance with previous research stating that it may reduce the occurrence of both of these disorders (Southwick, Vythilingam, & Charney, 2005; Galatzer-Levy et al., 2013). However resilience did not have a statistically significant effect on the regression model for depression.

To test for social support, two questionnaires were used: the multi-dimensional scale of perceived social support, and a version of the work-related basic need satisfaction scale. The MSPSS measures social support from one’s friends, family and significant other while W-BNS measures social support from peers and colleagues. The scales both had a negative correlation with both burnout and depression, supporting the hypothesis that social support serves as a protective factor against these disorders. However, MSPSS did not have a statistically significant effect on the regression model for both burnout and depression. W-BNS seems to be a better fit to measure social support among Icelandic police officers. The fact that social support has a negative correlation on burnout and depression is consistent with previous research (Choenarom, Williams, & Hagerty, 2005).

The last hypothesis of this research was that the protective factors, that of social support and resilience, decreased the likelihood of burnout or depression by moderating the effect of stress instead of having a direct relationship with the disorders. All three of the tested questionnaires for resilience and depression had a significant main effect
on the dependent variables of burnout and depression. However, only resilience had a significant interaction effect with perceived stress meaning that resilience may affect these disorders by mitigating the effect of stress. This is in accordance with previous research, which has stated that resilience helps to manage feelings during stressful times, and not succumbing to the stress, instead finding a solution to the problem and viewing the adversity as a learning experience (McCraty & Atkinson, 2012). According to the results in this research, social support does not seem to have an effect by mitigating stress, but rather by means of a direct effect on the disorders, that of burnout and depression, which was also the case in previous research (Uchino, Cacioppo, & Kiecolt-Glaser, 1996).

Despite the prevalence of burnout being nearly double that of depression the two questionnaires had a high correlation ($r = 0.801$) meaning that depression and burnout might be related or have an influence on each other. Either the burnout questionnaire has a more inclusive cutoff point than the depression questionnaire or burnout is a more common disorder in the sample of Icelandic police officers. This high correlation is in accordance with previous research, and burnout has been a topic of debate. Burnout shares many likenesses with depression. Such as its subscales emotional exhaustion, depersonalization, and reduced personal accomplishments. All of these factors might be found in depressed individuals so what distinguishes burnout from depression is that it is work oriented. One can experience burnout and not be depressed and vice versa, but the fact that they measure a similar phenomena might mean that burnout should be considered a subcategory of depression or a result of depression (Bianchi, Schonfeld, & Laurent, 2015; Bianchi, Boffy, Hingray, Truchot, & Laurent, 2013).

There are some limiting factors in this research. One example being the uneven amount of participants between genders. Even though the gender ratio in this research may reflect upon the actual numbers in the data analysis of the Icelandic police force, the small sample size of women in this research made it hard to obtain accurate results on gender
differences. Another limiting factor is that this research is cross-sectional. This means that all results have to be viewed as correlational and it is difficult to infer causation. The research would also have benefitted from having more scales to measure risk and protective factors; there are other factors to consider, even though stress might be the main contributor to the development of burnout and depression.

There are however some advantages to this research. It had a reasonably good questionnaire response ratio of about 42% and it used scales that have been proven to have good psychometric properties. The scales also had an exceptional internal reliability in this research. Another advantage is that there have not been any previous researches done that measure all the different protective and risk factors for burnout and depression, meaning this research offers new and valuable data.

Future studies should be performed using a longitudinal design, rather than cross sectional, to enable the discovery of whether the relationship are causational rather than just correlational as well as measuring more possible factors that may affect burnout and depression. Future research should also aim to use comparable questionnaires, so that the result may be more readily compared between researches. A control group of individuals not working as police officers or first responder should also be measured as well as police officers and first responders in other areas.
References


Bakgrunnsspurningar

1. Aldur
   □ 20-29 ára □ 30-39 ára □ 40-49 ára □ 50-59 ára □ 60 ára eða eldri

2. Kyn
   □ Karl □ Kona

3. Menntun. Merktu við það sem á við:
   □ Stúdentspróf □ Annað framhaldsnám eftir grunnskóla (þó ekki stúdentspróf) □ Grunnám í Háskóla (BA/bS eða B.ed. gráðu) □ Framhaldsnám úr háskóla (MA/MS/M.ed. eða P.hd.gráðu)

