

Linköping University Medical Dissertations No. 1007

# ABUSED WOMEN

- Health, Somatization, and Posttraumatic Stress

Lotta Samelius



**Linköping University**  
**FACULTY OF HEALTH SCIENCES**

Division of Gender & Medicine  
Department of Molecular and Clinical Medicine  
Faculty of Health Sciences, Linköping University  
SE-581 85 Linköping, Sweden

Linköping 2007

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ISBN 978-91-85831-90-6  
ISSN 0345-0082  
Printed by LiU-Tryck, Linköping 2007

*“Few tragedies can be more  
extensive than the stunting of life,  
few injustices deeper than the  
denial of an opportunity to strive or  
even hope, by a limit imposed  
from without, but falsely identified  
as lying within.”*

S J Gould



# ABSTRACT

The aims of this thesis were to estimate the lifetime prevalence of physical, sexual, and psychological abuse in a random population-based sample of women aged 18-60 years; to estimate current suffering thereof; and to investigate associations between abuse and health problems, more specifically to study abuse related variables associated with somatization and PTSD, respectively.

The studies had a cross-sectional design. Studies I and II comprised 4150 women 18-60 years. Study III included 547 women, and study IV consisted of 213 women, randomly selected from the population-based sample of the first two studies.

The first study found lifetime prevalence rates of 19.4% for physical abuse, 9.2% for sexual abuse, and 18.2% for psychological abuse. Abused women reported more ill-health and a less advantageous social situation than non-abused women. There was an association between magnitude of abuse and health problems. Even a low magnitude of abuse was substantially associated with ill-health. In the second study we found that of the 27.5% of women who had reported any kind of abuse in the first study, 69.5 % reported current suffering thereof. Abused suffering women reported more health problems than abused non-suffering women and non-abused women, and abused non-suffering women reported more health problems than non-abused women. In study three, psychological abuse and sexual abuse without penetration were found to be associated with somatization. Physical abuse and sexual abuse with penetration were not associated with somatization, when adjustments for other kinds of abuse were made. In study four, PTSD and somatization were found to be separately reported phenomena in abused women, although PTSD was positively associated with having somatic symptoms. Women with PTSD reported higher total magnitude of abuse and a higher number of perpetrators than women with somatization. Sexually abused women with PTSD more often described their experience as an act of abuse compared with sexually abused women with somatization.

The present thesis demonstrates that even a low magnitude of abuse is associated with health problems. It also shows that a majority of the abused women, when investigating lifetime history of abuse, reported current suffering thereof, which warrants considering abuse an important societal problem. The relationship between somatization and posttraumatic stress in abused women is discussed in relation to abuse variables. Other factors than severity of abuse, such as whether the abused woman herself perceives her experience as abuse, seem to be more decisive for development of somatization in abused women. The findings suggest that PTSD is not a necessary mediator between abuse and somatization.

# LIST OF PAPERS

This thesis is based on the following papers, which will be referred to in the text by their Roman numerals.

- I Wijma, K., Samelius, L., Wingren, G. & Wijma, B. The association between ill-health and abuse: a cross-sectional population-based study. *Scandinavian Journal of Psychology*, 2007 [In press].
- II Samelius, L., Wijma, B., Wingren, G. & Wijma, K. Lifetime history of abuse, suffering, and psychological health. Submitted.
- III Samelius, L., Wijma, B., Wingren, G. & Wijma, K. Somatization in abused women. *Journal of Women's Health*, 2007 [In press].
- IV Samelius, L., Wijma, B., Wingren, G. & Wijma, K. Post-traumatic stress and somatization in abused women. Submitted.

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# TABLE OF CONTENTS

<b>BACKGROUND</b>	<b>1</b>
<b>Introduction</b>	<b>1</b>
<b>Prevalence and definitions of abuse</b>	<b>2</b>
<b>Health problems associated with abuse</b>	<b>3</b>
Physical health	
Psychological health	
Revictimization	
<b>Theoretical perspectives</b>	<b>4</b>
Somatization	
Stress and post-traumatic stress	
What's so deleterious with abuse?	
<b>AIMS</b>	<b>11</b>
<b>General aims</b>	<b>11</b>
<b>Research questions</b>	<b>11</b>
<b>SHORT DESCRIPTION OF THE STUDIES</b>	<b>12</b>
<b>Methods</b>	<b>12</b>
Definitions	
Design	
Participants and procedure	
Non-responders	
Measures	
Ethical considerations	
<b>Results</b>	<b>18</b>
Prevalence of abuse	
Prevalence of current suffering	
Current suffering and health	
Health characteristics	
Social circumstances	
Disclosure	
Somatization and PTSD	
Additional results	
<b>GENERAL DISCUSSION</b>	<b>22</b>
<b>Prevalence, magnitude and health</b>	<b>22</b>
<b>Current suffering and health</b>	<b>23</b>
<b>Estimation of adverse effects of abuse</b>	<b>23</b>
<b>Social situation</b>	<b>24</b>
<b>Disclosure</b>	<b>24</b>
<b>Sexual abuse</b>	<b>25</b>
<b>Somatization</b>	<b>25</b>
<b>Abuse, somatization and posttraumatic stress</b>	<b>26</b>
<b>Methodological issues</b>	<b>28</b>
<b>CONCLUDING REMARKS AND FUTURE PERSPECTIVES</b>	<b>29</b>
<b>ACKNOWLEDGEMENTS</b>	<b>30</b>
<b>REFERENCES</b>	<b>32</b>



# BACKGROUND

## Introduction

The main focus of this thesis is lifetime prevalence of abuse of women and ill-health associated therewith. The scientific study of abuse and violence against women, in a more established and organised form, has existed over three decades. The feminist movement in the early 1970s played a key role in establishing violence against women as an important matter for public health as well as a criminal justice issue.<sup>1</sup> Over the past 30 years the body of research has developed. Prevalence studies on sexual, physical and psychological abuse in childhood and adulthood have been conducted alongside with studies on psychological, physiological and behavioural outcomes of abuse. Current research shows, as expressed in a review by Briere and Jordan,<sup>2</sup> that violence against women is virtually endemic in society and that it is associated with a number of health problems such as anxiety, depression, somatization, sexual problems, and substance abuse.<sup>3-12</sup>

Prevalence studies with reports on associated health problems are important for a number of reasons. It is of decisive importance to have information about the magnitude of the problem in order to formulate an appropriate public policy response and to allocate resources to handle the problem.<sup>1</sup> It is also of utmost importance to have proper information about prevalence and consequences of abuse of women to plan the public health approach for primary and secondary prevention, for increasing awareness of the problem among health care personnel, and for planning adequate treatment resources. It is today however still a problem to estimate the number of women in the population adversely affected by abusive experiences. This is due to outcome complexity as well as to the fact that the definitions of abuse used and the kinds of abuse investigated vary in different studies. Studies also differ in whether they investigate abuse occurring in childhood, adulthood or both and whether they are conducted among population based or clinically based samples, and if it is a random or convenience based sample. There is a conflict between the need to estimate the total number of women afflicted by the negative consequences of abuse and the need to clarify and understand the complex relations between different kinds of abuse, the social and cultural situation in which they take place, and the multifaceted outcomes in terms of psychological and physical ill-health as well as social and behavioural effects. To estimate the total number of women negatively affected by abuse, one needs a general measure capturing abusive experiences in the general population and the number adversely afflicted thereby. This is not easily done by investigating different disorders, as a given disorder is not likely to comprise the overall symptomatic experience of a particular victim of abuse.<sup>2</sup> On the other hand, in order to study the complexity of abuse and the wide range of outcomes thereof, it is necessary to make in-depth investigations of particular kinds of abuse and specific outcomes, and to study abuse occurring at different stages in life and the often indirect associations with later ill-health.

The scope of this thesis comprises a prevalence study of abuse in a female population and health problems associated therewith, as well as a more in-depth study of the association between abuse of women and the health problems somatization and posttraumatic stress. The introduction continues with a short discussion on definitions of abuse. Definitions are of great importance as the epidemiological studies of abuse are dependent on the definitions used. Next there is a brief overview of health problems associated with abuse, followed by a section on theoretical perspectives. A few theories on somatization, posttraumatic stress, and how abuse influences health are presented, as are the standpoints guiding this thesis. The introduction ends with the aims and research questions of the thesis.

## Prevalence and definitions of abuse

The prevalence of abuse of women varies between studies and between countries.<sup>13</sup> This may reflect actual prevalence differences, but it is also likely to be influenced by the definitions and methodology used.<sup>14</sup> A recent Swedish population-based study of women<sup>15</sup> found a life-time prevalence of 36.4% for physical abuse, 16.9% for sexual abuse, and 21.4% for psychological abuse. Another Swedish population-based study of women<sup>16</sup> found that 32.2% had experienced violence or abuse during childhood, and that 15.6% had experienced abuse as an adult.

The United Nations Declaration on the Elimination of Violence against Women defines violence against women (VAW) as: "... any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women." When doing research however, one needs to operationalise the concepts under investigation in well-defined and "workable" ways. Many definitions of abuse are based on either kind of abuse (e.g. physical, sexual, or psychological abuse), age period when abuse occurred (e.g. childhood abuse, child sexual abuse - CSA) or are perpetrator-related (intimate partner violence – IPV). There is also a difference in definition based on whether one has a criminal justice approach or a public health approach towards measurement of VAW. Individual studies, especially those analysing the relationship between abuse, certain psychological mechanisms, and specific health outcomes, cannot investigate all forms of abuse and all kinds of ill-health associated therewith (and thus do not make an overall estimate of number of women affected by abusive experiences). Instead, most studies, in order to be illustrative, need to restrict themselves to investigate certain kinds of abuse and certain specific health consequences or certain well-defined psychological mechanisms. Thereby, the definitions of abuse used in a study quite often are specifically operationalised for that particular study. Thus, studies most often report one or a few specific forms of abuse and the definitions of what constitutes an abusive act may, and do, vary between studies.<sup>14,17</sup> From this it is not difficult to conclude that some of the variations in prevalence between different studies can be accounted for by the definition of abuse used and the population studied.

