More Or Less Than Human
The Influence of Shame on Psychological Distress

Lotta M. J. Strömsten
“A man should never be ashamed to own he has been in the wrong, which is but saying, in other words, that he is wiser today than he was yesterday.”

Alexander Pope (1727)
Abstract

**Background**  Shame is a powerful emotion involved in a wide variety of phenomena including psychopathology. The propensity to react with shame to situations of transgression is formed early in life, but the processes by which elevated shame-proneness causes higher levels of psychological distress and functional impairment in some people rather than in others is as yet poorly understood.

**Objectives**  The main objective of this thesis was to further elucidate these processes by investigating the implications for shame states, guilt, general coping strategies, attachment styles, and shame-related coping in this context, as well as to evaluate an assessment method for shame-proneness.

**Methods**  The self-report questionnaires Test of Self-Conscious Affect (TOSCA), Compass of Shame Scale (CoSS-5), Harvard Trauma Questionnaire (HTQ), Ways of Coping Questionnaire (WCQ), Attachment Style Questionnaire (ASQ), Symptom Checklist 90 (SCL-90), and an interview measure for event-related shame and guilt were used for assessment in adult normative, healthy-only, crime victim, and patient samples (n=25-361). A combination of uni- and bivariate approaches and multivariate soft and hard modeling approaches were used for statistical analysis.

**Results**  Paper I showed that the TOSCA could be used as a reliable measure for shame-proneness. Paper II showed that guilt was unrelated to post-victimization distress. Elevated shame-proneness was related to higher levels of post-victimization distress. This effect was partially mediated by event-related shame. Paper III showed that in CFS patients, higher levels of shame-proneness, escape-avoidance, and accepting responsibility coping contributed to elevated levels of psychological distress. Seeking support, positive reappraisal coping, and proneness to detachment contributed in the opposite direction. These relationships were weaker in the comparison groups. Paper IV showed that shame-proneness was associated with secure attachment style in a negative direction. Higher levels of secure attachment style contributed to lower levels of psychological distress, whereas shame-proneness, insecure attachment styles and withdrawal, attack self, and attack other shame coping strategies contributed in the opposite direction. There were mean differences between women and men regarding most of the variables, but
the relationships between variables did not differ between men and women.

**Conclusions** The association between shame-proneness and psychological distress seem to involve a complex balancing act between motives toward preserving close relationships and protecting a relatively positive sense of self. If others are perceived as trustworthy and compassionate and are utilized for support in times of need, the effects of shame-proneness may be less debilitating, whereas if others are perceived as distancing or disapproving, and life stress and social transgressions are managed by escape strategies, social withdrawal, self-blame or by transferring blame onto others, the distress effects become more severe. The inner psychodynamics of these functional patterns seem to be rather similar in women and men.

**Keywords** Shame, shame-proneness, guilt, self-conscious emotions, psychological distress, coping, attachment styles, Compass of Shame
Sammanfattning (Summary in Swedish)

Bakgrund Skam är en kraftfull emotion som relaterar till ett brett spektrum av fenomen, bl.a. psykopatologi. Benägenheten till att reagera med skam i situationer som handlar om misslyckanden och sociala snedsteg formas tidigt i livet, men de processer som påverkar hur förhöjd skamenägenhet skapar mer svåra nedsättningar gällande funktionalitet och psykisk hälsa hos vissa individer jämfört med andra är ännu bara till viss del utforskat.

Syften Det huvudsakliga syftet för denna doktorsavhandling var att ytterligare utveckla kunskapen kring dessa processer, genom att undersöka betydelsen för generella stresshanteringsstrategier (coping), olika anknytningsstilar och skamhanteringsstrategier i detta sammanhang, samt att utvärdera en mätmetod för skamenägenhet.

Metoder För mätningar applicerade på normalgrupp, friska vuxna, brottsoffer, samt patienter med kroniskt trötthetssyndrom och typ 1 diabetes (n=25-361), användes självskattningsformulären Test of Self-Conscious Affect (TOSCA), Compass of Shame Scale (CoSS-5), Harvard Trauma Questionnaire (HTQ), Ways of Coping Questionnaire (WCQ), Attachment Style Questionnaire (ASQ), Symptom Checklist 90 (SCL-90), samt ett intervjuåt för situationsrelaterad skam och skuld. För statistisk analys användes en kombination av uni-, bivariata och multivariata (konfirmatoriska och exploratoriska) analysmetoder.

Resultat Artikel I visade att TOSCA kan användas som ett statistiskt tillförlitligt mått för skamenägenhet. Artikel II visade att skuldbenägenhet och skuldkänslor var orelaterade till effekter på psykisk ohälsa bland individer som nyligen utsatts för våldsbrott. Förhöjt skamenägenhet var relaterat till högre symptomnivåer och en del av denna effekt förklarades (medierades) av skamkänslor i relation till brottet. Artikel III visade att högre nivåer av skamenägenhet, flyktundvikande och ansvarstagande coping bidrog till sämre psykisk hälsa bland patienter med kroniskt trötthetssyndrom. Stödsökande och positivt omvärderande coping samt benägenhet till att bemöta personliga misslyckanden med ett mått av oberördhet, bidrog i motsatt riktning. Dessa förhållanden var svagare i jämförelsegrupperna. Artikel IV visade att skamenägenhet relaterade till trygg anknytningsstil i negativ riktning. Högre nivåer av trygg anknytningsstil bidrog till lägre nivåer av psykiska symptom, emedan skamenägenhet, otrygga anknytningsstilar
samt skamhanteringsstrategierna; undandragande, attack mot sig själv och attack mot andra bidrog i motsatt riktning. Det fanns medelvärdesskillnader gällande de flesta av de undersökta variablerna, men mönstret av associationer mellan variablerna skiljde sig inte statistiskt signifikant åt mellan kvinnor och män.

**Slutsatser**  

**Nyckelord**  
Skam, skambenägenhet, skuld, moralaffekter, psykisk ohälsa, coping, anknytning, skamkompassen
Publications

The present thesis is based on the following papers:


### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGFI</td>
<td>Adjusted Goodness of Fit Index</td>
</tr>
<tr>
<td>AMOS</td>
<td>Analysis of Moment Structures</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>APA</td>
<td>American Psychiatric Association</td>
</tr>
<tr>
<td>ASQ</td>
<td>Attachment Style Questionnaire</td>
</tr>
<tr>
<td>CFA</td>
<td>Confirmatory Factor Analysis</td>
</tr>
<tr>
<td>CFS</td>
<td>Chronic Fatigue Syndrome</td>
</tr>
<tr>
<td>CFI</td>
<td>Comparative Fit Index</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence Interval</td>
</tr>
<tr>
<td>CoSS-5</td>
<td>Compass of Shame Scale (version 5)</td>
</tr>
<tr>
<td>df</td>
<td>Degrees of freedom</td>
</tr>
<tr>
<td>DM1</td>
<td>Type 1 Diabetes Mellitus</td>
</tr>
<tr>
<td>EM</td>
<td>Expectation Maximum</td>
</tr>
<tr>
<td>GFI</td>
<td>Goodness of Fit Index</td>
</tr>
<tr>
<td>GSI</td>
<td>Global Severity Index</td>
</tr>
<tr>
<td>HPA</td>
<td>Hypothalamic-Pituitary Adrenal</td>
</tr>
<tr>
<td>HTQ</td>
<td>Harvard Trauma Questionnaire</td>
</tr>
<tr>
<td>MANOVA</td>
<td>Multivariate Analysis of Variance</td>
</tr>
<tr>
<td>MLE</td>
<td>Maximum Likelihood Estimation</td>
</tr>
<tr>
<td>MVA</td>
<td>Missing Value Analysis</td>
</tr>
<tr>
<td>PASW</td>
<td>Predictive Analytics Software</td>
</tr>
<tr>
<td>PLS</td>
<td>Partial Least Squares</td>
</tr>
<tr>
<td>PTSD</td>
<td>Posttraumatic Stress Disorder</td>
</tr>
<tr>
<td>RMSEA</td>
<td>Root Mean Square Error of Approximation</td>
</tr>
<tr>
<td>SCL-90</td>
<td>Symptom Checklist 90</td>
</tr>
<tr>
<td>SE</td>
<td>Standard Error</td>
</tr>
<tr>
<td>SEM</td>
<td>Structural Equation Modeling</td>
</tr>
<tr>
<td>SIMCA</td>
<td>Soft Independent Modeling of Class Analogy</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>TOSCA</td>
<td>Test of Self-Conscious Affect</td>
</tr>
<tr>
<td>VAS</td>
<td>Visual Analog Scale</td>
</tr>
<tr>
<td>VIP</td>
<td>Variable Importance in Projection</td>
</tr>
<tr>
<td>WCQ</td>
<td>Ways of Coping Questionnaire</td>
</tr>
</tbody>
</table>
Contents

Abstract i
Sammanfattning (Summary in Swedish) iii
Publications v
Abbreviations vi
Contents vii
Introduction 1
  Theoretical perspectives of shame 1
    Affect theory 2
    Self psychology 3
    Attachment theory 5
  Self-conscious emotions 6
    Conceptual differences between shame and guilt 7
  Adaptive and maladaptive aspects of shame and guilt 8
  Coping and shame 8
  Culture and gender 10
  Shame-proneness from a lifetime perspective 11
  Methodological considerations to shame research 11
Objectives 15
Methods 17
  Participants 17
  Design and Procedure 17
    Ethical considerations 17
  Measures 18
    Test of Self-Conscious Affect (TOSCA) 18
    Compass of Shame Scale (CoSS-5) 19
    Event-related shame and guilt 20
    Harvard Trauma Questionnaire (HTQ) 21
    Symptom Checklist 90 (SCL-90) 21
    Ways of Coping Questionnaire (WCQ) 22
    Attachment Style Questionnaire (ASQ) 22
  Statistical analysis 23
    Structural equation modeling (SEM) 23
    Partial least squares analysis (PLS) 26
Results 29
  Paper I: Assessment of self-conscious emotions: A Swedish
    psychometric and structure evaluation of the Test of Self-
    Conscious Affect (TOSCA) 29
  Paper II: Distress after a single violent crime: How shame-
    proneness and event-related shame work together as risk factors
    for post-victimization symptoms 30
**Paper III:** Relationships among shame-proneness, coping, and psychological distress in chronic fatigue syndrome patients 31

**Paper IV:** Shame and psychological distress: The influence of attachment styles, shame-proneness and shame coping among women and men 33

**Discussion** 36

Shame-proneness and psychological distress 36

*Shame and trauma in adulthood* 37

*Guilt* 37

*General coping strategies* 38

*Attachment style and shame coping* 39

*Clinical groups* 40

*Women and men* 40

Methodological reflections 41

*Assessment of shame-proneness* 41

*Statistical modeling* 42

*Limitations* 43

Practical implications 43

Implications for future research 45

**Acknowledgements** 46

**References** 48
Introduction

In our everyday lives, we recurrently find ourselves in situations that put the way we think about ourselves or our accomplishments in question. This is intimately associated with how we expect and wish to be perceived in the eyes of others, because our view of ourselves is developed, expressed, and redefined in relation to others. For this reason, most people strive to act in a manner that others render appropriate or valued in the social context, and make great efforts to avoid demeanors or situations that could lead to the loss of face in public or, even worse, disapproval or rejection by others.