5. Hvaða stöðu gegnir þú?
   □ Lögreglunaður □ Lögreglumaður □ Aðstoðarvarðstjóri, varðstjóri/rannsóknarlögreglumaður, aðalvarðstjóri/lögreglufulltrúi □ Aðstoðarýfirlögreglupjónn, yfirlögreglupjónn

6. Hvert er meginstarfssvið þitt? Merktu við allt sem við á:
   □ Almenn löggaðsla □ Rannsóknir brota □ Stjórnun □ Annað

7. Vinnufyrirkomulag. Merkið við allt sem við á:
   □ Dagvinna □ Vaktavinna □ Bakvaktir

8. Hversu lengi hefur þú starfað í lögreglunni?
   □ 0–4 ár □ 5–9 ár □ 10–14 ár □ 15–19 ár □ 20 ár eða meira

10. Hversu marga veikindadaga hefur þú tekið síðustu 2 mánuði?
   □ Engan □ 1 dag □ 2 daga □ 3 daga □ 4 daga eða fleiri

11. Hversu oft telur þú þig upplifa streitu í lögreglustrafinu?
   □ Oft □ Stundum □ Sjaldan □ Aldrei
Appendix B

Patient Health Questionnaire

Þunglyndi (Patient health questionnaire (PHQ-9)).

Hversu oft hafa eftirfarandi vandamál truflað þig síðastliðnar 2 vikur?

a. Litill áhugi eða gleði við að gera hluti?
☐ Alls ekki ☐ Nakkr daga ☐ Meira en helming tímans ☐ Nánast alla daga

b. Verið niðurdregin/n, döpur/dapur eða vonlaus?
☐ Alls ekki ☐ Nakkr daga ☐ Meira en helming tímans ☐ Nánast alla daga

c. Átt erfitt með að sofna eða sofat alla nóttina?
☐ Alls ekki ☐ Nakkr daga ☐ Meira en helming tímans ☐ Nánast alla daga

d. Þreyta og orkuleysir?
☐ Alls ekki ☐ Nakkr daga ☐ Meira en helming tímans ☐ Nánast alla daga

e. Lystarleysi eða ofát?
☐ Alls ekki ☐ Nakkr daga ☐ Meira en helming tímans ☐ Nánast alla daga

f. Liðið illa með sjálfan þig eða fundist að þú hafir mistekist eða ekki staðið þig í stykkinu gagnvart sjálfsum þér eða fjölkskyldu þinni?
☐ Alls ekki ☐ Nakkr daga ☐ Meira en helming tímans ☐ Nánastalla daga

g. Erfið leiðar eða einbeitingu við t.d. að lesa blöðin eða horfa á sjónvärp?
☐ Alls ekki ☐ Nakkr daga ☐ Meira en helming tímans ☐ Nánast alla daga

h. Hreyft þig eða talað svo hægt að aðrir hafa tekið eftir því? Eða hið gangstæða- verið svo eirðarlæs eða öröleg/ýr að þú hreyfðir þig mikið meira en verjulega?
☐ Alls ekki ☐ Nakkr daga ☐ Meira en helming tímans ☐ Nánast alla daga

i. Hugsðað um að það væri betra að þú værir dain/n eða hugsðað um að skaða þig a einhvern hátt?
☐ Alls ekki ☐ Nakkr daga ☐ Meira en helming tímans ☐ Nánast alla daga
Appendix C

Copenhagen Burnout Inventory

Kulnun (Copenhagen Burnout Inventory (CBI))

1. Hversu oft finnur þú fyrir þreytu?
   □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei / aldrei

2. Finnur þú fyrir þreytu í lok vinnudags?
   □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei / aldrei

3. Hversu oft finnst þér þú vera líkamlega uppgefin?
   □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei / aldrei

4. Verður þú þreytt/ur við tilhugsunina um annan dag í vinnunni?
   □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei / aldrei

5. Skapraunar vinnan þin þér?
   □ Mjög mikið □ Mikið □ Hvorki né □ Litið □ Mjög litið

6. Finnst þér þú vera útbrunnin vegna vinnu þinnar?
   □ Mjög mikið □ Mikið □ Hvorki né □ Litið □ Mjög litið

7. Er vinnan þin tilfinningalega erfið?
   □ Mjög mikið □ Mikið □ Hvorki né □ Litið □ Mjög litið

8. Hversu oft finnst þér þú vera tilfinningalega uppgefin?
   □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei/Aldrei