## Health problems associated with abuse

Experiences of abuse can have a wide variety of effects, psychological as well as physical, which often interact and thereby increase the likelihood of health problems. Many abuse victims suffer from health problems long after the abuse has ended.<sup>7,12</sup>

### **Physical health**

Besides the risk of physical injury directly caused by the abusive act, other physical health consequences have been associated with abuse. Women with experiences of abuse have more health care contacts due to any disease than non-abused women,<sup>18,19</sup> and have surgery more often than women without such experiences.<sup>20</sup> Also, chronic PTSD symptomatology (which is associated with abuse, see below) has shown association with altered or flat diurnal cortisol patterns.<sup>21</sup> Flat or abnormal diurnal cortisol variation has in turn been shown to be predictive of early mortality in women with metastatic breast cancer.<sup>22</sup>

### **Psychological health**

Depression is a prevalent, and one of the most frequently documented, mental health sequela among abused women.<sup>3,4,23</sup> Depression is also, besides being a severe problem causing much suffering in itself, associated with other health problems such as lowered immune system functioning<sup>24</sup> and increased risk of cardiovascular disease.<sup>25</sup>

Post-traumatic stress disorder (PTSD) has been strongly associated with violence against women,<sup>2,3,26,27</sup> and symptoms are often long-lasting.<sup>12</sup> The core features of PTSD include exposure to a traumatic event which causes a response of intense fear, helplessness, or horror and symptoms involving involuntary and intrusive re-experiencing of the traumatic event (such as flashbacks, nightmares and other sensory impressions), emotional numbing and avoidance of reminders of the traumatic experience, and persistent increased arousal (DSM-IV, 1994). The US National Comorbidity Survey found the life-time prevalence of PTSD to be 7.8%, with the rate for women being twice that for men (10.4% vs 5%).<sup>28</sup> In women, experiences of assaultive violence have been found to be strongly associated with PTSD.<sup>29</sup> It further appears that sexual assaults account for more cases of PTSD than (mere) physical assaults. The US National Comorbidity Survey showed that 45.9% of the women who reported rape to be their most upsetting trauma developed PTSD, whereas for women who reported physical attacks to be the most upsetting trauma, 21.3% developed PTSD.<sup>28</sup> McFarlane et al.<sup>8</sup> found that women both physically and sexually abused by their partner reported more PTSD symptoms than women only physically abused by their partner. It has been proposed that PTSD mediates later ill-health, including somatization, in victims of traumatic events.<sup>30</sup>

Somatization is often understood as the physical expression of psychological distress. Today, a number of different definitions and names are used in research as well as within clinical health care practise. Somatization is usually operationalized as a pattern of physical symptoms for which medical assistance is sought, but for

which, after medical assessment, no medical cause can be identified.<sup>31</sup> Somatization symptoms are common in the general population<sup>32</sup> and the prevalence is higher among women than among men.<sup>33</sup> The association between abuse and somatization has not been as systematically investigated as other abuse-related outcomes, and studies have shown somewhat inconsistent results. However, abuse has been associated with specific somatization symptoms such as chronic pelvic pain,<sup>34</sup> and back pain<sup>35</sup> as well as with somatization disorder.<sup>36-38</sup>

Sleep disturbances and repetitive nightmares are associated with sexual abuse and intimate partner violence.<sup>39-42</sup> Lack of sleep affects health. People who suffer from long-time or chronic lack of sleep are more subjected to infections and illnesses and are more likely to have accidents.<sup>43</sup> On the other hand, low emotional support and poor social integration have also been shown to be associated with sleep disturbances, especially in women.<sup>44</sup>

Phenomena such as hopelessness, low self-esteem, fearfulness, distrust of others, negative self-image and concentration difficulties have been associated with abuse.<sup>9,23,42,45-48</sup> These problems, in turn, can bring about negative social outcomes, for example social isolation,<sup>42</sup> and have detrimental effect on the ability to create and maintain good and positive relationships. Adult survivors of childhood abuse are often in relationships that are exploitive or victimizing.<sup>49</sup> The divorce rate is also higher among those with experiences of childhood abuse than among those without such experiences.<sup>18,49</sup>

A history of sexual abuse is associated with high risk sexual behaviour. Women with experiences of sexual abuse report earlier age at first (consensual) sexual activity.<sup>50</sup> They have higher rates of teenage pregnancy, multiple sexual partners, unprotected intercourse, and STDs, and are more likely to have had an abortion.<sup>49,51</sup>

A history of abuse is also associated with an increased risk of alcohol and drug abuse, as well as with suicide attempts and suicide ideation.<sup>52,53</sup>

### **Revictimization**

Abuse in childhood is associated with risk for revictimization in adulthood, and this in turn is associated with negative health outcomes.<sup>39,51,54-57</sup> In fact, it has been suggested that previous trauma, together with magnitude of abuse and lack of social support, are the three most significant predictors of chronic PTSD.<sup>58</sup> When discussing revictimization, it is often with reference to child to adult revictimization. However, in a study by Messman-Moore et al.<sup>59</sup> a cumulative effect of trauma was found, but no differential effects between child to adult revictimization and multiple adult assaults were uncovered.

## **Theoretical perspectives**

### **Somatization**

Somatization is often understood as the physical expression of psychological distress. “Having physical symptoms must be regarded as a normal phenomenon”, Rosendal et al.<sup>60</sup> stated recently. However, it becomes problematic when the

physical symptoms impair social, work, or personal functioning; the physical symptoms are attributed to somatic illness, and when no organic cause can be found.<sup>31</sup> The aetiology is not clear, and, probably, there are multiple factors influencing the development of somatization. Quite a few researchers (e.g. Kirmayer & Robbins<sup>61</sup>; Rosendal et al.<sup>60</sup>) have pointed out the potential importance of etiological differentiation between (a) *presenting somatization*, physical symptoms in other psychiatric disorders (principally anxiety or depression), and (b) *functional somatization*, medically unexplained subjectively compelling symptoms (that cannot be attributed to either physical or psychiatric illness).

Somatization as a process (in contrast to somatization as a diagnosis) has been described as an “almost universal propensity to experience and express psychiatric disorders and psychosocial distress as somatic distress and discomfort”.<sup>62</sup> Somatization models emphasize the interaction between factors that may be important in generating and maintaining somatization symptoms, and give special importance to symptom-focused attention. Kirmayer & Taillefer,<sup>63</sup> for example, presented a model saying that illness, emotional arousal, and normal physiological processes produce bodily sensations that to a varying degree capture the individual’s attention. Depending on individual and situational factors, these sensations may at times be interpreted as symptoms and, in turn, generate illness worry. The individual then may seek health care help (a normal action when worrying about illness) and thereby expose herself/himself to social forces (reactions from others, predominant sociocultural views of disease, etc). In some cases the illness worry will be reinforced in such a way as leading to illness experience and behaviour. This process is influenced by individual and sociocultural factors, such as previous illness experience, illness worry, personality, social responses, attention, and coping behaviour.

Alexithymia, first described by Sifneos<sup>64</sup> within a psychodynamic frame of reference, literally means “no words for emotions”. It has been linked to somatization both empirically<sup>65</sup> and theoretically in so far as inability to verbally express emotional states is thought to activate other means of expressions.<sup>66</sup> Alexithymia is today viewed as reflecting a deficit in the cognitive processing and regulation of emotions.<sup>67,68</sup> Krystal<sup>69</sup> proposed, from a psychodynamic reference point, that trauma leads to “affect dedifferentiation”, an inability to identify specific emotions that serve as a guide to appropriate actions. Krystal suggested that this inability to identify, or symbolically represent, emotions is related to development of psychosomatic reactions, as well as to aggression against self and others. Today, the psychological numbing symptoms of the PTSD diagnosis have been found to be particularly associated with somatization.<sup>70</sup>

Theories of dissociation have also been proposed to explain somatization. By large, dissociation theories say that symptoms are caused by a disruption between preconscious and conscious aspects of information processing. While dissociation originally was thought to be an abnormal process, today most cognitive models of dissociation consider it a normal psychological process available to all individuals as a coping mechanism. When overused, however, it can become maladaptive.<sup>71</sup> Ross-

Gower et al.<sup>72</sup> found that dissociation mediated between sexual abuse and subsequent psychopathology including somatization. However, dissociation did not explain the increased degree of disturbance associated with severe abuse. Brown et al.<sup>36</sup> found that dissociative amnesia was associated with somatization, whereas other dissociative core symptoms were reported to the same extent by patients with somatization disorder as by medical comparison subjects.

Brown<sup>71</sup> has presented a theory of somatization that draws from research and theory building in cognitive psychology. It is based on cognitive theories proposing that hierarchically organised cognitive schemata manage our behaviour, and that these schemata can be automatically activated to handle routine behaviour. The theory perceives subjective awareness to be an interpretation of the world, not a description of objective reality, and supports the idea that medically unexplained symptoms are subjectively real to the sufferer. The theory regards medically unexplained symptoms as alterations in perception due to an attention bias during selection and automatic processing of information triggering 'inappropriate' cognitive schemata. The theory also highlights body-focused attention as a plausible psychological defence when the normally effective self-regulatory system is overwhelmed, as in the case of trauma.