Shame is a powerful emotion and among the strongest of human motives. It aids in the management of social relationships and keeps behavior within the constraints of ideals, morality, and social norms. The experience of shame makes us aware of inadequacies in our appearance or conduct and is sufficiently uncomfortable to make us regulate our behavior to avoid this discomfort. Shame can be considered in the context of brief emotional experiences in the moment, referred to as states, which all human beings experience from time to time. Shame can also be viewed as a trait, representing the individual propensity to react with shame in different situations, as a stable emotional disposition, which constitutes a part of personality. This is conceptualized as dispositional shame or shame-proneness. Highly shame-prone individuals tend to strive toward unrealistic ideals and to constantly devaluate their achievements, so that they never really consider themselves to fit the mold of normality. Over the long term, this may lead to pathological consequences.

The significant impact of shame on human functioning, in both normal and pathological circumstances, has earned it considerable attention in the field of psychological theory, both traditionally and presently. Surprisingly, however, it has only been in the last two decades that shame has received warranted recognition in empirical research.

Theoretical perspectives of shame

In this section I will recapitulate a selection of theories which have been particularly important to the understanding of shame and its functions during early development and throughout life.
Affect theory

Central to the understanding of shame are the concepts of affect and emotion. Charles Darwin suggested that emotions have evolved because they entail an adaptive function, enhancing the chance for survival (Darwin, 1872). He stated that emotions were innate (i.e., hard-wired) and communicated by characteristic facial expressions, enabling humans to convey intentions to others as well as to rapidly recognize the reactions and intents of others. After nearly a century, Darwin’s observations regarding emotion were expanded into what is now known as affect theory by the psychoanalytic theorist Silvan Tomkins (Tomkins, 1962, 1963). Tomkins used the term affect to differentiate his new theoretical framework from its predecessors. Affects were defined by Tomkins as innate mechanisms serving as a signal system, specifically as “analogic amplifiers of their stimulus conditions.”

Tomkins identified nine innate affects prevalent in all humans: two positive (interest and joy), one neutral (surprise), and six negative (distress, anger, fear, shame, dissmell, and disgust). He argued that each of them were products of human evolution, favored by natural selection because they motivated useful behavior in response to the environment. The positive affects, Tomkins argued, generally motivate behaviors to seek or continue the events that activate them, while the negative motivate turning down or avoiding behaviors that activate them. Shame has as special place in affect theory as an attenuator circuit for positive affects, imperative for adjusting social behavior. The mutual experience of positive affect between people powers sociality. Shame modulates affective communication by interrupting interest and joy, but without extinguishing them completely. The desire to resume positive affect remains present but exploration and self-exposure is reduced.

Tomkins’s theory provided an alternative to the contemporary dominant psychological paradigms of Freudian drive-psychology and B.F. Skinner’s behaviorism, by claiming that affective states provide the vast majority of motivation. Drives, in Tomkins’s view, correspond to biological needs that are weak in motivation. To bring a sense of urgency to the need, a drive must recruit an affect. Affects make drives and needs of importance to us, but there is no specific inherent drive-affect link. Any affect can amplify any drive. The specific affect which a drive or need is assembled with, in a given situation, governs the emotional experience of it as well as motivations and subsequent behavior. For instance, it is not hunger that makes us eat, but our interest affect directed to food. Hunger could just as well be associated with disgust, not resulting in a motive to eat. Affects
are not only imperative for the amplification of physical needs, but for psychological and social ones as well.

Affects are involved in the human emotion system and work, as elaborated by Michael Basch and Donald Nathanson, on different levels of awareness and memory integration. The *affect* is the purely biological part of the system, a signal lasting but a few seconds. When we become consciously aware of the affect, it is appreciated as a *feeling* (Basch, 1976). Experiencing an affect, we immediately form associations to it from our memories of previously experiencing that affect, as well as associations with other affects they also trigger. *Emotion* represents the interpretation of an affect through the overlay of personal history. In this way, two people experiencing the same affect are not really experiencing the same emotion. Donald Nathanson (1992b) summarized this in the words, “Whereas affect is biology, emotion is biography.” Tomkins favored a larger category than emotion to describe how affects are co-assembled with previous experiences. He called these entities *scripts*, referring to complex organizations of affective experiences stored in memory, developed from infancy, and expanding over the course of a lifetime (Tomkins, 1987a). Inspired by Tomkins’s script theory, Nathanson developed the Compass of Shame model to explain how individuals manage shame, which I will return to in more detail further on.

The experience of shame can vary in intensity from mild embarrassment to humiliation. As noted by Nathanson, shame is toxic in direct relation to the intensity of self-disgust associated with it (Nathanson, 2001). Applying script theory to shame, Tomkins provides an explanation for the development of chronic shame. Scripts constitute the outline for how affect is interpreted. Early traumatic and unresolved experiences of shaming may become significant for future shame interpretation, contributing to the formation of self-shaming scripts. Shame may also become malignant if it is excessively associated with other affects (Tomkins, 1987b). This forms an “affect-shame bind” and the presence of any strong emotions becomes shameful, even in situations where they would be appropriate (Kaufman, 1996a).

*Self psychology*

The self corresponds to the representation of identity. Faced with shame, the self is placed at threat, and the awareness of personal image, desires, constraints, and need for affirmation becomes tremendous. Shame experience entails a self-evaluative process where the success of living up
to actual or idealized self-representations is evaluated, governed by the believed expectations of a real, imagined or anticipated audience. This audience need not actually be present. The values and opinions of others or society can influence self-evaluation on different levels of awareness as internalized ideals.

Self psychology was developed by Heinz Kohut in the 1970s. Kohut was inspired by Freud’s work but departed from drive-oriented theory, placing his emphasis on the vicissitudes of relationships to psychological functioning. In early life, human beings lack a sense of self or identity. It is through interactions with others that parts of significant others are taken in to slowly build a self-structure, which is continuously reformed in interaction with others throughout the course of life. In Kohut’s view, for an individual to develop a cohesive and healthy self, three needs have to be met. The first is to have his/her specialness mirrored by others. The second is to be allowed and able to merge with idealized competent figures, and the third is to gain a sense of belongingness through identifying with others and discovering similarities with them (Kohut, 1977). Kohut linked shame to the failure of receiving expected approval or acceptance by others and stated that “shame [...] arises when the ego is unable to provide a proper discharge for the exhibitionistic demands of the narcissistic [ideal] self” (Kohut, 1978). In optimum development, the child’s natural exhibitionistic display is acknowledged, accepted, and praised by the parents. To form ambitions and ideals, the child needs to be allowed to identify with and idealize its parents. This positive mirroring and idealization by the early selfobject is imperative to the child’s ability to form realistic aspirations and a sense of self-worth. If deprived of it, unrealistic and demanding ideals of required achievements are formed by the child in an attempt to become an eligible person whom the parents might love, and a life-long search for acceptance and approval from others is begun.

The need of selfobject function remains over life, and significant others, objects or activities take the place of the parents in affirming the individual’s identity. Early selfobject relationships form the blueprint for self-structure and generate a basic tendency to seek out relationships which will reaffirm them. This is not to say that the self is impervious to change. Although it casts the self into doubt, shame experience also presents us with the opportunity for revision and reformation of the self (Potter-Efron, 2002). Kohut believed that shame-proneness in adults originated from parental failure to provide adequate selfobject functions during youth but that a shift toward more authentic self-esteem and progressive self-stabilization could still be achieved in adulthood (Kohut,
However, the more traumatic the early self-object relations had been the more rigid and resistant the self would be to change, and the elevated propensity to feel shame would remain.

Attachment theory

A fundamental interpersonal motive in humans is to achieve a sense of belongingness. Most people make efforts to meet the expectations of others to earn approbation, giving rise to a positive feeling of social acceptance, thus avoiding the distress from social disapproval, shame, and rejection. Attachment theory was originated by John Bowlby as an explanation for the innate tendency to seek proximity to significant others (attachment figures) in times of need (Bowlby, 1969). Early attachment experiences (usually toward parents) are later consolidated into “working models” of the self, in relation to others and to the world in general, which persists throughout life (Bowlby, 1973). This internalized pattern of interpersonal expectations, emotions, and behaviors constitute a person’s attachment style. If early attachment figures have been available and responsive, a stable, secure attachment is developed, with confidence in support seeking as a dependable strategy for distress regulation. Individuals with secure attachment easily become close with others. They are able to depend on others without worrying about being abandoned and are comfortable with being depended upon.

Shame has been called the “attachment emotion” and is the reaction to the unexpected refusal a significant other to co-create an attachment bond (Schore, 1998). When attachment figures are not reliably available and supportive in childhood, proximity seeking fails to relieve distress and instead becomes linked with shame. The child’s sense of being ignored or rejected by the parent gives rise to a shame-based self-structure, and social relationships henceforth become associated with shame (Kaufman, 1996a). This enduring shame disposition may also lead to the development of pathology (Lewis, 1992). As a result of lacking attachment security, secondary attachment strategies are formed. When applied to adults as attachment styles, they are conceptualized as insecure attachment styles, divided into two main dimensions: anxious and avoidant attachment styles (Hazan & Shaver, 1987). Attachment-related anxiety reflects an excessive need for social reassurance and a fear of rejection, where the individual often perceive others as being reluctant to get as close as to them as they would like them to. Attachment-related avoidance refers to a circumvention of intimacy and distrust in others (Brennan, Clark, & Shaver, 1998). Research has shown that attachment styles seem to be fairly stable in adulthood (Brumbaugh & Fraley, 2006;
Fraley, Vicary, Brumbaugh, & Roisman, 2011; Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). It has also been demonstrated that secure attachment is inversely related to psychological symptomatology and shame, and that high levels of insecure attachment is related to higher levels of symptomatology and negative affects (e.g., shame), (Gross & Hansen, 2000; Lopez & Brennan, 2000; Mikulincer, Florian, & Weller, 1993; Priel & Shamai, 1995; Roberts, Gotlib, & Kassel, 1996; Simpson, 1990; Wagner & Tangney, 1991; Wei, Shaffer, Young, & Zakalik, 2005).

Self-conscious emotions

During the past few decades, shame has moved from being the least explored to one of the most investigated emotions in psychological research. These research advances have given rise to the definition of a new category of emotion: the self-conscious emotions, most elaborately introduced in the 1995 volume Self-Conscious Emotions – The Psychology of Shame, Guilt, Embarrassment, and Pride by June Price Tangney and Kurt Fischer, and the subsequent The Self-Conscious Emotions – Theory and Research (Tracy, Robins, & Tangney, 2007). Shame and guilt are the two major concepts in the theoretical framework of self-conscious emotions, but embarrassment, humiliation, and the positive emotional counterpart to shame, pride, are also included (Tangney & Fischer, 1995).

Within this theoretical framework, five main characteristics are defined, distinguishing self-conscious emotions from other emotions (Tracy & Robins, 2007). The first is that self-conscious emotions require self-awareness and self-representations; consequently, they are not shared with other non-primate animals. The second is that self-conscious emotions develop later on in childhood than other primary emotions, around the age of 18-24 months. The third distinctive feature of self-conscious emotions is that they facilitate the attainment of complex social goals, other than basic survival goals. The fourth feature is the lack in all self-conscious emotions of any discrete, universally recognized, facial expression, as in the case of happiness that brings on a smile. Instead, they are universally communicated through body postural changes and related behaviors. Shame is pan-culturally displayed through a turned-down face, averted eyes, and diminished posture. This expression is interpreted as a level of submissiveness, which can evoke forgiveness in others as well as other prosocial responses (Keltner & Harker, 1998). The
final feature that defines self-conscious emotions is that they require more complex cognitive capacities than non-self-conscious emotions.