9. Hefur þú næga orku til að hitta fjölskyldu og vini fyrir utan vinnutíma?
   □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei/Aldrei

10. Hversu oft hugsar þú „ég get þetta ekki lengur”?
    □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei/Aldrei

11. Finnst þér hver einasta stund í vinnunni þreyta þig?
    □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei/Aldrei

12. Hversu oft finnst þér þú vera úrvinda?
    □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei/Aldrei

13. Hversu oft finnur þú fyrir slappleika?
    □ Alltaf □ Oft □ Stundum □ Sjaldan □ Næstum aldrei/Aldrei
Félagslegur stuðningur fjölskyldu, vina og maka (MSPSS)
Stigagjöf.
1 = algjörlega ósammála 2 = mjög ósammála 3 = frekar ósammála 4 = hlutlaus 5 = frekar sammála 6 = mjög sammála 7 = algjörlega sammála
1. Það er viss einstaklingur til staðar fyrir mig þegar ég þarfnast.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
2. Það er viss einstaklingur sem ég get deilt með gleði minni og sorg.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
3. Fjölskyldan mín reynir virkilega að hjálpa mér.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
4. Frá fjölskyldu minni fæ ég þá tilfinningalegu aðstoð og þann stuðning sem ég þarfnast 
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
5. Ég get leitað huggunar hjá vissum einstaklingi þegar þörf er á.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
7. Ég get treyst á vini mínar þegar illa gengur.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
8. Ég get talað um vandamál mín við fjölskyldu mín.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
9. Ég á vini sem ég get deilt með gleði minni og sorg.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
10. Það er viss einstaklingur í lifi mínú sem er umhugaðum tilfinningar mínar.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
11. Fjölskyldu mín er tilbúin til að aðstoða mí nið ákvarðanatöku.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
12. Ég get talað um vandamál mín nið vini mín.
☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
Appendix E
The Connor-Davidson Resilience Scale (CD-RISC 10)

Vinsamlegast merktu við þann svarreit sem á almennt best við um hverja staðhæfingu.

1. Ég er férr um að aðlagast breytingum
   - Á aldrei við
   - Á sjaldan við
   - Á stundum við
   - Á oftast við
   - Á nærri alltaf við

2. Ég get tekist á við hvað svo sem kemur upp
   - Á aldrei við
   - Á sjaldan við
   - Á stundum við
   - Á oftast við
   - Á nærri alltaf við

3. Ég reynt að sjá spaugilega hlið á vandamálum
   - Á aldrei við
   - Á sjaldan við
   - Á stundum við
   - Á oftast við
   - Á nærri alltaf við

4. Það getur styrkt mig að takast á við streitu
   - Á aldrei við
   - Á sjaldan við
   - Á stundum við
   - Á oftast við
   - Á nærri alltaf við

5. Ég er fljótur að ná mér á strik eftir veikindi eða erfiðleika
   - Á aldrei við
   - Á sjaldan við
   - Á stundum við
   - Á oftast við
   - Á nærri alltaf við

6. Ég get náð markmiðum þrátt fyrir hindrarir
   - Á aldrei við
   - Á sjaldan við
   - Á stundum við
   - Á oftast við
   - Á nærri alltaf við
7. Ëg get haldið einbeitingu þegar ég er undir pressu
   0 Á aldrei við
   0 Á sjaldan við
   0 Á stundum við
   0 Á oftast við
   0 Á nærri allt af við

8. Ëg gefst ekki auðveldlega upp þótt mér verði á
   0 Á aldrei við
   0 Á sjaldan við
   0 Á stundum við
   0 Á oftast við
   0 Á nærri allt af við

9. Ëg hugsa um sjálfan mig sem sterka persónu
   0 Á aldrei við
   0 Á sjaldan við
   0 Á stundum við
   0 Á oftast við
   0 Á nærri allt af við

10. Ëg get tekst á við óþægilegar tilfinningar
    0 Á aldrei við
    0 Á sjaldan við
    0 Á stundum við
    0 Á oftast við
    0 Á nærri allt af við
Appendix F

Perceived Stress Scale

Streitukvarði (Perceived Stress Scale (PSS))
Spurningarnar á þessum kvarða eru um tilfinningar og hugsanir síðastliðinn mánuð.
Vinsamlegast merktu í viðeigandi reit eftir því hversu oft þú hugsafir eða leið á ákveðinn hátt.