### **Stress and traumatic stress**

Lazarus & Folkman<sup>73</sup> defined stress as a relation between person and environment. An event is stressful to a person to the extent that the demands of the event are experienced as taxing or exceeding his/her resources and, thus, endangering his/her well-being. The individual's cognitive appraisals of the situation determine whether it is experienced as stressful or not. Stress is thus a balance between demands and a person's resources to handle these demands. In the events of every day life, we are usually able to handle stressful demands through our psychological and biological regulatory systems that strive for balance and stability (homeostasis). Allostasis, as proposed by McEwen,<sup>74</sup> is the process of achieving homeostasis through physiological or behavioural change, i.e. maintaining stability by adaptation. However, prolonged stress may cause disturbance in the system. Allostatic load is the term for the cumulative cost to the individual of going through repeated cycles of allostatis,<sup>75</sup> or, in other words, long-term activation of the stress-response.

Traumatic stress is linked to the experience of a traumatic event. Awareness of the role of (psychological) trauma for later development of psychological problems has existed throughout the centuries, although at times not embraced by psychiatry, according to van der Kolk in a review of the history of trauma in psychiatry.<sup>76</sup> Today, post-traumatic stress disorder (PTSD) is one of a very few diagnoses in the Diagnostic and Statistic Manual of Mental Disorders with a stated aetiology, i.e. exposure to a traumatic event which causes a response of intense fear, helplessness, or horror. However, not all people who have been exposed to a traumatic event develop PTSD. The accumulated research on PTSD has established an association between severity of the stressor and the development of PTSD, but severity does account only for a part of the variance in the development of PTSD.<sup>77</sup>

The A criterion for a PTSD diagnosis is that the traumatic experience caused intense fear, helplessness, or horror when it occurred. However, reactions of anger or shame during the traumatic event have also been found to be related to later PTSD symptoms.<sup>78,79</sup> After the traumatic event, negative cognitive appraisals of the cause of and responsibility for the event, as well as beliefs that the traumatic event has caused negative permanent changes in the self and in the possibility of achieving life goals, are associated with PTSD development.<sup>80,81</sup> Disclosure reactions have also been found to be important factors for development of PTSD after traumatic experiences.<sup>82,83</sup> Negative reactions on disclosure are stronger predictors of PTSD than lack of positive support.<sup>84</sup>

Changes in memory functioning is a central phenomenon in PTSD. Memories of personally experienced traumatic events are likely to be disorganized and contain gaps.<sup>85-87</sup> PTSD patients often show difficulties in retrieving autobiographical memories of specific incidents and increased recall of trauma-related matters. PTSD includes experiencing flashbacks of the traumatic experience. Flashbacks differ from normal autobiographical memory in their sensory details, by being fragmentary, involuntary and by being experienced as happening in the present instead of being a memory of the past.<sup>88</sup>

Theories on PTSD have set out from different psychological paradigms. The theories briefly mentioned here are based in a cognitive framework, broadly speaking. Horowitz<sup>89</sup> introduced a psychodynamically based social-cognitive theory proposing that traumatic events cause an initial strong reaction and then an attempt to assimilate the new information with prior knowledge. This might give rise to an information overload, where the individual will be unable to comprehend thoughts and memories of the traumatic event in relation to her/his prior conceptions of meaning. Defence mechanisms will then be used to avoid memories of the trauma. However, as there is a fundamental psychological need to reconcile new and old information, trauma memories will break into consciousness in the form of flashbacks. These flashbacks give the individual an opportunity to reconcile trauma memories with pre-trauma representations. Failure to process the trauma information leads to persistent posttraumatic reactions.

Janoff-Bulman<sup>45</sup> proposed that traumatic events may shatter the basic assumptions about how we believe the world and ourselves to be, jeopardizing the assumption of the benevolence and meaningfulness of the world and the assumption that the self is worthy. Bolton and Hill<sup>90</sup> proposed that traumatic events challenge a set of assumptions that a person needs to be able to act in the world: that the self is sufficiently competent to act, that the world is sufficiently predictable, and that the world provides sufficient satisfaction of needs. Another outlook was taken by Foa and Riggs,<sup>91</sup> who proposed that rigidly held beliefs, irrespective of them being negative or positive, are linked with more negative outcomes after traumatic events.

Cognitive theories of PTSD focusing on memory models propose that traumatic memories are represented in a fundamentally different way than ordinary memories. Brewin et al.<sup>92</sup> presented an interesting dual representation theory of traumatic

memories. In their model, two memory systems operate in parallel, but one takes precedence over the other at times. One system is verbally accessible (autobiographical memory) and one is automatically accessible through situational cues. The verbally accessible memory system contains narrative memories of a traumatic event. In this system the traumatic memory is integrated with other autobiographical memories and it can be deliberately retrieved when required. Here conscious evaluations of the traumatic event both at the time it happened and afterwards, are registered. The emotions accompanying these memories are both those experienced at the time of the traumatic event and emotions generated by retrospective cognitive appraisals of those events. The situationally accessible memory system is more image-based. It contains information from lower level perceptual processing of the traumatic situation, such as sight, smell and sound, and also bodily responses to the traumatic event. Flashbacks come from this system, triggered involuntarily by situational reminders of the traumatic event. Memories from this system, as they are not verbal, are difficult to communicate to others. The emotions that accompany these memories are restricted to those experienced during the traumatic event.

Ehlers and Clark<sup>93</sup> presented a cognitive theory where they drew attention to the interesting point that while anxiety in general is a result of appraisals of an impending threat, PTSD involves anxiety about the future although the traumatic event leading to PTSD already has happened. Ehlers and Clark suggested that traumatic events will give rise to PTSD when individuals process information from the event in a way that leads to a sense of current threat. The two main processes that produce this effect are negative appraisals of the traumatic event and/or its sequelae, and the nature of the traumatic memory itself and its link to other autobiographical memories. Their model emphasises the way in which stimuli are processed during trauma. Especially, they distinguish between data-driven processing (focusing on sensory impressions) and conceptual processing (focusing on meaning, organization and context). Conceptual processing facilitates integration of the trauma memory with autobiographical memories, whereas data-driven processing brings about perceptual priming and memories that are difficult to retrieve on an intentional basis.

### **What is deleterious about abuse?**

Abuse can have a huge range of effects depending on victim-specific, trauma-related and sociocultural variables and the complex interactions among them. A certain disorder or symptom cluster is not likely to capture the whole symptomatic experience of a given victim of abuse.<sup>2</sup> Abuse is related to ill-health in a complex manner of interacting behavioural, social, emotional and cognitive pathways, as pointed out by Kendall-Tackett.<sup>94</sup> Candib<sup>95</sup> has suggested that suffering after inflicted atrocities and abuse derive from memories of what happened, and argued that the suffering experienced is not adequately conveyed by diagnostic labels such as PTSD and somatization.

So what, then, is so detrimental about abuse? Abuse is a harm (although the perpetrator may erroneously assert that he/she believed it to be otherwise) that is

intentionally inflicted by another person. This can certainly cause a loss of trust in others and an impaired sense of positive expectations from the world at large. If the abusive act is committed by a person well-known and close to the victim, e.g. a family member such as a parent or an intimate partner, the consequences are likely to be more damaging. Scaer,<sup>96</sup> among others, has discussed the role of boundaries and boundary breaking in trauma. As individuals and through our individual experiences, all of us, to a greater or lesser extent, form a sense of safe boundaries around our selves. As a child, the caregivers help create and form the first safe boundaries, and (should) function as a safe haven for the child when unpleasant things happen. As adults, the boundaries are more firmly established and one can more easily handle unsafe situations by oneself, but significant others are still an important resource for upholding the sense of safety, especially in situations where one feels insecure, vulnerable or helpless. An abusive act inflicted by a significant other, a person who is one of the primary sources of safe boundary formation in the victim, is more likely to have devastating effects.

Quite a few theories of abuse have been developed from a childhood abuse perspective, and discuss outcome in terms of both short and long term consequences. Finkelhor & Browne<sup>97</sup> presented a traumagenic dynamics model based on clinical experiences with female victims of CSA. They described the effects of CSA as reactions to four traumagenic dynamics: traumatic sexualisation, where the child's sexual awareness is increased above her developmental level by the abusive act, shaping the sexuality of the child; betrayal, where someone who is supposed to protect the child has caused her harm, or not protected her enough from harm; powerlessness, where the experience of not being able to stop or avoid the abuse can lead to impaired coping skills, fear, and anxiety; stigmatization, where negative disclosure reactions, or the pressure of secrecy, may reinforce feelings of isolation, shame and guilt. van der Kolk & Fislser<sup>98</sup> emphasised that a central effect of child abuse is an impaired capacity to regulate the intensity of feelings and impulses. This dysregulation is associated with a spectrum of problems, ranging from learning disabilities to aggression against self and others. The self-trauma model (e.g. McCann and Pearlman,<sup>99</sup> Briere<sup>100</sup>) underlines that experiences are traumatic to the extent that they challenge the individual's core beliefs about the world and the self, i.e. the extent to which the experience challenges the ability of the individual to handle it through self-resources and self-capacities. With the development of research on abuse and PTSD, a PTSD reference framework has been used to understand consequences of abuse. However, there has been criticism against models based on a PTSD-perspective on account that they underestimate situational factors other than the traumatic event per se. Harvey<sup>101</sup> has presented an ecological perspective of psychological trauma and recovery which takes social and cultural aspects into account. Both trauma and recovery are viewed as multidimensional and multi-determined phenomena, based on three sets of mutually influential factors; person, event, and environmental factors. Harvey also has a multidimensional approach in the operational definition of recovery, including an emphasis on meaning-making.