Contextual elements or resources can to some extent influence the probability of the arising of self-conscious emotions, but there is no specific type of situation that will elicit self-conscious emotions for any person at any time. Instead, this is primarily dependent on individual factors. The when and what of self-conscious emotions depend on appraisals and attributions made by the individual. For an event to elicit self-conscious emotions, it has to put attentional focus on the self and be appraised as relevant for how the individual perceives him- or herself. The event then has to be attributed to internal causes, that is, the individual must believe that the event occurred because of something about themselves (Tracy & Robins, 2004).

**Conceptual differences between shame and guilt**

A major contribution of self-conscious emotion theory to the understanding of shame is that it provides a definition for the differentiation between shame and guilt and the subsequent functional implications for their distinct features. This point of departure relies on the definition by Helen Block Lewis (1971), who referred to shame as a failure of “being,” and guilt as a failure of “doing.” This notion was elaborated to include related outcomes regarding thoughts, motivation, action potentials, and behaviors (e.g., Tangney & Dearing, 2002a; Tangney & Fischer, 1995).

According to this view, shame-proneness entails rendering global and stable elements of the personal self as defective and is associated with feelings of being inadequate (i.e., “I am an appalling person”). Shame motivates an urge to hide or disappear and when elevated, is associated with an impaired ability to generate effective solutions to interpersonal problems, leading to feelings of hopelessness, rumination, social anxiety, fear of intimacy, and social isolation. With guilt-proneness, on the other hand, negative evaluation is typically directed toward specific aspects of the self or instances of behavior, giving rise to feelings of having done something wrong (i.e., “I did a bad thing”). This makes guilt less debilitating than shame since it allows for making amends and motivates adaptive change. Guilt is associated with positive social and interpersonal adjustment and with prosocial behaviors, such as empathy and repairing social bonds.
Adaptive and maladaptive aspects of shame and guilt

Shame and guilt are both painful emotions, but they are not essentially good or bad. All people need to experience these emotions to a certain extent in order to get by socially. However, when shame is excessive and becomes a robust pattern of a person’s individual emotional and adaptive style, it may cause maladjustment problems. Highly shame-prone individuals are inexorably perturbed by feelings of worthlessness and inadequacy. This undermines the ability to function and interact with others and may also cause psychopathology (Lewis, 1971).

Shame and guilt pull in different directions in their associations to health effects. Guilt, especially shame-free guilt, has been found to be essentially unrelated to maladaptivity in general or to psychological and physiological health effects (Baumeister, Stillwell, & Heatherton, 1994; Tangney & Dearing, 2002b). Shame, on the other hand, has shown to be strongly related to a wide range of mental health problems, such as chronic anger, depression, anxiety, social phobia, eating disorders post-traumatic stress disorder (PTSD), substance abuse, and cluster B personality disorders (see reviews in Tangney & Dearing, 2002b; Tangney, Stuewig, & Mashek, 2007). Furthermore, shame has been found to influence the course of different physiological conditions. When shame is elicited, it initiates a coordinated psychobiological response. This response includes proinflammatory cytokine activity and activation of the Hypothalamic-Pituitary Adrenal (HPA) axis, with immune declines and cortisol production, respectively, as the result. Elevated activation of these systems can increase the vulnerability to a variety of adverse health conditions since they are relevant to several different pathophysiology processes that underlie the progression of various types of physical disease (Bosch, et al., 2009; Dickerson, Gruenewald, & Kemeny, 2009; Kemeny, Gruenewald, & Dickerson, 2004; Mills, Imm, Walling, & Weiler, 2008). These latter research findings represent some of the few examples of studies investigating neurological correlates to shame. In addition, given the well-documented relationship between shame and negative health aspects, remarkably little attention in psychological research to date has been given to exploring the pathways of this relationship.

Coping and shame

An imperative aspect, but not a complete explanation, of the potential influence of shame on psychological and physiological health is the
individual’s coping skills. Coping is defined as “the thoughts and behaviors used to manage the internal and external demands of situations that are appraised as stressful” (Folkman & Moskowitz, 2004). The purpose of coping efforts is to try to manage a situation, or to appease the anxiety it causes. The coping process is influenced by the individual’s appraisals and resources and the situational context. The propensity to feel shame impinges on the range of coping strategies an individual has access to and characteristically tends to use, even in situations where shame experience is not typically significant. Highly shame-prone individuals are less inclined to seek support from others and instead utilize defensive strategies such as denial, dissociation or avoidance strategies, aiming to escape the stressful situation altogether or the discomfort triggered by it (De Rubeis & Hollenstein, 2009; Dorahy, 2010; Irwin, 1998). Avoidant coping has repeatedly been associated with elevated levels of psychopathology in psychological research (see Penley, Tomaka, & Wiebe, 2002 for a meta-analysis).

The experience of negative self-conscious emotions is almost always associated with some sense of discomfort. The worries of social dislike or being rejected or exposed to vengeance can bring on intense anxiety and even fear or panic. For this reason, people use various strategies to manage this type of situation. Based on theory and empirical research of narrative accounts of reactions to situations of failure or transgression, the associated emotional reaction to such situations can proceed in four directions: shame, guilt, externalization, and detachment/unconcern (Lewis, 1971; Tangney, 1990). When the sense of failure is internalized by the individual, it is manifested as either shame or guilt, depending on the attribution being made onto the self or onto specific behavior, respectively. The failure can also be externalized onto someone or something else, thus transferring cause or blame and minimizing the personal involvement in the situation. This is particularly common in highly shame-prone individuals, but is not related to guilt-proneness (Tangney, 1995). Finally, people seem to make efforts to minimize the significance of situations associated with transgression. To achieve this, they might attempt to mask or hide their reaction, or to disregard the situation, treating it with ample unconcern. The two latter directions can be rendered as ways of managing negative self-conscious emotion.

Focusing on coping styles or scripts aimed at managing shame specifically, the Compass of Shame model was devised by Donald Nathanson (1992b), inspired by Silvan Tomkins’ script concept. The model describes four families of scripts, represented by the poles of the compass. In the north is withdrawal, which is self-oriented and
characterized by efforts to limit shameful exposure by withdrawing or hiding from the social situation. In the east is *attack self*, where self-criticism is used in an attempt to take control of shame and to prevent the situation from ever happening again. In the south is *avoidance*, characterized by attempts to distract the self and others from the painful emotional experience caused by the situation. Finally, in the west is *attack other*, where aggression is directed outwardly toward an alternative target for the shaming event, to minimize the awareness of shame. People use strategies from all directions of the compass at different times and in combination, but tend to favor one or another. The connections between how people habitually cope with shame, according to the Compass of Shame, and psychological symptomatology are still relatively unexplored in empirical research.

**Culture and gender**

The subjective experience and social consequences of shame differ from culture to culture. Social conventions and cultural values fundamentally constitute the directives for which instances are to be considered shameful or self-righteous. This is due, at least in part, to the fact that the construction of self varies as a function of culture (Markus & Kitayama, 1991). In Western cultures, people bear a rather independent, autonomous self-image, and both failure and success are in most cases attributed to individual ability. In collectivistic cultures (e.g., East-Asian), self-image is more interdependent and thereby inherently connected to other people, making failures and successes communal efforts. This highlights the rather different cultural views of shame. In Western cultures, shame is a strong signal of personal failure to live up to the central goal of independency. It is therefore rendered as deeply aversive. In collectivist cultures, shame is linked to important social values aimed at maintaining harmonious relationships. Hence, it is considered less aversive than shamelessness (Mesquita & Karasawa, 2004).

Common to most cultures is that there are often general gender differences associated with shame and guilt. In both Western and non-Western cultures, women report feeling higher levels of and more intense shame and guilt than men (Benetti-McQuoid & Bursik, 2005; Brody & Hall, 2010; Woien, Ernst, Patock-Peckham, & Nagoshi, 2003), while men, cross-culturally, report feeling more pride than women (Brebner, 2003). These differences can vary depending on the target situation and the gender-role-relation relevant to it (Ferguson, Eyre, & Ashbaker, 2000).
This probably reflects predetermined expectations and stereotypes about behavior, identity, and emotions that are uniquely suited to male and female roles, internalized via the socialization process and reinforced throughout life. Such stereotypes provide seminal models of appropriate behavior that is habitually adopted by most people (Brody & Hall, 2010).

Shame-proneness from a lifetime perspective

Contemporary research generally supports the notions regarding shame-proneness development made by theorists like Kohut and Bowlby in stressing the importance of early development for adult functioning. Recent research results have demonstrated that excessive shame-proneness stems from internal negative representations of the self derived from previous experiences of being shamed or devaluated, specifically experiences of early trauma-like origins pertaining to negative rearing experiences (Claesson & Sohlberg, 2002; Gilbert & Gerlsma, 1999; Gilbert & Perris, 2000; Matos & Pinto-Gouveia, 2010; Stuewig & McCloskey, 2005; Webb, Heisler, Call, Chickering, & Colburn, 2007). Experiences of this kind may influence the way in which relationships to others are perceived, increase one’s vulnerability to psychopathology, and become a central part of identity and a reference point for everyday inferences that persists through adulthood (Kaufman, 1996a; Pinto-Gouveia & Matos, 2011; Schore, 2001; Webb, et al., 2007). The processes by which elevated shame-proneness and its affiliated vulnerability lead to more severe levels of psychological distress in some adults than in others, however, is as yet poorly understood, but seem to involve a wide range of individual and contextual factors as well as other psychological mechanisms. For example, experiences in later intimate relationships, later situations of social transgression, and exposure to positive and negative life events may further equip or incapacitate individuals in relation to their initial preconditions.

Methodological considerations to shame research

A focal reason for the previous lack of research attention devoted to shame may be that there are ample methodological complications to a scientific assessment of the concept. The main impediment to using traditional scientific approaches to self-conscious emotions like shame and guilt is that these emotions constitute internal emotional experiences
that cannot be measured directly through objective observation. The lack of clearly definable and unique facial expressions makes them difficult to study experimentally, without relying on verbal reports of internal experience. They have also proved to be harder to elicit experimentally than other emotions (Tracy & Robins, 2004). In addition, there are comprehensive individual differences regarding shame elicitors, depending on, e.g., culture, gender, and the situational context. Given this, imagine the difficulty in inventing an ethically justifiable intervention that would evoke shame in any participant in a laboratory setting. For these reasons, shame is more readily assessed psychometrically using approaches such as self-report questionnaires or interviews.

A second complication to shame assessment is that it is problematic to directly inquire about shame. Shame can be unpleasant and sometimes even agonizing to experience. Consequently, shame can be uncomfortable to reflect upon or talk about, since bringing it to consciousness may elicit an emotional experience of it. For a fair share of individuals, even the word “shame” is emotionally charged. Because of the strong emotional onset that shame in many cases causes, most people make some effort to alleviate or avoid its experience. As noted by Tangney (1996), people rarely talk about shameful experiences spontaneously and even when asked to, they avoid elaborating on self-perceived shame. This goes even further, for some people, shame is so routinely repressed, denied or distorted that it is rarely or never acknowledged (Lewis, 1971). Directly asking participants to disclose self-experienced shame would require personal shame acknowledgement and run the risk of evoking defensive denial, producing a biased measurement (Harder & Lewis, 1987). To moderate this problem, question design is important. Participants are likely to be more comfortable rating how they would react to a hypothetic situation regarding components of shame experience (e.g., feeling small, wanting to hide), rather than directly disclosing their global propensity to feel shame (e.g., “I often feel ashamed of myself”). When response items are phrased more neutrally and in a less emotionally charged manner, participants are less inclined to attempt to portray themselves in an overly socially desirable way (Bäckström, Björklund, & Larsson, 2009).