1. Hversu oft síðastliðinn mánuð hefur þú farið úr jafnþæg vegna einhvers sem kom óvænt upp á?
   □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft

2. Hversu oft síðastliðinn mánuð hefur þér fundist sem þú værir ekki fær um að hafa stjórn á mikilvægum þáttum í lifi þínu?
   □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft

3. Hversu oft síðastliðinn mánuð hefur þér fundist þú vera tugaóstyrk/ur og stressuð/aður?
   □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft

4. Hversu oft síðastliðinn mánuð hefur þú verið örugg/ur um getu þína til að fást við eigin vandamál?
   □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft

5. Hversu oft síðastliðinn mánuð hefur þér fundist hlutimir ganga þér í hag?
   □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft

6. Hversu oft síðastliðinn mánuð hefur þér fundist að þú gætir ekki ráðið við allt það sem þú þurftir að gera?
   □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft

7. Hversu oft síðastliðinn mánuð hefur þú getað haft stjórn á hlutum í lifi þínu sem hafa skapraunað þér?
   □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft

8. Hversu oft síðastliðinn mánuð hefur þér fundist þú hafa vald á hlutunum?
   □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft

9. Hversu oft síðastliðinn mánuð hefur þú orðið reiði/ur vegna einhvers sem þú gast ekki haft áhrif á?
   □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft

10. Hversu oft síðastliðinn mánuð hefur þér fundist vandamálin hrannast upp þannig að þú gætir ekki sigrast á þeim?
    □ Aldrei □ Næstum aldrei □ Stundum □ Nokkuð oft □ Mjörg oft
Appendix G

Work-Related Basic Needs Satisfaction Scale

Félagslegur stuðningur í vinnu (Work-related Basic Need Satisfaction Scale)

Hversu oft á síðastlönnum 2 vikum hefur þú upplifað eftirfarandi:
1. Mér finnst ég ekki ná tengslum við samstarfsfélaga mína
☐ Algerlega ósammála ☐ Frekar ósammála ☐ Hvorki né ☐ Frekar sammála ☐ Algerlega sammála

2. Í vinnunni upplifi ég mig sem hluta af hóp
☐ Algerlega ósammála ☐ Frekar ósammála ☐ Hvorki né ☐ Frekar sammála ☐ Algerlega sammála

3. Ég fell ekki í hópinn meðal vinnufélaga (mér fellur í raun ekki við annað fólk í vinnu minni
☐ Algerlega ósammála ☐ Frekar ósammála ☐ Hvorki né ☐ Frekar sammála ☐ Algerlega sammála

4. Ég get talað við vinnufélaga mína um hluti sem eru mér mikilvægir
☐ Algerlega ósammála ☐ Frekar ósammála ☐ Hvorki né ☐ Frekar sammála ☐ Algerlega sammála

5. Ég er oft einmanna meðal vinnufélaga minna
☐ Algerlega ósammála ☐ Frekar ósammála ☐ Hvorki né ☐ Frekar sammála ☐ Algerlega sammála

6. Ég á mjög nána vini meðal vinnufélaga minna.
☐ Algerlega ósammála ☐ Frekar ósammála ☐ Hvorki né ☐ Frekar sammála ☐ Algerlega sammála
Appendix H

Informed Consent Form.

Kær á viðtakandi.

Vinsamlega nemaðið neðtangreindar upplýsingar vandlega áður en þú ákveður hvort þú viljir taka þatt í þessari rannsókn.

Tilgangur og markmið: Þíð er vitað um langtíma líðan og afallastreituf miðal lögreglumanna á Íslandi. Erlendar rannsóknir hafa synt að um 12% lögreglu greinast með afallastreitu sem getur haft alvarlegar afleiðingar, svo sem auknar líkur á líkamlegum og andlegum sjúkdomum ásamt róskun á almenntu velliðan. Þessi rannsókn, sem verður hluti af lokaríkgertum Stefani og Róskvú sálfræðinum um háskólan um Reykjavík, er partur af stærma verkfini sem verið er að þróa í samvinna við önnur Evrópuflóð. Markmið er að stofna þekkingarsetur afalla á Íslandi en eitt af hlutverkum þess verður að kanna langtíma líðan og afallastreituf hjá viðbraugsaðilum í neðfarþjónustu og þróa úræði sem draga úr vaníðan og bæta vinnuverðið.

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Hægt er að hafa samband við rannsakendur ef það vakna spurningar varaðandi rannsóknina.