The theoretical standpoints underlying this thesis are based on a perception of health as a multifaceted phenomenon, involving physiological, psychological, behavioural and social aspects. Essentially, a pragmatic view is adopted; health is viewed as being free from suffering and handicap. Abuse is viewed as an adverse experience with potential influence on health, including future social circumstances (thus, social variables are treated as dependent variables). The ecological model of psychological trauma (Harvey), with its consideration of complex interactions between person, event, and environmental factors, and with attention to the social and cultural context, is adopted as a general platform for understanding trauma and individual differences in posttraumatic response. Somatization is viewed within a psychological reference frame, although recognizing that the patient's experience of illness is primary. Moreover, a cognitive memory theory framework has been a guiding principle for a further understanding of PTSD.

# AIMS OF THE DISSERTATION

## General aims

- To estimate the lifetime prevalence of physical, sexual, and psychological abuse in a random population-based sample of women aged 18-60 years.
- To estimate current suffering thereof.
- To investigate associations between abuse and health problems, more specifically to study abuse related variables associated with somatization and PTSD, respectively.

## Research questions

1. What is the lifetime prevalence of physical, sexual, and psychological abuse in the female population aged 18-60 years? (Paper I)
2. What is the prevalence of current suffering from abusive experiences in the female population aged 18-60 years? (Paper II)
3. Are there health problems associated with low magnitude abuse? (Paper I)
4. Do social circumstances differ between abused women and non-abused women? (Paper I)
5. What is the relationship between current suffering from abusive experiences and present psychological health problems? (Paper II)
6. What is the relationship between different abuse variables and somatization? (Paper III)
7. What is the relationship between somatization and PTSD in abused women? (Paper IV)

# SHORT DESCRIPTION OF THE STUDIES

## Methods

### Definitions

Physical, sexual, and psychological abuse were operationalised according to the exemplifying questions in the two abuse questionnaires used (Abuse Screening Inventory and Abuse Inventory, see below). The concept “current suffering” was not operationalised by any other means than the straight forward question in the Abuse Screening Inventory. It was left to the individual woman to define whether she does suffer from the abuse she has experienced or not. Somatization was defined according to the Undifferentiated Somatoform Disorder in DSM-IV (Figure 1). In the present study, those who fulfilled the criteria for Undifferentiated Somatoform disorder are denominated as having a “USD-profile”. Posttraumatic stress was defined according to the Posttraumatic Stress Disorder in DSM-IV (Figure 2). In the present study, those who fulfilled the criteria for Posttraumatic Stress Disorder are denominated as having a “PTSD-profile”. We did not predefine the perpetrators, instead we asked about abusive experiences committed by anyone.

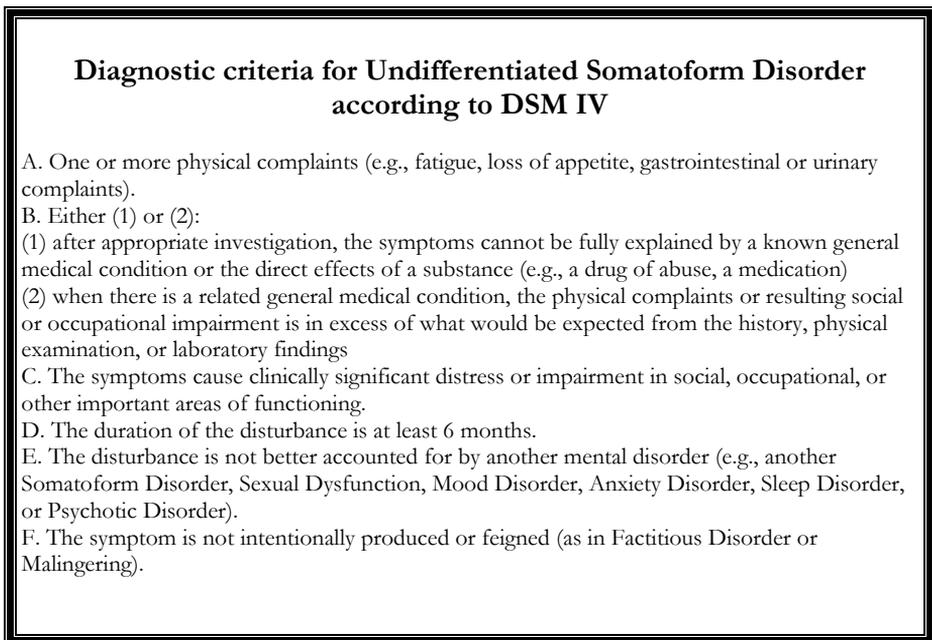


Figure 1. Diagnostic criteria for Undifferentiated Somatoform Disorder according to DSM IV.

## Design

A non-experimental cross-sectional design was employed, using retrospective data about abuse and self-reported current data on health. The study was performed in two steps. Step 1 consisted of a population-based random sample of women aged 18-60 years, from the population register in the county of Östergötland (Papers I and II). Step 2 was composed of a random sub-sample of the women who participated in Step 1 (Papers III and IV).

**Diagnostic criteria for Post Traumatic Stress Disorder (PTSD) according to DSM IV**

**A. The person has been exposed to a traumatic event in which both of the following were present:**

- (1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.
- (2) the person's response involved intense fear, helplessness, or horror.

**B. The traumatic event is persistently re-experienced in one (or more) of the following ways:**

- (1) recurrent and intrusive distressing recollections of the event, including images, thoughts, and/or perceptions.
- (2) recurrent distressing dreams of the event.
- (3) acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and/or dissociative flashback episodes, including those that occur on awakening or when intoxicated).
- (4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
- (5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

**C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by at least three of the following:**

- (1) efforts to avoid thoughts, feelings, and/or conversations associated with the trauma
- (2) efforts to avoid activities, places, and/or people that arouse recollections of the trauma.
- (3) inability to recall an important aspect of the trauma
- (4) markedly diminished interest or participation in significant activities
- (5) feeling of detachment or estrangement from others
- (6) restricted range of affect (*e.g.*, inability to have loving feelings)
- (7) sense of a foreshortened future (*e.g.*, does not expect to have a career, marriage, children, or a normal life span)

**D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by at least two of the following:**

- (1) difficulty falling or staying asleep
- (2) irritability or outbursts of anger
- (3) difficulty concentrating
- (4) hypervigilance
- (5) exaggerated startle response

**E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than one (1) month**

**F. The disturbance causes clinically significant distress and/or impairment in social, occupational, and/or other important areas of functioning.**

Specify if:

**Acute:** Duration of symptoms is less than three (3) months

**Chronic:** Duration of symptoms is more than three (3) months

**Delayed Onset:** Onset of symptoms is at least six (6) months after the incident

Figure 2. Diagnostic criteria for Post Traumatic Stress Disorder according to DSM IV.

## Participants and procedure

In Step 1 (Papers I and II), 6000 women aged 18-60 years, selected at random from the population register in the county of Östergötland, were sent the Abuse Screening Inventory (ASI) by post together with an information letter. Two reminders were sent to non-responders. Exclusion criteria were not being able to read or understand written Swedish; 58 women were excluded on this account. Of the 6000 women, 46 were reported as living abroad and could therefore not participate. Thus, 5896 women were eligible for the study, of whom 4150 completed the questionnaire (response rate 70%).

Table 1. Overview of the papers included in the present thesis.

Paper	Subjects	Measures
I	A random population-based sample of women (n=4150)	- Prevalence and magnitude of abuse - Health problems - Social variables (Abuse Screening Inventory – ASI)
II	Same sample as above	- Prevalence of suffering of abuse - Health problems - Social variables (Abuse Screening Inventory – ASI)
III	A random sub-sample from the sample in paper I (n=547)	- Abuse mode and severity (Abuse Inventory – AI) - Somatization (SOMAT)
IV	The women reporting abuse in the sub-sample from paper III (n=213)	- Abuse mode and severity (Abuse Inventory – AI) - Somatization (SOMAT) - Posttraumatic stress (Traumatic Event Scale - TES) - Health care contacts (Questionnaire about health)

In Step 2 (Paper III), 800 women, 400 reporting abuse and 400 reporting no abuse, from Step 1 were selected at random and sent new thorough questionnaires. In all, 4 questionnaires were used in Step 2: The Abuse Inventory (AI), the Traumatic Event Scale (TES), the SOMAT, and a Questionnaire about health. Eligible for the study were 781 women (19 had moved without providing a new address), and 547 participated, which gave an overall response rate of 70%. Table 1 shows an

overview of the papers with the samples and the questionnaires used in the different steps.

### **Non-responders**

In Step 1 of the study, the women were given the opportunity to actively respond (by returning a “non-participation” paper) that they did not want to take part in the study. When doing so, it was possible to indicate why they did not want to participate. 773 women did respond in this way. No interest in participating in studies was the most common reason, given by 508 of the women. 206 women gave no reason for not wanting to participate, and 59 women answered that the questions asked made them feel uncomfortable.

In Step 2 of the study we were able to perform an analysis of non-responders, using the data from step 1. No differences were found in reported physical, sexual and/or psychological abuse between the two groups. The only significant difference between abused participants and abused non-responders was that the participants were university graduates more often than the non-responders (OR=1.74, 95% CI:1.02 – 2.94,  $p=.04$ , see Paper III).