The final major concern regarding shame assessment is making clear distinctions between shame and guilt. These concepts are closely related theoretically, but as previous research has shown, they entail differential action potentials and implications for psychological functioning and health. This illuminates the importance of using assessment strategies, encompassing both concepts and being able to separate between the two,
not depending on the participants’ ability to make this differentiation in an abstract context. If the assessment format does not incorporate conceptual differentiation, the problem may be amended to some extent by providing the respondent with instructions regarding shame and guilt distinction.

These complications are not insurmountable, however. In the past few years, several auspicious new assessment approaches attending to these issues have been developed. At present, there are two main classes of available measures: state measures (assessing shame emotion in the moment or in relation to a specific event) and dispositional or trait measures (assessing individual proneness to shame across situations), which can be arranged into four types of test formats: adjective-, statement- situation- and scenario-based scales (Robins, Nolfte, & Tracy, 2007).

State measures are often adjective-based, relying on single word descriptions of emotions (e.g., shame, guilt) or clusters of concepts relating to the emotion to be assessed (e.g., guilt: repentant, blameworthy), to be rated for the extent to which they are currently experienced. This is limited by a reliance on the respondents’ ability to differentiate between shame and guilt. To relieve this problem, some state-measures are statement-based, with sentences or phrases to be rated instead (e.g., shame: “I want to sink into the floor and disappear”). A second limitation to state measures is that they are, by definition, a measure of present shame, perceived toward a self-experienced situation, which inevitably puts it at risk of arousing a defensive response bias.

Dispositional measures can be constructed on both adjectives and statements but are also available as situation- and scenario-based scales. In review, scenario-based measures that assess and distinguish between several self-conscious emotions have been rendered most advantageous (see review in Tangney, 1996). Respondents are asked to imagine themselves in a series of everyday scenarios and to rate the probability of their reacting to them according to a number of situation-specific alternatives. Scenario-based scales differ from situation-based ones by including multiple response options. Responses cover descriptions of self-conscious emotions that capture affective, cognitive, and behavioral aspects associated with them. This allows for a phenomenological reaction by the respondent to a presented scenario, with different levels of different kinds of self-conscious emotions in exclusion or in combination. In addition, responses are comprehensible to most people and not reliant on respondents being able to differentiate between shame
and guilt, but rather able to take a position on situation-specific reactions. This makes scenario-based measures easier to complete and applicable to a wide range of respondent groups. Scenario-based measures are also beneficial in that they are conceptually well consistent with current notions of guilt and seem less likely than other types of measures to evoke a defensive response bias.
Objectives

The main objectives of the present thesis were to examine concepts theoretically recognized as related to shame-proneness, and their implications for psychological distress in normative as well as patient samples, and to evaluate a method for assessment of shame-proneness.

This was approached in four steps:

Paper I The aim was to evaluate the psychometric properties and internal structure of the Swedish version of the TOSCA (a measure for shame- and guilt proneness), in a normative sample.

Paper II The aims were to investigate:

(1) The relationships between shame- and guilt-proneness, event-related shame and guilt, and psychological distress in individuals who had recently been victimized by an isolated event of severe violent crime.

(2) The interrelationships between shame-proneness and event-related shame as potential risk factors for psychological distress, in the aftermath of criminal victimization.

Paper III The aims were to investigate:

(1) The levels of, and relationships among, coping strategies, shame- and guilt-proneness (internalized self-conscious emotion), externalization- and detachment-proneness, and psychological distress in chronic fatigue syndrome (CFS) patients relative to comparison groups.

(2) How shame-, guilt, externalization-, and detachment-proneness, and coping interlace in affecting distress severity in CFS patients relative to comparison groups.
Paper IV  The aims were to:

(1) Investigate a causal model which was based on theory and previous research, consisting of secure attachment style, shame-proneness, shame coping (according to the Compass of Shame) and psychological distress.

(2) Explore the pattern of prediction for secure and insecure attachment styles, shame-proneness, externalization, detachment, and shame coping on psychological distress.

(3) Investigate differences between women and men, regarding the constructs and relationships examined.
Methods

Participants

The participant samples in papers I-IV were constituted by normative, healthy-only, crime victim and patient samples.

Paper I One normative sample consisting of 361 adults (students and working non-students)

Paper II One sample of 35 adults recently victimized by an isolated event of severe violent crime

Paper III Three samples: 31 chronic fatigue syndrome patients, 25 type 1 diabetes mellitus patients, and 80 healthy adults (students and working non-students) with no present chronic disease or illness diagnosis

Paper IV One normative sample consisting of 196 undergraduate students

Design and Procedure

The present thesis is based on four research projects, each represented in one paper that investigates some of the concepts assessed in each specific project. In all four papers, a quantitative approach was applied, with one isolated assessment occasion for each participant. In papers I, II and IV, the research design was cross-sectional, whereas in paper III, a case-control design was used.

Ethical considerations

All four projects were designed and conducted in accordance with the ethical principles of the Declaration of Helsinki (World Medical Association, 2008). Written as well as verbal instructions informed participants about the studies’ design and aims. For project I, ethical approval was not applied for, since the design did not entail any
METHODS

intervention, the questionnaire content was not considered sensitive, and collection was done in a normative sample. The projects behind paper II and IV were approved by the regional ethical review board in Umeå, Sweden (D.no:s, 03-408, 05-035M, 2010-214-31M, and 2011-127-32M). The project behind paper III was approved by the ethical committee at Karolinska University Hospital, Stockholm, Sweden (D.no. 306/03).

Measures

Assessment was done by self-report, using six different questionnaires and a one-item interview measure.

Test of Self-Conscious Affect (TOSCA)

In papers I-IV, the Test of Self-Conscious Affect (TOSCA) (Tangney, Wagner, & Gramzow, 1989) was used to assess the individual propensity or proneness to experience self-conscious emotions and other related reactions. It was chosen based on its being one of the most widely used measures for shame- and guilt-proneness and its ability to aptly manage known assessment complications (Robins, et al., 2007; Tangney, 1996). The TOSCA is a 65-item scenario-based self-report questionnaire, comprised of 15 scenarios that could be encountered in daily life, ten of negative and five of positive valence. For each scenario, four to five randomly ordered, associated responses are to be rated on a Likert-type scale, ranging from 1 (not likely) to 4 (very likely). These responses yield phenomenological indices of self-conscious emotional reactions in the form of shame, guilt, externalization, detachment, and two types of pride: alpha pride (pride in self) and beta pride (pride in behavior). The response item categories constitute the test’s six measurement scales. An example of a negative valence scenario from the TOSCA is: “While playing around, you throw a ball and it hits your friend in the face.” The subsequent responses to this scenario are: “You would feel inadequate that you can’t even throw a ball” (shame), “You would apologize and make sure your friend feels better” (guilt), “You would think maybe your friend needs more practice at catching” (externalization), and “You would think: ‘It was just an accident’” (detachment). An example of a positive valence scenario is: “For several days you put off making a difficult phone call. At the last minute you make the call and are able to manipulate the conversation so that all goes well,” followed by the responses: “You would feel like a coward” (shame), “You would regret that you put it off” (guilt),
METHODS

“You would think you shouldn’t have to make calls you feel pressured into” (externalization), “You would think ‘I guess I’m more persuasive than I thought’” (alpha pride), “You would think: ‘I did a good job’” (beta pride). Participants are asked to imagine themselves in the hypothetical scenarios and rate each of the following suggested responses for the probability of their responding to the proposed scenario in a similar manner. Participants rate all of the response items instead of just choosing one or ordering them. This allows for the phenomenological reaction of the many different affective tendencies, to different extents, that may be prevalent in a single situation. During construction, the TOSCA was structured on a theoretical basis, with subject-generated scenarios and test items. Scenario descriptions and response sets were drawn from personal accounts of shame, guilt, and pride made by participants, enhancing the ecological validity of the test. The TOSCA is well validated, with satisfactory test-retest and reliability estimates for the shame, guilt, externalization, and detachment subscales, but contains shortcomings regarding the assessment of pride (e.g., Tangney, Niedenthal, Covert, & Barlow, 1998; Woien, et al., 2003). The pride scales were excluded from statistical analyses in the papers included in the present thesis. The Swedish version of the TOSCA (Sundbom, Holm, & Henningsson, 2000) was translated according to standard back-translation procedure by a professional translator.

Compass of Shame Scale (CoSS-5)

In paper IV, to measure how participants cope with specifically shame experiences, the Compass of Shame Scale version five (CoSS-5) (Elison, Lennon, & Pulos, 2006) was used. Unique in its kind, the CoSS-5 assesses strategies for shame management, based on Donald Nathanson’s Compass of Shame model and theoretical framework (Nathanson, 1992a). The questionnaire format, like the TOSCA, utilizes the scenario approach and is comprised of a total of 12 scenarios and 48 subsequent response items (four for each scenario). Ratings are made on a Likert-type frequency scale, ranging from 0 (never) to 4 (almost always). The questionnaire scenarios consist of accounts of a series of potentially shame-inducing situations or variations of shame emotions (e.g., embarrassment and rejection). Each scenario is followed by four randomly ordered responses, which are descriptions of reactions in the form of feelings or behaviors characteristic to the quadrants of the Compass of Shame. These four response item categories constitute the CoSS-5 subscales withdrawal, attack self, avoidance, and attack other. An example scenario from the CoSS-5 is: “When I make an embarrassing
misfortune in public.” The subsequent responses for this scenario are: “I hide my embarrassment with a joke” (avoidance), “I blame myself for not being more careful” (attack self), “I wish I could avoid being noticed” (withdrawal), or “I get mad at whoever embarrassed me” (attack other). Participants are asked to rate each response item independently for the likelihood that they would respond in such a way to the given situation. This allows for the assessment of multiple coping strategies applied to the same single situation, which is coherent with coping theory and research (Lazarus, 1999; Nathanson, 1992b). The CoSS-5 is meticulously anchored in theory, has been validated against related measures, and has acquired satisfactory reliability estimates, and its scale structure has been confirmed statistically (Elison, Lennon, et al., 2006; Elison, Pulos, & Lennon, 2006). The Swedish version of the CoSS-5 (Strömsten, Henningsson, & Sundbom, 2010) was translated in collaboration with a professional translator, and have been found to be at level with the original US version regarding reliability and validity (Strömsten, Henningsson, & Sundbom, 2011).

Event-related shame and guilt

State shame and guilt related to a specific event were assessed in paper II using a one-item visual analog (VAS) scale. This assessment was executed in an interview setting where participants were asked to rate the intensity of shame and guilt, respectively, in relation to their recent experience of an event of victimization through severe violent crime. The interviewer was a licensed psychologist with research competence in the relevant field. The question was phrased, “To what extent do you currently experience the emotion _____ [e.g., shame] when thinking of the event?” Rating was done through indication of a discrete number on a 10-cm scale, ranging from 1 (low or little) to 10 (intense or very much). Participants were allowed to respond verbally or by pointing at the scale. A limitation to this measure was its adjective-based format. However, used in other types of medical research, the VAS assessment format has been found to be simple, reliable, and reproducible, comparable to Likert-type scales (Lukacz, et al., 2004). To address the problem of shame/guilt differentiation, preceding their rating, participants were instructed about the differences between shame and guilt.
**Harvard Trauma Questionnaire (HTQ)**

In paper II, to assess trauma-specific symptoms, part IV of the Harvard Trauma Questionnaire (HTQ) (Mollica, et al., 1992) part IV was used. The HTQ part IV is a statement-based questionnaire comprising 30 trauma symptoms, of which 14 items describe general trauma symptoms. The remaining 16 items are derived from the three major DSM-IV (American Psychiatric Association, 1994) criteria for posttraumatic stress disorder (PTSD) i.e., *intrusion, avoidance*, and *arousal*. Participants are asked to rate the extent of having experienced each symptom during the past week on a four-point Likert-type scale ranging between 1 (not at all) and 4 (very much). In addition to assessing the extent of fulfilled criteria, the 16 PTSD items can be utilized as a continuous dimensional measure of PTSD symptomatology, applying the same three item categories (e.g., Ditlevsen & Elklit, 2010). For the purposes of the present thesis, the latter approach was applied. The full test was administered but the 14 general trauma items were not used for analysis. In various studies, the HTQ has demonstrated satisfactory reliability and test-retest estimates, as well as good convergent validity (Mollica, et al., 1992; O’Connor & Elklit, 2008; Smith-Fawsi, et al., 1997).

**Symptom Checklist 90 (SCL-90)**

The Symptom Checklist 90 (SCL-90) (Derogatis, Lipman, & Covi, 1973), which is one of the most widely used symptom measures in psychological research, was applied in papers II-IV for the assessment of psychological distress. It is a multidimensional self-report inventory comprising 90 concise symptom items assessing various aspects of somatic and psychological distress symptomatology. Participants rate to what extent they have experienced each symptom in the past week on a five-point Likert-type frequency scale ranging between 0 (not at all) and 4 (very much). Test items are grouped into subscales representing nine primary symptom dimensions (*somatization, obsession–compulsion, interpersonal sensitivity, depression, anxiety, anger–hostility, phobic anxiety, paranoid ideation, and psychoticism*). The average score for all subscales taken together, known as the *global severity index (GSI)*, can be computed as a reliable and valid measure to assess overall psychiatric distress (Derogatis, 1994). For the purposes of the present thesis, only the GSI scale was applied. The Swedish version of SCL-90 has been standardized in both normative and clinical samples (Fridell, Cesarec, Johansson, & Malling Thorsen, 2002).
**METHODS**

**Ways of Coping Questionnaire (WCQ)**

General coping behavior was assessed in paper III using the Ways of Coping Questionnaire (WCQ) (Folkman & Lazarus, 1988), which is a 66-item self-report questionnaire designed to assess a broad spectrum of coping strategies. Respondents are instructed to recall a stressful situation experienced during the past week and to rate the extent of their utilization regarding a number of pre-specified thoughts and actions to cope with that situation. Ratings are made on a four-point Likert-type scale ranging between 0 (not used) and 3 (used a great deal). Test items are divided into eight subscales, each corresponding to a specific coping strategy (confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal). Reports of internal consistency have varied in different studies applying the WCQ, but in a recent review including 130 studies, a 95% confidence interval of Cronbach’s alphas ranging from 0.69 to 0.85 was estimated for the eight WCQ subscales (Kieffer & MacDonald, 2011). These reliability estimates indicate that the WCQ is a reliable measure. Kieffer and MacDonald (2011), however, caution that some of the subscales more often than others tend to acquire somewhat lower reliability estimates, depending on sample qualities. The Swedish version of the WCQ was professionally translated and has been applied in both normative and clinical samples (Ahlström & Wenneberg, 2002).

**Attachment Style Questionnaire (ASQ)**

Attachment styles were assessed in paper IV using the Attachment Style Questionnaire (ASQ) (Feeney, Noller, & Hanrahan, 1994), which is a widely used adult attachment measure, mainly based on Bartholomew and Horowitz’ (1991) conceptions of attachment. The ASQ is a statement-based 40-item self-report questionnaire, with questions derived from a number of constructs relative to negative and positive attitudes towards self and others (e.g., self-esteem, interpersonal anxiety, relationship preoccupation, and hostility). Ratings are made on a six-point Likert-type scale ranging from 1 (totally disagree) to 6 (totally agree). Unlike many other adult attachment scales, the ASQ does not require a particular type of relationship to be the locus of attachment or even previous experience in romantic relationships. The ASQ is not a categorical measure of attachment styles that an individual does or does not have, but instead assesses attachment styles dimensionally. Factor analyses of the original data yielded both a three-factor and a five-factor solution (Feeney, et al.,
The five-factor format has become the most frequently used. In the five-factor format, one subscale pertains to primary secure attachment, namely confidence (in self and others), and four pertain to different types of secondary insecure attachment styles: need for approval, preoccupation with relationships, discomfort with closeness, and relationships as secondary (to achievement). The first two insecure attachment styles reflect attachment-related anxiety, whereas the last two reflect attachment-related avoidance. The ASQ has demonstrated satisfactory test–retest stability and reliability estimates (Feeney & Noller, 1996; Feeney, et al., 1994). A Swedish version has been available since 1996 (Håkansson & Tengström).

**Statistical analysis**

A combination of exploratory and confirmatory statistical methods was applied in the present thesis. This required the use of several different statistical software programs. Missing values analysis (MVA) and imputation, reliability (Cronbach’s alpha), descriptive, mean comparison (chi-square, t-tests, ANOVA and MANOVA), and correlation analysis (Pearson’s, bivariate/partial), as well as residual extraction (using linear regression) were performed using SPSS (Statistical Package for Social Sciences, SPSS Inc., Chicago, IL, US), versions 13 and 16, PASW 18 and IBM SPSS 19. For t-tests applied to samples where raw data was not available, the WINPEPI, release 9.2 (Abramson, 2004), was used. For structural equation modeling analysis, AMOS (Analysis of Moment Structures, AMOS Development Corp., Crawfordville, FL, US), versions 5, 16 and 19 were used, and for partial least squares analysis, SIMCA-P (Soft Independent Modeling of Class Analogy, Umetrics AB, Umeå, Sweden), version 8.0.

**Structural equation modeling (SEM)**

Structural equation modeling (SEM) is a multivariate approach aimed at testing the relative strength of a priori defined hypothetical structures of variables, when applying empirical data (Byrne, 2001). In contrast to regression-based methods, which can only analyze one layer of relationships between independent and dependent variables at a time, SEM allows modeling of relationships among multiple independent and dependent constructs simultaneously. SEM utilizes hard modeling, which means that the properties of, and relationships between, the variables
under investigation are defined in advance, based on logical or theoretical grounds and/or previous research. Using AMOS for SEM analysis, sample data is then applied to the proposed model to estimate how well the model reproduces the sample covariance matrix. In the present thesis, SEM was used for three purposes:

1) For testing the scale structure of the Swedish version of the TOSCA, using confirmatory factor analysis (CFA), in paper I.

2) For analysis of mediation, through estimation of indirect effects, of event-related shame as a potential mediator for shame-proneness in explaining symptom outcome, in paper II.

3) For testing a proposed causal structure of shame-proneness, secure attachment style, shame coping, and psychological distress, with group comparisons between women and men, in paper IV.

SEM models can be comprised of sets of manifest as well as latent variables. Whereas manifest variables refer to observable constructs, latent variables are indicated by a number of manifest variables (e.g., items indicating the suggested construct measured by a test subscale). Both manifest and latent variables can be either exogenous or endogenous in a model. For exogenous variables, their values originate from, or are caused by, factors outside the model (i.e., separate from the theoretical constructs the model is based on). The causes of endogenous variables, on the other hand, are defined to originate within the model (i.e., they are at the receiving end of one or more causal associations in the model). SEM allows for 100% of the variation in every endogenous variable to be accounted for, by the application of measurement error as an exogenous latent variable in the SEM diagram. This error variable operates as a separate variance parameter, making both assessment and correction for measurement errors possible.

The statistical estimations attained using a SEM approach include calculations of individual paths in the model, as well as testing the entire system of variables included in the model simultaneously. To determine the extent of overall fit of a proposed model to sample data, different goodness-of-fit estimates can be applied, differentially suited to different types of models and data. A widely used measure for absolute fit between the hypothesized model and sample data is the goodness-of-fit index (GFI). In larger models, the adjusted goodness-of-fit index (AGFI), which adjusts for the amount of degrees of freedom, is more suitable than the
GFI, which tends to underestimate goodness-of-fit in models with many parameters. Another family of model fit measures is baseline comparison measures which, among others, include the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA). The CFI is recommended for routine use in SEM models, and assesses the proportionate improvement in fit by comparing the target model with a more restricted, nested baseline model. The RMSEA, in addition, penalizes lack of parsimony. For GFI, AGFI, and CFI values greater than 0.9 indicate a close fit, and a value of 1 represents exact fit (Jöreskog & Sörbom, 1993). RMSEA values less than 0.8 indicate a reasonable fit, less than 0.6 a good fit, and a value of 0 (zero) represents exact fit (Browne & Cudeck, 1992).

SEM can be utilized for testing the factorial validity of scores from a measuring instrument using confirmatory factor analysis (CFA) (Byrne, 2001). For this purpose, factors are entered as latent endogenous variables (i.e., test subscales) indicated by manifest exogenous variables (i.e., test items). This approach was applied in paper I to each TOSCA subscale as separate single factor models and to a multifactor model incorporating the four TOSCA subscales of shame, guilt, externalization, and detachment and the 55 associated test items. Calculations were run using maximum likelihood estimation (MLE), while the AGFI and RMSEA were used for model fit estimation.

SEM can also be utilized to test for the validity of a causal structure, where a set of variables are used to explain the variation of one or more outcome variables. This approach was applied in papers II and IV. In mediation analysis, a previously established relationship between an independent and a dependent (outcome) variable is investigated by estimating the effect of one or more additional variables, expected to be partially responsible for the initial relationship. Recent research has recommended the use of SEM in mediation analysis, since it allows for the quantification and significance testing of indirect effects (corresponding to mediated effects), a feature which traditional approaches have lacked (Hayes, 2009; Preacher & Kelley, 2011; Rucker, Preacher, Tormala, & Petty, 2011; Williams & MacKinnon, 2008; Zhao, Lynch, & Chen, 2010). This can be achieved by the application of bootstraps to SEM analysis. Bootstrapping is a non-parametric resampling procedure that doesn’t impose the assumption of normality of the sampling distribution. It is a computationally intensive technique that approximates confidence intervals of the indirect effect by estimations from a given number (at least 1000) of subsamples drawn from the dataset (Preacher & Hayes, 2008; Shrout & Bolger, 2002). Using SEM for
mediation analysis necessitates a well-defined theoretical basis for the causal structure to be tested. In paper II, a theoretical framework for how risk factors work together was used to define the relationships between the variables to be investigated (Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001). The two tested models each comprised one manifest exogenous variable: shame-proneness (independent variable). They also comprised two manifest endogenous variables: event-related shame (hypothesized mediator), and psychological distress (outcome variable; general psychological distress and trauma-related symptoms, respectively). Model outline is depicted in Figure 1, at page 29 in the present thesis. Analyses were performed using MLE. To determine significance level, standard errors (SEs) and confidence intervals (CIs) for estimated effects, and the average size of the indirect (mediated) effects, bootstrapping was applied, using 2000 bias-corrected bootstrap samples, cross-validated by the same amount of percentile bootstraps. Since the model was just identified, model fit estimation was not applicable.