### **Measures**

Abuse Screening Inventory (ASI)<sup>102</sup>

The ASI has been validated for screening of lifetime prevalence of sexual, physical and psychological abuse (ref). The questionnaire includes one question for each of the three kinds of abuse, expressed in an exemplifying form: “*Has anybody ever hit you, or bitten you, or tried to strangle you, or thrown objects at you so that you were very frightened?*”; “*Has anybody ever had sex with you against your will or forced you to witness others having sex?*”; “*Has anybody ever systematically and for a sustained period verbally tried to threaten, humiliate, repress, or frighten you, or tried to make you feel worthless or unwanted?*”. The answering alternatives are: “No”, “Yes, once or a few times” or “Yes, many times”. For psychological abuse the answering alternatives are: “No”, “Yes, for a single period” or “Yes, for many periods”. Abuse was defined as answering “yes” to one or more of the three abuse questions. If answering “yes” to any of the abuse questions, one is asked to estimate, based on what was perceived as the worst experience, to what extent one is currently suffering from the abusive experience on an 11-point scale (0=no suffering, 10=severe suffering). Magnitude of abuse was defined and quantified as follows: One kind of abuse low-magnitude: answering “yes, a few times or a single period” to one of the three abuse questions; One kind of abuse high-magnitude: answering “yes, many times” to one of the three abuse questions; Two kinds of abuse low-magnitude: answering “yes, a few times or a single period” to two of the three abuse questions; Two kinds of abuse high-magnitude: answering “yes” to two of the abuse questions, at least one of which “yes, many times”; Three kinds of abuse low-magnitude: answering “yes, a few times or a single period” to all three abuse questions; Three kinds of abuse high-magnitude: answering “yes” to all three abuse questions, at least one of which “yes, many times”. The questionnaire also includes questions about education, employment, cohabitation status and number of children. Moreover, the ASI comprises questions about personal health during the past 12 months, such as having medically unexplained physical symptom

complaints or suffering from anxiety, depression and sleep disturbances. The answers to these questions were dichotomized into yes/no, thereby defining health outcome and social variables. Education was dichotomized into university/no university education and employment into professionally employed or not. Professional employment also included studies and parental leave. Not employed included unemployment, disability pension, long-term sick leave and social welfare.

#### Abuse Inventory (AI)

The AI has been developed for step 2 of this study and comprises detailed questions about physical, sexual and psychological abuse. The questions cover lifetime abuse, and are expressed in an exemplifying form: “Have you experienced one or more of the following situations”, and then examples are given. The 5 questions about physical abuse (ranging from being drugged to being physically violated with a weapon) and 11 about sexual abuse (ranging from exhibition to forced intercourse) have 5 answering alternatives: “no”, “yes, once”, “yes, twice”, “yes, 3 to 9 times”, and “yes, 10 times or more”. The 12 questions about psychological abuse (ranging from being told that one is worthless to being neglected basic needs and being threatened with violence) can be answered with: “no”, “yes, over six months”, “yes, over a year”, “yes, over two years”, and “yes, over more than two years”. A sum score of abusive experiences can be calculated, including the answers on the 5 physical abuse questions, on the 11 questions about sexual abuse, and on the 12 psychological abuse questions. The answering alternatives are graded from 0 – 4 points, which adds up to a maximum sum score of 112. The sum score constitutes our measure of total magnitude of abuse. The exemplifying questions on abuse are followed by a question about any other experience(s) that the respondent may have had and which she herself defines as abusive. There is also a question on whether the respondent herself considers the reported experience(s) abusive. The AI includes questions for each kind of abuse, on the number of perpetrators, age period of abusive experiences, relation to perpetrator, having told anyone about the abuse (disclosure), having reported the abuse to the police, and having seen professional caregivers because of abuse-related problems. *Sexual abuse mode* was subsequently defined by us, in order of severity, as “penetration”: forced or attempted forced intercourse; “contact”: having been touched genitally against one’s will, or having been forced to touch someone else’s genitals; and “non-contact”: e.g. forced to watch others masturbate or having sex, forced to show oneself naked in front of others, or to masturbate in front of others, or forced to watch pornography. *Physical abuse magnitude* was subsequently defined as “low magnitude”: having been physically abused once or twice; “high magnitude”: having been physically abused three times or more. *Psychological abuse duration* was subsequently defined as “limited duration”: having been psychologically abused during a period of six months to two years; “prolonged duration”: having been psychologically abused for a period longer than two years. During the construction of the AI, the questionnaire was read and examined by other researchers in the field and by a number of former patients treated for sequelae of sexual abuse. These people’s comments were taken into account in the final composition of the AI.

## SOMAT

SOMAT was developed for step 2 of this study in accordance with the DSM IV criteria for the Somatization Disorder and comprises all the DSM IV criteria of Somatization Disorder. SOMAT assesses the occurrence of somatization symptoms, Somatization Disorder ('SD profile') and Undifferentiated Somatoform Disorder ('USD profile'). SOMAT comprises 44 symptom items (divided into pain symptoms, gastrointestinal symptoms, pseudoneurological symptoms, and sexual symptoms). Each item has four response alternatives: 0="never", 1="sometimes", 2="often" and 3="very often". The answers "often" and "very often" are counted as symptoms. To fulfil the symptom criteria for Somatization Disorder, one has to report four pain symptoms, two gastrointestinal symptoms, one pseudoneurological symptom, and one sexual symptom. The other criteria questions for Somatization Disorder (starting before age 30; physical complaints lasting several years; having sought treatment, or symptoms have substantially impaired social, work or personal functioning; no clear medical explanation of symptoms; in case of a general medical condition, impairment exceeding what would be expected) have "yes/no" as response alternatives. The DSM IV criteria for Undifferentiated Somatoform Disorder (having at least one medically unexplained symptom which has lasted six months or longer, and for which one has sought treatment, or the symptom has substantially impaired social, work or personal functioning) are assessed via the same questions. Finally, a sum score of the symptom items in the SOMAT can be established, with a minimum score of 0 and a maximum sum score of 132 (the response alternatives are graded from 0 – 3 points).

## Traumatic Event Scale (TES)<sup>103</sup>

The Traumatic Event Scale (TES) was developed in accordance with DSM-IV criteria for the PTSD syndrome and comprises all the DSM-IV symptoms and criteria of PTSD. The 17 PTSD symptom questions can be answered 'never/not at all', 'rarely', 'sometimes' or 'often'. The answers 'sometimes' and 'often' are counted as symptoms. After that, the responder is asked to mark how much she is influenced in her daily life by means of the symptoms questions' content (criterion F) on a scale from 0-10 ("not at all" to "extremely influenced"). In the present study criterion F was considered to be met if subjects had marked >5. The duration of symptoms (criterion E) is assessed by means of a 13-point scale, ranging from "less than four weeks" to "more than 12 months". TES assesses occurrence of PTSD as well as PTSD symptoms. To assess occurrence of PTSD symptoms, a sum score of the symptom items in the TES is calculated, with a minimum score of 0 and a maximum score of 51.

## Questionnaire about health

The questionnaire concerning health was developed for step 2 of this study and contains questions about general health and contacts with the health care system, all referring to the situation during the previous 12 months. The respondents are asked whether they have been ill (any kind of illness) or on sick-leave for any number of days, have had primary health care contacts for physical or psychological problems, and whether they have been treated at a somatic or psychiatric ward. The respondents also rate their general health, on a scale from 0 to 100% (0%=not

healthy at all, not functioning at all; 100%= full health, fully functioning), as well as their physical and psychological health separately, and their social interaction with others (0%= not functioning at all; 100%= fully functioning).

### **Ethical considerations**

Major ethical concerns involved the integrity of the participants, and how to ask questions about adverse life experiences without risk causing emotional harm. In order to lessen potential harm, all participants were given detailed information about the procedure of the study when they were invited to participate, and participation was confidential. Contact details of the study co-ordinator as well as information on where to apply for help if needed were provided. Filling out and returning the questionnaire(s) were regarded as informed consent.

## **Results**

### **Prevalence of abuse** (sample from Step 1)

1142 women (27.5%) reported a history of abuse of any kind. The prevalence of lifetime physical abuse was 19.4%, for lifetime sexual abuse, it was 9.2% and for lifetime psychological abuse, 18.2%. Younger women reported more abuse than older women, except for sexual abuse which was reported to the same extent in all age groups. Of these 1142 abused women, 42.5% reported one kind of abuse low-magnitude, 21% reported two kinds of abuse low-magnitude, 6.5% reported three kinds of abuse low-magnitude, 5.8% reported one kind of abuse high magnitude, 12% reported two kinds of abuse high-magnitude, and 12.2% reported three kinds of abuse high-magnitude (Paper I).

### **Prevalence of current suffering** (sample from Step 1)

Of the 1142 women reporting abuse in the population based sample from step 1, 794 women (69.5%) reported current suffering from their abusive experiences, and 290 women (25.4%) reported current non-suffering (internal dropout was 58 subjects, 5.1% of the abused women). When comparing kinds and combinations of abuse, the different abuse groups reported current suffering more often than they reported non-suffering, with exception for the physical abuse only group of whom 40% reported current suffering. Generally, women who were abused on several occasions, or had experienced more than one kind of abuse, reported suffering more often than women abused on a single or a few occasions, i.e., the more abuse, the more suffering. (Paper II).