In designs where multiple-group comparisons are intended, SEM can be used for testing a hypothesized causal model, and for calculating separate parameter estimates for each group. Invariance for parameters in the model across groups can be assessed by comparing the proposed model (default model) with other related models, conditionally constrained regarding the parameters of interest. If the chi-square difference i.e., $\Delta \chi^2(df)$ between the default model and a restricted model is statistically significant, group differences can be assumed to be evident (Arbuckle, 2010; Byrne, 2001). In paper IV, a causal model was investigated, with differences between men and women being considered. Shame-proneness and secure attachment style were entered into the SEM diagram as exogenous manifest variables. Shame coping and psychological distress were entered as manifest endogenous variables. The model is shown in Figure 2, at page 32 in the present thesis. Analyses were run using MLE, and model fit was estimated using the GFI and CFI.

**Partial least squares analysis (PLS)**

The partial least squares (PLS) approach (Wold, Albano, Dunn, Esbensen, Geladi, Hellberg, ... Öhman, 1989) is a soft modeling method, which does not require a priori structural assumptions, being exploratory rather than confirmatory, thus offering a pragmatic alternative to SEM. Similar to SEM, all variables are modeled simultaneously during PLS analysis, but instead of testing a predefined model, PLS seeks the inherent structure of the set of investigated variables by maximizing the variance of the
Methods

Dependent variables (Y) explained by the independent ones (X), targeting model prediction rather than fit. In the present thesis, PLS was used for two purposes:

1) Testing for patterns of predictive effects of shame-, guilt-, externalization-, and detachment-proneness and general coping strategies (independent variables, X) on psychological distress (dependent variable, Y) in chronic fatigue syndrome patients and comparison groups, in paper III.

2) Testing for patterns of predictive effects of shame-, externalization-, and detachment-proneness, secure and insecure attachment styles, and shame coping (independent variables, X) on psychological distress (dependent variable, Y), in men and women, in paper IV.

In contrast to full information estimation techniques such as MLE, PLS makes minimal demands on the data. PLS is a limited information approach that requires no strong assumptions with respect to the population or scale of measurement. Consequently, it does not rely on heavy distributional assumptions and is not sensitive to multicollinearity and skewness among predictor variables (Cassel, Hackl, & Westlund, 1999). In addition, it can be used in situations where sample size is small and the number of variables under investigation is large, without increasing the risk for spurious results (Wold, et al., 1989). PLS can be used for theory confirmation to some extent, but is particularly suitable when causal relationships are complex or the theory is not yet fully attested, providing suggestions as to where relationships may or may not exist, as well as propositions for hard models and future testing.

PLS utilizes a component-based measurement model, where input data is projected onto a new space of latent variables, defined as linear composites (components) of the measures (i.e., manifest variables) associated with them. Using the X and Y matrices, PLS output provides four new data matrices. The T and U matrices summarize the scores on X variables and Y variables, respectively. The W* and C matrices reflect weight relations, which are used to estimate case values for the latent variables. In the W* matrix are weights describing the importance on Y for each variable in X, selected to maximize the correlation between T and U. The C matrix, lastly, comprises weights expressing the correlation between Y (original matrix) and T (Henningsson, Sundbom, Armelius, & Erdberg, 2001).
The quantity of explained variance in a PLS model is expressed by $R^2$ values (goodness of fit). $R^2_X$ indicates the variance in the predictor variables utilized to explain the outcome variables, and $R^2_Y$ the amount of variance in the outcome variables explained by the predictor variables. Goodness of prediction of $Y$ by $X$ in PLS analysis is evaluated through the $Q^2$ value, which indicates how well $Y$ values can be predicted in cases not involved in the model computation. A $Q^2$ value $>0.1$ indicates a significant model. The $R^2$ and $Q^2$ values stand in relation to each other. The $R^2$ values continue to increase as components are added, eventually resulting in an overfitted model. $Q^2$ ultimately reaches a critical plateau, after which it decreases and departs from the $R^2$ value. To secure high predictive validity, avoiding overfitting, components are only added as long as they increase $Q^2$, thus guaranteeing the highest possible predictive value of the model. The unique contribution of each individual independent variable to the model when all variables are considered is evaluated through the variable importance in projection (VIP) value. A value $>1.0$ indicates a larger than average contribution, while values $<0.8$ indicate only a minor contribution to the model (Henningsson, et al., 2001).
Results

I will begin this section by summarizing some results regarding the TOSCA Shame subscale, which was utilized in all four papers. Reliability estimates (Cronbach’s alpha) for TOSCA Shame ranged between 0.61 and 0.83 in papers I-IV. TOSCA Shame was positively correlated to TOSCA Guilt (paper I: $r=0.70$, $p<0.0005$; paper II: $r=0.43$, $p<0.01$) and in normative, crime victim, as well as patient samples to distress severity (paper II: 0.35, $p=0.049$; paper III 0.29-0.59, $p<0.05$). In addition, there were mean differences for TOSCA Shame between women and men (paper I: $t=5.39$, $p<0.001$, $d=0.57$; paper IV: $t=4.68$, $p<0.0005$, $d=0.69$), with women reporting higher levels of shame-proneness than men. Women also reported higher levels of distress severity than men (paper II: $t=2.18$-$2.21$, $p<0.05$, $d=0.74$-$0.75$; paper IV: $t=2.51$, $p<0.05$, $d=0.37$), particularly among crime victims.

Paper I: Assessment of self-conscious emotions: A Swedish psychometric and structure evaluation of the Test of Self-Conscious Affect (TOSCA)

In a first step of SEM analysis, each of the four TOSCA subscales—(Shame, 15 items), (Guilt, 15 items), (Externalization 15 items), and (Detachment, 10 items)—were one-by-one tested as single-factor CFA models. In each model, the subscale name was entered as a latent factor indicated by its related items as manifest variables. The SEM analyses showed that the Shame ($df=90$, $n=361$, standardized regression weights=0.27-0.62), Guilt ($df=90$, $n=361$, standardized regression weights=0.14-0.48), and Externalization ($df=90$, $n=361$, standardized regression weights=0.19-0.50) models all offered close fits to the observed data (AGFI=0.93-0.94, RMSEA=0.038-0.045). For the Detachment model ($df=35$, $n=361$, standardized regression weights=0.19-0.64), model fit was indicated as reasonable to close (AGFI=0.92, RMSEA=0.068). Regression weights were significant ($p<0.05$), with the exception of two items in the externalization subscale.

In the second step, a multifactor CFA model including all four subscales was tested ($df=1425$, $n=361$, standardized regression weights=0.13-0.64). Correlations were set between all four latent factors (subscales). With one exception (between Guilt and Externalization, $r=0.09$, ns), all subscale inter-correlations were significant ($r=0.20-0.70$, $p<0.05$). Estimates of
RESULTS

model fit for the multifactor model differed: the AGFI (0.075) was indicative of a poor fit to the observed data, whereas the RMSEA (0.056) indicated a close fit. Regression weights were significant \((p<0.05)\), with the exception of the same two externalization items as in the single-factor model, and one guilt item. The results indicate that, considering the potential effect of the sample size on the AGFI value, the internal consistency and factor structure of the Swedish TOSCA version was appropriate for shame, guilt and detachment but contained minor shortcomings in the assessment of externalization.

**Paper II: Distress after a single violent crime: How shame-proneness and event-related shame work together as risk factors for post-victimization symptoms**

Both the women and the men in the study sample reported significantly higher levels of psychological distress (SCL-90 GSI, \(t=4.86\) and 2.87, \(p<0.01\)) compared to a Swedish normative reference sample (Fridell, et al., 2001). No significant differences in comparison to normative data were evident regarding the TOSCA subscales. Comparisons towards normative samples for event-related shame and guilt as well as trauma-specific symptoms (HTQ) were not performed, since assessment is not applicable to non-traumatized individuals.

To determine whether event-related shame would significantly mediate the association between shame-proneness and post-victimization symptoms (general and trauma-related), a structural model was defined based on a series of hypotheses that were tested prior to testing the composite hypothesized model. The proposed model is shown in Figure 1 at the following page.

First, correlation analysis showed that both guilt-free shame-proneness (TOSCA Shame residual) and event-related shame (Event-related shame residual) were positively correlated with both trauma-specific symptoms (HTQ 16-item total) and general psychiatric symptoms SCL-90 GSI \((r=0.52-0.75, p<0.05)\). Second, the two shame measures were positively correlated to each other \((r=0.44; p=0.008)\). Third, testing for dominance between the two (guilt-free) shame measures, partial correlations for shame-proneness (when controlling for event-related shame and guilt-proneness) and the HTQ 16-item total and the SCL-90GSI, respectively, were 0.29 \((p=0.099)\) and 0.35 \((p=0.049)\). For event-related shame (when controlling for shame-proneness and event-related guilt), the correlations
for the HTQ 16-item total and the SCL-90 GSI were 0.40 \( (p=0.020) \) and 0.63 \( (p<0.0005) \), respectively.

To investigate the composite hypothesized model, two just-identified three-variable models were tested using SEM, one for trauma-specific symptoms (HTQ 16-item total), referred to as Model 1, and one for general psychological symptoms (SCL-90 GSI), referred to as Model 2. In Model 1, path coefficients for total, direct, and indirect effects were significant, with the exception of the direct effect of shame-proneness on trauma-specific symptoms \( (c' \text{ path}) \), which was non-significant. The indirect effect (mediated effect) was positive (0.12, \( p=0.02 \)), with a 95% confidence interval excluding zero. In Model 2, total, direct, and indirect effects were all significant. The indirect effect was positive in this model as well (0.16, \( p=0.02 \)), with a 95% confidence interval excluding zero. The significant indirect effects indicate that the predictive effect of shame-proneness on post-victimization symptoms is partially mediated by event-related shame.

![Diagram](image.png)

*Figure 1. The proposed mediation model tested in paper II.*

**Paper III: Relationships among shame-proneness, coping, and psychological distress in chronic fatigue syndrome patients**

The MANOVA showed that there was a significant multivariate effect of group affiliation \( (F=2.67; \ p<0.0005) \) regarding the assessed variables.
Univariate effects were found for the WCQ subscale Escape-avoidance coping ($F=5.38$) and for psychological distress (SCL-90 GSI, $F=9.22$). The CFS group reported higher levels of escape-avoidance coping strategies than the diabetes comparison group ($p=0.005; d=0.87$), while the diabetes comparison group reported higher levels of escape-avoidance coping strategies than the healthy comparison group ($p=0.034; d=0.61$). The CFS group reported significantly higher levels of psychological distress (SCL-90 GSI) compared to both the diabetes ($p=0.022; d=0.68$) and the healthy comparison group ($p<0.0005; d=0.91$).

In all three participant groups, psychological distress (SCL-90 GSI) was positively correlated to shame-proneness (TOSCA Shame, as reported above) and escape-avoidance coping ($r=0.44-0.53, p<0.05$). Guilt-proneness (TOSCA Guilt) was unrelated to psychological distress in all groups. Regarding the majority of the remaining test variables, the groups differed. Some notable findings for the CFS group were that three coping strategies (distancing, planful problem solving, and positive reappraisal) were negatively correlated to shame-proneness (TOSCA Shame, $r=-0.38$ to -0.41, $p<0.05$) and that psychological distress (SCL-90 GSI) was negatively correlated to detachment (TOSCA Detachment) and seeking support coping ($r=-0.38$ and -0.54, $p<0.05$). Proneness to detachment (TOSCA Detachment) was negatively correlated to shame-proneness (TOSCA Shame) in both the CFS and the healthy comparison group ($r=-0.23$ to -0.60, $p<0.05$).