### **Current suffering and health** (sample from Step 1)

Current suffering corresponded roughly with the investigated psychological problems (anxiety, depression, sleep disturbances, and medically unexplained symptoms). 69.6% of the abused suffering (AS) women and 40.3% of the abused non-suffering (ANS) women reported one or more of the psychological problems investigated. Among the non-abused (NA) women, 27.1% reported one or more of the investigated psychological problems. The AS women reported more problems than the ANS women, except for medically unexplained physical symptoms. The AS

women were single more often than the ANS and the NA women. Both the AS and ANS women had been less professionally occupied during the last twelve months than the NA women, and the AS women less professionally occupied than the ANS women (Paper II).

### **Health characteristics** (sample from Step 1)

The abused women reported more ill-health than the non-abused women. High-magnitude abuse was generally associated with more health problems than low-magnitude abuse, and low-magnitude abuse in turn was associated with more health problems than no abuse. Anxiety was strongly associated with reporting high-magnitude of abuse, regardless of number of different abusive experiences.

Depression and sleep disturbances increased with both magnitude and number of abusive experiences, whereas having medically unexplained physical symptoms was reported much to the same extent regardless of magnitude and number of abusive experiences (Paper I).

### **Social circumstances** (sample from Step 1)

The abused women reported a less advantageous social situation than the non-abused women. High-magnitude abuse and greater number of abusive experiences were strongly associated with not having been professionally employed during the previous year. Abuse, regardless of magnitude and number of abusive experiences, was associated with being single more often compared with no abuse. There were more single mothers among the abused women than among the non-abused women (Paper I).

### **Disclosure** (sample from Step 2)

Of the abused women, a great majority had not reported the abusive event(s) to the police. Only 25.8% of the physically abused, 5.8% of the sexually abused, and 13.4% of the psychologically abused women had made a police report. Most of the abused women had personally considered the event(s) to be abuse. However, 19.2% of the sexually abused women had not done so. Disclosure of the abuse also differed somewhat between the three kinds of abuse. One third (33.3%) of the sexually abused women had not disclosed the abusive experience to anyone (anonymously answering the questionnaires in this study was the first time they acknowledged to anyone that the abuse had happened). 8.4% of the physically abused women and 12.8% of the psychologically abused women had not told anyone about their abusive experience(s) (before answering the study questionnaires). Half of the psychologically abused women had sought professional help for abuse-related problems, whereas only 36% of the physically abused women and 19.2% of the sexually abused women had done so (Paper III).

### **Somatization and PTSD** (sample from Step 2)

39 women (18.3%) fulfilled the criteria for a PTSD-profile and 74 women (34.7%) fulfilled the criteria for somatization as measured by Undifferentiated Somatoform Disorder (USD-profile). Of these women, 11 (5.2%) fulfilled the criteria for both a PTSD-profile and a USD-profile (Paper IV).

When comparing abused women with and without somatization, somatization was associated with psychological abuse, with contact and non-contact sexual abuse, and with abuse in adulthood as well as abuse in both childhood and adulthood (Paper III).

Somatization and PTSD were separately reported phenomena in abused women. PTSD was associated with higher total magnitude of abuse and a higher total number of perpetrators compared with the women reporting somatization. The abused women with PTSD had had more out-patient contacts for psychological problems and they had sought professional help for abuse related problems more often than the abused women with somatization. Sexual abuse was more likely than physical and psychological abuse to be dubbed as ‘not abuse’ by the woman experiencing the act, and that, in turn, was associated with somatization (Paper IV).

### Additional results

Health (sample from Step 2)

Abused women had been on sick-leave for, on average, 9.8 weeks during the previous year whereas the non-abused women had an average of 2.2 weeks of sick leave during the same time (Student’s T-test,  $p < .001$ ).

Table 2. Comparisons between abused somatising women (n=76) and non-abused somatising women (n=45) of reported health during the past 12 months\*

Reported health	Non-abused women with somatization n (%)	Abused women with somatization n (%)	Pearson Chi2 (p-value)
Illness past 12 months			
no	17 (38.6)	16 (21.6)	3.965
yes	27 (61.4)	58 (78.4)	(.046)
Out-patient health care contact for physical problems past 12 months			
no	10 (22.2)	13 (17.1)	n.s.
yes	35 (77.8)	63 (82.9)	
Out-patient health care contact for psychiatric problems past 12 months			
no	38 (84.4)	52 (68.4)	3.808
yes	7 (15.6)	24 (31.6)	(.051)
Stay at somatic ward some period during past 12 months			
no	28 (62.2)	28 (36.8)	7.323
yes	17 (37.8)	48 (63.2)	(.007)
Stay at psychiatric ward some period during past 12 months			
no	42 (93.3)	73 (96)	--
yes	0	0	
Sick-leave some period during past 12 months			
no	22 (52.4)	17 (23.9)	9.442
yes	20 (47.6)	54 (76.1)	(.002)

\* Differences in n in the reported variables due to internal drop-out.

Abuse, somatization and health (sample from Step 2)

We compared health care contacts, illness, sick-leave and self-rated health between abused and non-abused women with somatization. The abused women with somatization reported a stay at a somatic ward and out-patient health care contacts for psychological problems more often than the non-abused women with somatization. They also reported illness and sick leave during the previous 12 months more often than the non-abused somatizing women (Table 2). The abused somatizing women rated their general health on the health questionnaire substantially lower than the non-abused somatizing women; 26.8% of the abused and 48.7% of the non-abused somatizing women rated their general health as very good (Pearson Chi2=5.367, p=.021).

PTSD, somatization and suffering (sample from Step 2)

We compared reported suffering between the four outcome groups. The abused women with PTSD and the abused women with both PTSD and somatization reported more suffering from the abuse than the abused women with somatization and the abused women with neither PTSD nor somatization (Table 3).

Table 3. Associations between abuse magnitude (sumscores on the AI) and presently reported somatization (USD) and PTSD among a sample of 213 women with abusive experiences.

	Neither USD- nor PTSD- profile (N)		USD- profile (S)	PTSD- profile (P)	USD- and PTSD-profile (SP)	ANOVA	
	Mean	(SD)	Mean (SD)	Mean (SD)	Mean (SD)	F	Tukey's HSD
N	111		63	28	11		
Sumscores AI	23.5	(19.3)	27.1 (20.8)	41.8 (26.5)	38.2 (18)	6.81***	N=S<P=SP

\*\*\* p<.001

# GENERAL DISCUSSION

## Prevalence, magnitude and health

Our studies showed a high lifetime prevalence of abuse of women in a random sample from the Swedish population. The abused women, even those reporting one kind of abusive experience with low-magnitude, reported a substantially higher occurrence of the investigated health problems than the non-abused women. These findings underline that abuse is related with important health problems. It also points out that women with low-magnitude experiences of abuse are not to be neglected. Besides the fact that they report more health problems than non-abused women, one must also consider the risk of revictimization, and with that the risk of a downward negative health spiral.

Generally speaking, our findings say that the more abuse a woman experiences, the more health problems she will experience, with the exception of somatization (medically unexplained physical symptoms) which was reported almost to the same extent regardless of magnitude of reported abuse. Our finding, that magnitude of abuse is associated with health problems, is in line with the accumulated research body on abuse.<sup>104-108</sup> However, as the results are based on statistical associations on group level, one must be cautious when making conclusions about individuals. Resilience factors such as social support and positive intercurrent life events have been shown to moderate the influence of abuse severity,<sup>109</sup> and it has been argued that the availability of resources, especially social support, might be more important for health outcome in adult female victims of CSA than the quantity of risk factors.<sup>110</sup> Also, one must be cautious not to suggest that high magnitude abuse inevitably will cause permanent negative health outcomes, as this may act as a negative self-fulfilling prophecy for the victim and lead her to assume that she is in some way permanently “damaged”.

A previous Swedish population-based study by Swahnberg et al.,<sup>15</sup> reporting on lifetime prevalence of physical, sexual, and psychological abuse among women, used a comprehensive study questionnaire. In an attempt to reduce drop-outs, we decided to use a global screening questionnaire with only one question per kind of abuse in the present study (Step 1). Interestingly, the result signals a “response rate versus prevalence rate transaction”. The Swahnberg et al. study had a response rate of 61% and they found prevalence rates of 36.4% for physical abuse, 16.9% for sexual abuse, and 21.4% for psychological abuse, whereas we had a 70% response rate and prevalence rates of 19.4%, 9.2%, and 18.2%, respectively, for the three kinds of abuse. Except for being more conservative, the prevalence rates of physical, sexual, and psychological abuse found in this study are in line with the Swahnberg et al. study. Thus, one can conclude that comprehensive questionnaires are valid when studying prevalence of abuse, probably largely due to the fact that such questionnaires offer more opportunities to reveal experiences of abuse, as has been pointed out by other researchers.<sup>14</sup> However, the question of the number of unrecorded cases still remains.

## Current suffering and health

The majority of the abused women, 69.5%, reported that they currently suffer from their abusive experiences, which is a notably high number as we investigated life-time prevalence of abuse. Roughly, the more abuse experienced, the more often suffering was reported. We found a positive correlation between suffering and recent psychological health problems. However, 30% of the abused suffering women reported none of the psychological problems investigated. So, what does the concept “suffering” stand for? We believe that the concept does have a clear meaning to the suffering individual, but in order to be able to operationalise the concept, qualitative studies of the perception and meaning of suffering to those with abusive experiences are necessary. We need to investigate to what extent suffering is associated with cognitive, affective and/or behavioural effects, and how physical injury affects self-reported suffering after abusive experiences.