The PLS analyses resulted in a significant one-component model for the CFS group ($Q^2=0.49, R^2_X=0.23, R^2_Y=0.60$), and a barely significant one-component model in the healthy comparison group ($Q^2=0.16, R^2_X=0.20, R^2_Y=0.31$). In the diabetes comparison group, no significant model could be produced ($Q^2=0.05$, for the first component). In the CFS group model, a pattern including six substantially contributing variables was identified. The variable with the highest contribution to the model was shame-proneness (TOSCA Shame, VIP=1.69), which had a positive predictive direction, i.e., predicted elevated levels of psychological distress (SCL-90 GSI). Five other variables contributed substantially to the model (VIP=0.96-1.51). Escape-avoidance and accepting responsibility, both coping strategies, contributed in a positive direction. Seeking support coping, positive reappraisal coping, and proneness to detachment (TOSCA Detachment) contributed in a negative direction. In the model for the healthy comparison group, a pattern including five positively contributing variables with larger than average variable importance was identified: escape-avoidance coping (VIP=2.31), accepting responsibility coping (VIP=1.26), confrontive coping (VIP=1.10), proneness to
externalization (TOSCA Externalization, VIP=1.17), and shame-proneness (TOSCA Shame, VIP=1.04). In this model, no negatively contributing variables were identified.

The results indicate that, in CFS patients, higher levels of shame-proneness, escape-avoidance and accepting responsibility coping seem to contribute to elevated levels of psychological distress. Seeking support coping, positive reappraisal coping, and proneness to detachment seem to contribute in the opposite direction. These relationships were weaker in the comparison groups.

**Paper IV: Shame and psychological distress: The influence of attachment styles, shame-proneness and shame coping among women and men**

Besides the above-reported mean differences between women and men regarding shame-proneness, women also reported higher levels of withdrawal and attack self shame coping styles and the insecure attachment styles need for approval and preoccupation with relationships than men ($t=2.10-3.54$, $p<0.05$, $d=0.31-0.52$). Men reported higher levels of detachment-proneness and the insecure attachment style relationships as secondary than women ($t=2.68-4.08$, $p<0.01$, $d=0.39-0.58$).

In the proposed causal model, which was tested during SEM analysis ($df =2$, $n=196$), all predictive paths in the model were significant for both women and men (standardized regression weights 0.32-0.62, $p<0.0005$), with one exception (shame-proneness to psychological distress). The correlation between secure attachment style (ASQ Confidence) and shame-proneness (TOSCA Shame) was significant in both groups ($r=0.15-0.40$, $p<0.05$). Model fit estimates indicated a close fit to data (GFI=0.97, CFI=0.96). Multiple group comparisons of the proposed model with constrained models showed that there were no significant differences between women and men in the model regarding any of the tested parameters ($p>0.05$). The proposed model is shown in Figure 2 at the following page.

The PLS analyses resulted in significant one-component models in both women and men, with no outlier cases identified. Goodness of fit and prediction was essentially similar in both models, with women acquiring slightly higher values (women: $Q^2=0.37$, $R^2_X=0.38$, $R^2_Y=0.41$; men: $Q^2=0.26$, $R^2_X=0.36$, $R^2_Y=0.33$). The variable pattern identified in the
RESULTS

model for men included seven substantially contributing variables. In the model for women, the variable pattern included the same substantially contributing variables as in men, as well as one additional variable. In both women and men, the predictor variables that contributed to the highest extent to the model (VIP=1.343-1.591) were the Compass of Shame subscale, Withdrawal and secure attachment style (ASQ Confidence). Other variables that contributed substantially in both groups to predicting psychological distress (VIP=0.88-1.33) were: attack self and attack other shame coping and the insecure attachment styles, preoccupation with relationships and need for approval, as well as shame-proneness (TOSCA Shame). In addition, the insecure attachment style discomfort with closeness received a VIP value of 0.908 in women, but only contributed negligibly in men. In both groups, predictor variables with VIP values greater than 0.8 had a positive predictive direction, i.e., predicted elevated levels of psychological distress (SCL-90 GSI), with the exception of secure attachment style, which had a negative predictive direction toward psychological distress.

![Diagram of causal model](image)

*Figure 2. The proposed causal model, tested in paper IV.*

The results indicate that the investigated variables intertwine in explaining distress outcome. Shame-proneness seems to be associated
with secure attachment style in a negative direction. Higher levels of secure attachment style seem to contribute to lower levels of psychological distress, whereas most of the insecure attachment styles and shame coping strategies contributed in the opposite direction. These relationships did not differ between men and women.
Discussion

Shame is an important but yet only partly understood concept associated with a wide variety of phenomena, including psychopathology. The studies in this thesis (papers II-IV) expand previous research by examining the implications of shame-proneness, guilt-proneness, event-related shame and guilt, general and shame-specific coping strategies, and attachment styles for psychological distress using normative, crime victim, and patient samples. In addition, a measure for assessment of shame-proneness (TOSCA) was evaluated (Paper I) and applied in all of the papers.

Shame research is a tricky business, not just when it comes to accessibility during assessment. Reviewing publications in the field, there seems to be some disagreement or, in some cases, even a lack of attention as to what should be included into the concept of shame. This compromises the potential for interpretation, generalization, and comparison of research results to some extent. Shame works on different levels of awareness and in association with other emotions, previous experiences, appraisals, cognitions, action potentials, and motivation. In its most basic and biological form, it is conceptualized as an affect, which is innate and fundamentally adaptive for social functioning (Tomkins, 1987b). However, in the vast majority of research, shame is assessed as a higher-level emotional and cognitive phenomenon, in some cases as a momentary state and but in most cases as a trait, incorporating an internalized pattern of negative self-evaluation and associated behaviors. When shame is approached as shame-proneness, its potential maladaptive consequences become more lucid. Some researchers have cautioned that this might obscure the importance of shame for social functioning, and might portray shame as ugly and pathological (Elison, 2005). This illuminates the importance of clearly distinguishing between shame affect, shame emotion, and shame-proneness when reporting research results.

Shame-proneness and psychological distress

Shame-proneness is clearly connected to psychological distress, with higher levels of shame-proneness resulting in higher levels of distress (i.e., as reviewed in Tangney, et al., 2007). This association seems to be evident across samples of low, moderate, and elevated distress severity as
demonstrated in papers II-IV. Causality between shame-proneness and psychological distress is yet unclear, but it seems to be the result of a complex interplay of individual and contextual factors as well as additional psychological mechanisms, subduing or enhancing the effect and explaining individual differences.

**Shame and trauma in adulthood**

Shame-proneness probably interacts with external triggers when it comes to influencing distress severity. For example, a life event that increases shame may also increase the level of symptomatology. The results in paper II showed that state shame directed toward a traumatic event (in this case victimization by severe violent crime) partially mediated the effect of shame-proneness on post-victimization symptoms. This means that the initial level of shame-proneness influenced the experience of shame with regard to the recent traumatic event, and both state and trait shame predicted post-victimization symptoms. This suggests that shame-prone individuals not only risk developing more severe symptoms in the aftermath of trauma, but also that shame is more likely to be evoked in these individuals, which increases the risk of re-traumatization, rumination, and avoidance behaviors which could affect the prospects for treatment and recovery in a negative way. Counteracting the functional purpose of shame, the experience of overwhelming shame may cause people to act out or engage in risky behaviors in an attempt to regain a sense of control. This is especially common in interaction with substance misuse (Stuewig, Tangney, Mashek, Forkner, & Dearing, 2009). This type of shame management is likely to occur in some trauma victims. Previous research has shown that victimization may cause delayed or decreased risk response, making crime victims susceptible to exposure to new trauma and repeated victimization (Messman-Moore & Brown, 2006; Witte & Kendra, 2010).

**Guilt**

In contrast to shame-proneness, guilt-proneness is not associated with psychological distress. This lack of association has been demonstrated in several previous studies (e.g., Averill, Diefenbach, Stanley, Breckenridge, & Lusby, 2002; Pineles, Street, & Koenen, 2006; Tangney, Wagner, & Gramzow, 1992) and was also evident in papers II (for both state and trait guilt) and III. The concepts of shame and guilt, which may seem very similar when using everyday language conceptualizations, have been
separated in self-conscious emotion theory. Shame has been defined as directed toward the self, while guilt as directed toward specific acts, implicating different functional responses and consequences for psychological distress (Lewis, 1971; Tangney & Fischer, 1995). Tangney (1996) argues that once guilt is conceptualized as a response to specific failure (e.g., acts), there is no compelling reason to expect guilt to be associated with poor psychological adjustment. Instead, guilt is more likely to become maladaptive if it becomes fused with shame. It is important to remember, however, that while shame originates as an affect, there is no innate “guilt affect.” Rather, guilt appears later in the emotional reaction chain, as an emotion or “affective-cognitive hybrid” which incorporates shame but often also sadness (remorse) and fear (of consequences) (Elison, 2005). Shame emotion may also manifest itself in hybrid forms (e.g., with disgust or anger) but its pure origin compared to guilt explains why it is generally associated with more detrimental aftermaths than guilt. By attributing failure to specific acts, the core self stays protected, at least to some extent, and the failure becomes easier to deal with and accept. Thus, guilt allows a negative evaluation to be present, but without necessarily creating continuing reactions of self-devaluation or rumination. In addition, the experience of shame differs from other negative emotions since, to a large extent, acknowledging or “releasing” it in a specific situation typically does not result in relief. When angry or sad, having an outburst of these emotions may yield a sense of liberation, while a “shame outburst” would not. On the other hand, acknowledging guilt may ultimately lead to some relief, since it involves making amends and not the same level of perceived hopelessness as shame. These differences underline the importance of being able to identify and clearly differentiate between shame and guilt clinically. This conceptualization could also be utilized as a valuable therapeutic tool for verbalizing the various facets of the experience of shame.

General coping strategies

Shame-proneness is characteristically associated with the propensity to react to situations of failure and transgression with global self-blame, self-devaluation, motivations to pull out of the situation, social avoidance, and rumination. This seems to interlace with the manner in which shame-prone individuals habitually manage stress in general. In paper III, coping strategies that were positively correlated to psychological distress were mainly also related to shame-proneness in the same direction. The coping strategy of escape-avoidance was especially noticeable in this sense. This may imply that highly shame-prone individuals tend to
DISCUSSION

perceive stressful stimuli in general as associated with personal deficiencies, causing adjustment impairments and a tendency not to deal with the problem actively, escaping the discomfort caused by it. Seeking support coping, on the other hand, was negatively correlated in paper III with both shame-proneness and psychological distress. Though it need not always be an active strategy, this kind of coping nonetheless involves some sense of approaching the problem and, in contrast to escape-avoidance, is a social strategy. Detachment-proneness had a weaker but similar effect, suggesting that the ability to perceive personal failure as less important (e.g., accidental or not non-concerning) offered some protection against distress effects. Taken together, the results in paper III illustrate how individual differences regarding coping behaviors may both mitigate and exacerbate the effects of shame-proneness on psychological distress.