Women with experiences of psychological or sexual abuse reported suffering more often than women with experiences of physical abuse. This does raise some interesting questions: Is physical abuse less harmful or easier to recover from than sexual and psychological abuse? If easier to recover from, is that due to easier access to health care help and treatment? Are physically abused women more readily recognized as victims of violence? As the physically abused women reporting non-suffering mainly had experienced abuse on a single or a few occasions, it might be a perpetrator-related question. Women abused by someone closely related are more likely to suffer than women victimized by an unknown perpetrator. To gain further insights into these questions, more studies on the recovery process after different kinds of abusive experiences are needed.

## Estimation of adverse effects of abuse

The fact that self-reported current suffering from abusive experiences was associated with reporting psychological health problems might suggest that suffering could be used as a rough estimate of the number of women adversely affected by abusive experiences. However, as stated above, more research into the meaning of the concept is needed. Also, suffering did not comprise all women with abuse associated health problems, especially not those with somatization. If suffering was to be used as a screening measure of adverse effects of abuse, one would overlook these women. In the long run that would be likely to lead to confirmation of somatization symptoms in abused women with somatization.

As stated above, magnitude of abuse is associated with adverse outcomes, i.e. the more abuse the more health problems. Thus one could say that magnitude of abuse is a rough indicator of adverse outcomes that could be used as guidance on a group level, for example when planning and allocating treatment resources. However, on an individual level there is too much variability and, thus, in the individual case, magnitude of abuse is by itself not a viable predictor of outcome. Also, for the abused individual, an “objective” measure of magnitude of abuse is not the most

relevant issue. The decisive point is the individual's own experience of the abuse, and the personal suffering and other adverse consequences linked to the experience. It is also important to notice that even non-suffering and low-magnitude abuse were associated with health problems. Thus, it would be precarious to exclude these women when calculating the number of women with adverse effects of abuse and, consequently, when estimating potential need for health care in this group.

## Social situation

The high number of “not professionally employed” women (i.e. women who are unemployed, on long-term sick-leave, receiving disability pension, or living on social welfare) in the abuse group is noteworthy, not to say alarming. It indicates societal costs, personal costs of both financial and social nature, as well as much individual suffering on a cognitive and emotional level. It also suggests that abuse may have complex, far-reaching consequences.

We found a high number of single women and single mothers in the abuse group. Being single is not intrinsically a negative social circumstance, but it could, at times when the life situation is difficult, be considered a more vulnerable position. Having an intimate relationship is generally considered to be health promoting. An intimate partner is also, generally, a strong source of support ensuring a sense of safety during troubled times. Thus, the psychological consequences of abuse (such as distrust in others and low self-esteem) might, in turn, cause further vulnerability (such as isolation and lack of social support).

## Disclosure

A substantial number of the abused women from Step 2 in our study (Paper III) had not sought help for abuse related problems, and quite a few of them had never told anybody about their abusive experiences. Even fewer had made a police report. This is in accordance with earlier findings,<sup>111,112</sup> and with findings from studies of disclosure in the health care system. Wijma et al.,<sup>113</sup> for example, found that abused women rarely disclose their abusive experiences to their gynaecologist, and they were also rarely asked. It points out a significant problem. As it is known that prompt attention and treatment, non-judgemental reception from the surrounding society and social support are important factors for recovery after a traumatic experience,<sup>114</sup> it is dismaying that so few women are able to talk about their experiences, and thereby rarely given the opportunity to report and/or seek help after abusive experiences. In fact, for women with CSA experiences, (adult) disclosure characteristics have been found to be more prominently related to health than sexual abuse characteristics.<sup>82,83</sup> Thus, it is an urgent matter to facilitate disclosure, and by doing so make help-seeking a possible option, for abuse victims.

## Sexual abuse

Looking at the three kinds of abuse, sexual abuse tends to differ somewhat from the other two kinds of abuse. Physical and psychological abuse were reported more often among the younger women than among the older, whereas sexual abuse was reported to the same extent in all age groups (Paper I). In Step 2 of the study, one third of the sexually abused women had not previously disclosed the abuse to anyone, and one fifth had not personally described the event as abuse. One fifth had sought professional help for abuse-related problems, and just over one in twenty had reported the abuse to the police (Paper III). These numbers did stand out, although the figures for physical and psychological abuse were disheartening as well. So, what is different with sexual abuse? Sexual acts, in contradiction to acts of physical violence or psychological maltreatment, are in themselves positive and pleasurable and sexuality is an important and multifaceted aspect of a person's life. It can, however, be misused and abused. Sexual abuse is generally condemned, but, as the phenomenon makes people uncomfortable, the occurrence is often condoned and the readiness to talk about sexual abuse is weak.<sup>115</sup> Sexual abuse is a gross violation of integrity. For many, the experience will give rise to feelings of shame, which has been linked to poor adjustment<sup>116</sup> and slower recovery.<sup>78</sup> Issues about responsibility and cultural views of sexuality and sexual behaviour might cause feelings of guilt, which will influence the abused woman's understanding of the abusive event, and, thus, her view of herself and her possibilities to seek and receive treatment for adverse consequences.

The majority of the sexually abused women in Step 2 of the study (Paper III) had experienced penetrative sexual abuse, a considerably larger number than in the study by Swahnberg et al.<sup>15</sup> An explanation of our higher number might be the fact that 'it takes time to tell'. As discussed above, the study by Swahnberg et al. used a comprehensive questionnaire which does offer more opportunities to reveal experiences of abuse. The more questions asked, the more likely an abused woman is to disclose her abusive experience. However, the abused women in Step 2 of our study had 4-6 months earlier already, by answering our screening questionnaire disclosed at least one abusive experience. Arguably, a questionnaire on abuse could be seen as a form of intervention (for an abused woman), initiating a response of some kind and a processing of that response reaction. Thus, it might have been easier for the women in Step 2 of the study to disclose more severe abusive acts than for women answering a questionnaire on abuse for the first time.

## Somatization

We studied somatization of a "low-magnitude", i.e. we defined somatization according to the Undifferentiated Somatoform Disorder (DSM-IV); at least one medically unexplained symptom lasting at least 6 months and for which one has sought treatment, or the symptom has substantially impaired social-, work- or personal functioning. This was done in order to broaden the research on abuse and somatization, as previous research has mainly focused on Somatization Disorder, or

on specific unexplained somatic problems such as irritable bowel syndrome or chronic pelvic pain. Also, it has recently been argued that research on somatization has focused too much on symptom count and on the content of the complaint, at the expense of the form of the complaint.<sup>117</sup>

Our results indicate that somatization is associated mainly with abuse in adulthood and with abuse of a lower magnitude (Papers III and IV), and that other factors than magnitude of abuse, such as whether the abused woman herself perceives her experience as abuse, seem to be more decisive for developing somatization in abused women (Paper III), and that PTSD is not a necessary mediator between abuse and somatization (Paper IV). In fact, somatization stood out through the whole study, as medically unexplained physical symptoms were reported much to the same extent among abused women regardless of magnitude of abusive experiences (Paper I) and current suffering from abusive experiences (Paper II). Our results conflict somewhat with previous research, which, although inconsistent in results, has found somatization to be associated with severity of abuse and with childhood abuse.<sup>36-38,118</sup> As argued in paper III, different ways of defining somatization and varying definitions of abuse have been used in different clinical and non-clinical samples, which perhaps would render comparisons meaningless to make. Also, there might be multiple possible aetiologies of somatization. I would like to underline that what is discussed here is one way of trying to understand how somatization symptoms can arise in women reporting low-magnitude abuse. We argue (Papers III and IV) that factors such as ambiguous feelings towards the event, non-supportive reactions from others, and whether the abused woman herself perceives her experience as abuse are likely to influence the development of somatization. Ambiguous feelings towards the traumatic event and non-supportive reactions from others would make identification and verbal expression of emotional states difficult, and would also affect the way the event is perceived by the abused woman, which in turn would further act on the possible development of somatization. Of course, this process would also be influenced by personal psychological characteristics, such as an individual's general propensity to suppress emotions and difficulty in identifying feelings. Harvey's ecological view of trauma recovery<sup>101</sup> includes meaning-making of the traumatic event as an important (last) step in the recovery process. If the abuse is not recognized as such, but nevertheless causing distress, making meaning of the event for oneself does not seem possible. Nevertheless, in other cases it could well be that grave abusive experiences are so overwhelming that, even if clearly apprehended as abusive by the victim and met with supportive reactions from others, the reactions are psychologically very difficult to handle and therefore somatization symptoms will occur.

## Abuse, somatization, and posttraumatic stress

Traumatic events disturb our psychological functions so that we cannot react adequately. Memory function and attention are harmed, which among other things affect subsequent processing of the symptoms. In some individuals these symptoms are temporary, but in others the problems last longer and might develop into PTSD,

somatization, depression and other trauma related health outcomes. Often the problems are intermingled. Van der Kolk et al.<sup>119</sup> pointed out that it is an exception rather than a rule for PTSD to occur without other symptoms. In the present study (Paper IV), PTSD and somatization were found to be separately reported phenomena in abused women. This does not imply that PTSD and somatization were the only health problems experienced by the women in the study, merely that they were the two problems investigated. Nevertheless, these findings are interesting and raise further questions as well as theoretical considerations. We found that abused women with PTSD reported a higher total magnitude of abuse and a higher number of perpetrators than women with somatization (Paper IV). The working hypothesis (presented in Paper IV) was that PTSD and somatization are both secondary to a primary trauma reaction. As proposed by many researchers,<sup>120,121</sup> individual and situational as well as social and cultural variables are likely to influence the outcomes of any traumatic experience. Our own appraisals of the situation and the (supportive) views of other people are important parts of the resources available for us to handle a stressful event.<sup>73</sup> The meaning (or meaninglessness) that a potentially traumatic event has for the person experiencing it is here assumed to be an important factor lending the event its causal ability to give rise to lasting adverse health effects. This is reasoned by analogy with, for example, how unemployment can cause depression in some people but not in others. The apprehension of the traumatic event is likely to be of importance for development towards either PTSD or somatization. As stated above, this process is influenced by personal appraisals as well as the reaction of important others on that event, and general views in society regarding such events. In trying to understand our findings from study IV, our assumption is that a traumatic event can (depending on the interplay between person, event, and environment) be experienced either as a clearly uncomfortable event, frightening and/or shameful; or as an event that is indeed uncomfortable but more vaguely so, with ambiguous feelings about the situation. We speculate that, in the first scenario one is likely to have a clearer idea of what happened (e.g. “I experienced something very frightening”, “I was involved in an experience that made me feel very ashamed”), whereas in the second scenario the idea of what happened is more blurred, “blurring” the uncomfortable feelings as well. However, a normal reaction to distress whether one has a clear picture of the distressing event or not, is to try to avoid the distress. Presumably, the first scenario would involve avoiding disturbing thoughts and emotions about what happened, whereas in the second scenario avoidance of emotions would be the foremost strategy as the event itself (and thoughts thereof) might not be clearly linked to the uncomfortable feelings. As suppression of emotional expression has been shown to be associated with increased physiological arousal,<sup>122</sup> it is likely that avoidance of emotions will bring about increased focus on bodily reactions. It is here proposed that the first scenario is more likely to lead to PTSD with painful memories reappearing as intrusions, whereas the second scenario is more likely to lead to somatization through narrowing of attention towards bodily reactions and somatic symptoms. Also, if the event goes unnoticed by others or is seen as “not bad”, “nothing to talk about”, the victim is likely to doubt her experience and even more avoid linking uncomfortable feelings to the event (which supposedly is more likely in the second scenario). Thus, we suggest that abuse can be directly associated with

somatization, without the mediation of PTSD. If the body and its reactions are the focus of attention during and after a traumatic event, it might be that information from the event is processed in a way that could lead the individual to experience a continuously ongoing threat of physical disease. Theoretically one might presume that the kind of scenario sketched leading to somatization will be encoded in the “situationally accessible memory”, to use Brewin’s terminology,<sup>92</sup> mainly as sensory impressions in the form of bodily responses. Hence, if intrusive memories appear, they are then more likely to be experienced as bodily discomfort only.

## Methodological issues

The analyses in this thesis are based on cross-sectional data, which means that one can study associations; cause and effect relations may only be hypothesised. We tried to reduce shortcomings in the temporality criterion of causality somewhat in our study by investigating health-problems during the previous 12 months only (Papers I and II). However, we cannot thereby establish the time sequence for onset of abuse and health problems respectively. Also, it is a logical error to believe that simply because one thing happened after another, the first event caused the second event. On the other hand, the associations found between abuse and ill-health are strong, and consistent with previous research, giving support for a hypothesis of causality according to the epidemiological causality criteria of strength and consistency.<sup>123</sup>

As our data on abuse are retrospective and based on self-reports, the prevalence rates might be affected by recall bias. Childhood abuse is generally under-reported in adulthood,<sup>14</sup> probably due to amnesia, denial, shame or fear.<sup>7,9</sup> Over-reporting is not known to be a problem in research on violence.<sup>14</sup> Thus, and considering the fact that we used a screening questionnaire, our estimates of prevalence of abuse are to be considered as conservative.

In Paper I, we found medically unexplained symptoms to be associated with physical and sexual abuse, but not with psychological abuse, whereas in Paper III, we found somatization (in the form of Undifferentiated Somatoform Disorder) to be associated with sexual and psychological abuse, but not with physical abuse. This underlines the importance of investigating symptoms that the individual also is experiencing as impairing in some way. Having medically unexplained symptoms is not necessarily associated with psychosocial impairment.

The county of Östergötland does not differ from Sweden at large on demographic variables such as the distribution of age, sex, civil status, parity and immigrants among the population.<sup>124</sup> We therefore assume that the prevalence numbers of abuse presented in the study are of general representativeness for the whole country (notwithstanding the fact that prevalence of abuse is dependent on the definitions used). However, in Step 2 of the study (Papers III and IV) the group sizes were rather small, which generates limited statistical power. Also, in Step 2 the selection process of participants had been done in two steps. Although the analysis of non-responders performed with previous data showed no differences between

participants and non-responders except for educational level, one must be cautious in drawing general conclusions from these results. The findings need to be further evaluated in additional studies.

## CONCLUDING REMARKS AND FUTURE PERSPECTIVES

Abuse of women is prevalent and suffering thereof is extensive. Magnitude of abuse is associated with health problems, but a low magnitude of abuse is also substantially associated with health problems. Abuse is strongly associated with less advantageous social circumstances such as unemployment, sick-leave, receiving disability pension, or living on social welfare. Abuse is associated with somatization; especially we found abuse of a lower magnitude to be associated with somatization. The thesis adds support to the proposition that PTSD is not a necessary mediator between abuse and somatization.

Considering that abusive experiences are prevalent, that abuse is strongly associated with ill-health, that a substantial number of the abused women suffer from their experiences, that many of them had not disclosed their abusive experience(s), and that many women had not sought help for abuse related problems, health care personnel should be recommended to ask about abuse as a routine procedure. It is of clinical relevance to know that abuse of lower magnitude is associated with somatization, and that abuse also is associated with somatization of a “lower magnitude”, such as Undifferentiated Somatoform Disorder. Early identification and interventions would be important as it is assumed that somatization can develop into a chronic state.<sup>125</sup>

More research on somatization is needed, and the subject should be approached from different angles to broaden our understanding. In a future integrated research approach to somatization symptoms, qualitative as well as quantitative studies are recommended. Studies of the relationship between somatization and depression in abused women are warranted.

As discussed above, investigations of the concept of suffering after abusive experiences would broaden our understanding of abuse-related health problems.

# ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to all of you who, from a scientific as well as a social perspective, have contributed to the completion of this thesis. In particular I would like to thank:

All the women who participated in the study and shared a part of their life history with me.

My supervisor, professor Klaas Wijma, for your sincere support and encouragement, for generously sharing your scientific knowledge, for your enthusiasm in theoretical discussions, and, not the least, for your patience with my not-always-well-thought-through-ideas.

My co-supervisor, professor Barbro Wijma, for your support, for inspiring and creative ideas, and for sharing your knowledge in project planning, study design, and scientific writing.

My second co-supervisor, associate professor Gun Wingren, for rapid and to the point replies to all my questions, for encouragement, and for your efforts to bend this stubborn mind towards an epidemiological way of thinking.

Katarina Ekholm-Selling for excellent statistical counselling and advice.

Humlan Svensson, for handling all kinds of problems in a perfectly charming way, and for that great dialect of yours.

Maria R, Malin K, and Anders E for kind help along the way.

The members of the Swedish network for adult research about sexual abuse - Katarina S, Eva J, Gunilla L, Ninni C, Carolina Ö, Lotten L, Barbro R, GullBritt R and Inger B - have been an invaluable source of help and inspiration. Our meetings and scientific discussions, and all the good fun along the way, have played an important part in my work.

Aurora Hallonkvist, for valuable help during a period of stress.

The journal club, for keen and vivid discussions on research and other stimulating topics.

Johan S and Siw A, for your friendly and generous way of welcoming a not-so-young, but rather innocent PhD student “newbie” way back in the beginning...

Fellow colleagues at the infamous “Department of Care & Abuse”: Evalotte, former all-nonsense editor; Katarina, odd(s) statistically inclined vocalist; Eva, eager researcher in quest of intimate details; Anneli S, a friendly woman with an aggressive bicycle disorder; Felix, a German fellow with a male gender; Anneli J, specialist in all

kinds of delicious things (including toys but unfortunately excluding keso); Lotta L, queen of Sims and supreme ruler of her world; Linda, her own personal self; Lena, a sugar consuming diabetes researcher; Stina, body-builder with an appetite for forbidden bread. What would an ordinary working day be without you? Calm, quiet, productive, non-abusive and... booring!

Eva and Katarina. The gossiping gang of three will live on!

Birgitta, for being perfectly brilliant in that mildly insane way. Kicky, for being my friend, and for all good laughs that we share. Kerstin and Ingis, for great friendship, and for providing me with a room of my own. Annika and Anna, fellow sisters-in-arms in the diaspora. Fjola and Lisa, for being such good friends, and for playing a decisive part in the development of my private happiness. Pillis, my buddy above and below the surface, and Vesna, who watches from the shore. Erik, great friend and travel companion on journeys along beautiful and bizarre alleys of this world. Karin O, for your friendly and welcoming way whenever and wherever we meet.

A bunch of old and new friends, not mentioned by name, but not forgotten in any way. Life would be considerably less fun without you as my friends.

Mamma, Pappa, Gustaf, Anna, Mikaela and Tove, and my extra-brother Patrik. You are an unconditional part of my life, always!

Writing this thesis coincided with the single most important event in my life – meeting Ann, my love, my joy, my number one! Thank you for sharing your life with me.

*“My love is like the wind,  
and  
wild is the wind,  
wild is the wind”*

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*"I may not have gone where I intended to go,  
but I think I have ended up where I needed to be."*

D Adams