**Attachment style and shame coping**

The association between shame-proneness and distress seems to entail a complex balancing act between preserving relationships with others while shielding the self from injury at the same time. The results of the multivariate analyses in paper IV demonstrated that the level of shame-proneness is not chiefly explanatory to generating distress, but rather if attachment security is low and shame experiences are managed in a maladaptive manner. Secure attachment involves trusting other people to be benevolent, and if a person has a low perception of others as trustworthy and approving, situations of social transgression or failure may be experienced as highly intimidating, fuelled by the fear of rejection or abandonment from others. To fend against this apprehension, people adopt different strategies and to varying extents. The results of paper IV showed that the Compass of Shame coping styles of withdrawal, attack self, and attack other contributed substantially to more severe distress levels. By withdrawing from social interaction, the interpersonal damage cannot be resolved and the potential for receiving empathic understanding from others is lost. If blame is rigidly directed inward by attacking the self, the interpersonal damage is lessened and the relationship stays protected, but it is a self-destructive strategy which may continue to damage the core sense of self. If, instead, blame is habitually directed outward, the self is no longer placed at threat but the relationship is endangered since this strategy (attack other) entails the risk of aggressive behaviors toward others. All people use these strategies to a greater or lesser extent in handling shame experiences but, as argued
by Nathanson (1992a) and supported by the results of paper IV, excessive utilization is associated with maladjustment problems and distress.

**Clinical groups**

Shame-proneness appears to be quite a stable feature but little is known about how the level of shame-proneness may change over the course of a lifetime and in relation to different types of pathology, for instance, or as a result of psychological treatment. Longitudinal data on shame-proneness is very sparse. In paper III, no significant differences regarding shame- or guilt-proneness were found for CFS or DM1 patients compared to normative samples. However, these patient groups did report higher levels of psychological distress compared to normative samples. In other studies, statistically significant differences in shame-proneness have been found between normative samples and psychiatric patients with depression and anxiety disorders (Vikan, Hassel, Rugset, Johansen, & Moen, 2010) and substance abuse diagnoses (Meehan, et al., 1996; O'Connor, Berry, Inaba, Weiss, & Morrison, 1994). In all of these studies, the level of shame-proneness was higher in psychiatric patient samples compared to normative samples. The patient samples used in paper III were not psychiatric in the sense of all having homogenous psychiatric diagnoses, even if they had elevated levels of psychological distress. This may explain the lack of discrepancy toward normative samples. The influence of shame-proneness on distress, however, was more pronounced in the CFS group. Shame-proneness seems to work as a perpetuating illness factor in individuals with severe medical conditions, influencing illness maintenance and prognosis in a detrimental way. This effect is particularly pronounced in patients who feel ashamed of their illness, whereby the stigmatic protrusion is magnified (Gruenewald, Dickerson, & Kemeny, 2007).

**Women and men**

In papers I, II, and IV, significant differences, with women reporting higher levels of shame-proneness, were found with moderate to large effect sizes. This concurs with previous research (Benetti-McQuoid & Bursik, 2005; Brody & Hall, 2010; Woien, et al., 2003). In papers II and IV, women also reported slightly higher levels of psychological distress, which is a well-known occurrence. Sex differences in afferent pathways are as yet largely unexplored, but men and women may differ in their response to noxious stimuli. It may also be the case that women are more
inclined than men to acknowledge negative affectivity, distress, and health problems in a self-report situation (Barsky, Peekna, & Borus, 2001). In the multivariate analyses in paper IV, the patterns did not differ significantly between women and men. This implies that even if women and men report different levels of shame-proneness, attachment styles, and shame coping, the inner dynamics of the functional interplay and effects of these mechanisms on distress seem to be equivalent in women and men.

Methodological reflections

Assessment of shame-proneness

Methodological reviews have suggested scenario-based measures as the most advantageous for assessment of shame-proneness compared to other self-report measures, as reviewed in the Introduction section of this thesis. These measures are not without limitations, however, which occur primarily in the field of reliability. Across studies, test-retest reliabilities have generally been shown to be high, but slightly lower internal consistency estimates have been indicated in some instances (see review in Tangney, 1996). In part, this may be caused by the tendency of coefficient alpha to underestimate reliability due to the situation variance brought on by the scaling method inherent to the scenario approach (Tangney, 1996). In simplification, this means that a specific scenario may evoke similar levels of ratings on all of its associated response items simply based on its significance to the respondent. This highlights the importance of evaluating and confirming the factor structure of scenario-based measures. If the factor structure is found to be satisfactory, the scenario format offers a therapeutically useful feature, since it allows for the identification of scenarios that are specifically distressing for the patient.

In paper I, the psychometric properties and factorial structure of the TOSCA were investigated. Results showed that all subscales performed well in the single-factor analyses. Internal consistency estimates were satisfactory and at level with previous research (e.g., Tangney, et al., 1998; Woin, et al., 2003). Model fit for the multifactorial model was divided, with the RMSEA indicative of a close fit and the AGFI of a poor fit. Monte-Carlo simulations have shown that the AGFI tends to over-reject models if the sample size is large (Fan, Thompson, & Wang, 1999;
Jöreskog & Sörbom, 1993), as it was in paper I. This would be particularly pronounced in the multifactor model because of its complexity, explaining why the AGFI indicated good fits for the single-factor models but not for the multifactor model. Most of the subscales were only weakly or moderately intercorrelated, but a strong positive correlation was found between the Shame and Guilt subscales, which is coherent with previous research (e.g., Andrews, Qian, & Valentine, 2002; Covert, Tangney, Maddux, & Heleno, 2003; Efthim, Kenny, & Mahalik, 2001; Thompson, Dinnel, & Dill, 2003). In sum, the psychometric properties and factor structure of the Swedish version of TOSCA was acceptable for shame, guilt, and detachment but contained minor shortcomings in the assessment of externalization.

**Statistical modeling**

The field of social sciences characteristically focuses on complex multivariate phenomena where relationships are seldom clear-cut or isomorphic. Studying one or two variables in isolation therefore would be relatively artificial and inconsequential, as it would imply the assumption of independence between variables, which is rarely the case in psychology. Instead, many variables in collaboration typically contribute to an outcome. For this reason, statistical modeling techniques where multiple variables are considered simultaneously generally offer a superior approach to uni- or bivariate testing. Hard models are defined prior to applying data. Using this approach, elements of existing theory and previous research results can be brought together and tested empirically. Hard modeling is useful when theory and previous research regarding the properties of and relationships between constructs to be investigated are available. In psychological assessment and clinical research, however, integrative structures are often complex, not fully tenable, or elusive. SEM software allows for building large and complex models as well as for assessing modification, to make the model fit the data better. However, incorporating too many structural elements or subsequently introducing additional variables into a hard model, and modifying it afterwards, produces a further departure from the initial theory and makes interpretation potentially tentative. In situations where a large number of variables are of interest for investigation and integrating theory is lacking, a soft modeling approach is preferable, since it does not require *a priori* structural assumptions and puts the analysis somewhere in between qualitative and quantitative.
**Limitations**

The findings presented in the present thesis should be considered while taking some limitations into account. The relatively small sample sizes in papers II and III may have affected the results of the bivariate analyses. This problem was reduced in the multivariate analyses by the application of cross-validating bootstrap methods during SEM analysis and the use of PLS analysis. The samples used in this thesis were ethnically homogenous, making generalizations toward individuals with other cultural affiliations tenuous. However, this sample property may also be viewed as an advantage. Since there are known cultural differences regarding shame (e.g., Mesquita & Karasawa, 2004), the use of an ethnically diverse sample in this context could obscure the results.

In paper III, some of the WCQ subscales received low internal consistency estimates in the CFS group (Confrontive and Self-controlling) and in the diabetes comparison group (Distancing). These coping strategies did not demonstrate any significant associations with other variables in the statistical analyses, which may have been a result of their psychometric inferiority in these groups. Consequently, the stated strategies may affect psychological distress even if it did not show in the results. A recent meta-analytic investigation has demonstrated that the Confrontive and Distancing WCQ subscales generate the most variable reliability coefficients across studies, indicating them as potentially problematic across different samples (Kieffer & MacDonald, 2011). Finally, the variables tested in papers II-IV explained a substantial part of the relationship between shame-proneness and psychological distress; however, the possibility of other omitted variables contributing to this relationship is highly plausible and may, in addition, differ between samples.

**Practical implications**

The results in the present thesis emphasize the importance of evaluating and dealing with shame therapeutically. In the context of crisis intervention, it may be important to first relieve the emotional state of shame, but also, later in the line of intervention, to address shame-proneness in order to reduce symptoms and improve resilience in the face of new adversities. Regardless of the patient’s initial preconditions, some of the maladaptive effects affiliated with shame-proneness may be alleviated by targeting the strategies typically used to manage shame.
experience. Nathanson (1992b) argues that making patients aware that feelings of shame are a normal part of the treatment process is an important first step toward resolving the core psychological problems at all four points of the Compass of Shame. Facing shame in the context of a supportive therapeutic relationship is a crucial prerequisite for the patient to overcome the crippling effects of shame. However, in order for patients to learn how to tolerate shame and to understand its varied sources, the therapist must be able and willing to do the same. Therapists who avoid or defend against their own shame typically recreate their patient’s familial patterns (Kaufman, 1996b; Wurmser, 1981).

To approach the functional effects of shame in the therapeutic situation, it has to be distinguished from other affects or emotions, such as fear or anger. The Affect school (Bergdahl, Armelius, & Armelius, 2000; Bergdahl, Larsson, Nilsson, Riklund-Åhlström, & Nyberg, 2005) is a structured psychoeducational group intervention based on Tomkins’s (1962, 1963) affect theory. The intervention addresses topics such as the affect system, the mechanism of stress reactions, and affective scripts. Patients are also asked to remember and present situations in which they experienced each specific affect (e.g., shame), how the affect was experienced, expressed, and how other persons’ expressions of the specific affect were identified. The Affect school targets affective awareness and tolerance, and the group situation is important as it helps patients to become aware of their own as well as others’ emotions. This may also subsequently lead to improved social relationships. Treatment interventions of this kind have the potential to provide shame-prone individuals with better knowledge regarding their shame reactions and an enhanced tolerance for shame experiences in the future.

As discussed above, men seem to acknowledge shame and distress to a lesser extent than women. Shame cannot be dealt with if it is not readily acknowledged. This may implicate that male patients with shame-related symptomatology to a higher extent than previously recognized are in need of emotion-focused interventions to acquire the awareness necessary to deal with their shame. It may also suggest that shame-related issues might not be as discernible in male patients, and may therefore risk being overlooked in treatment.
Implications for future research

The results of papers II-IV suggest that several processes interlace in explaining the relationships between shame-proneness and psychological distress. Future studies need to consider additional factors which may moderate or mediate these effects, such as other emotions (e.g., self-directed anger and disgust), and further vulnerability and resilience factors. An additional crucial prospect is applying this perspective to psychiatric groups. Paper IV provides normative models which can be compared with clinical data to identify the pathways that are particularly important for different diagnostic groups. Research of this kind has the potential of adding to existing knowledge regarding pathogenesis and may also direct the focus for treatment interventions. Whether shaming traumas in adulthood can affect the level of shame-proneness is yet unknown. Further longitudinal studies need to be conducted in this area as well as studies investigating the effects of treatment on the level of shame-proneness and the utilization of different types of shame coping styles.
Acknowledgements

This thesis was produced with shared affiliation to two departments at Umeå University: the Department of Clinical Sciences and the Department of Psychology.

I would like to extend my sincerest appreciation to all of my co-workers and the staff at the Departments of Clinical Sciences and Psychology, and the Psychiatric Clinic in Umeå, as well as to my co-authors for their support and collaboration. In particular:

Elisabet Sundbom, my brilliant supervisor, whom I have been lucky to have by my side. Without her dependable support, empathy, and extensive clinical and theoretical knowledge in the fields of psychology and psychiatry this thesis would not have been completed.

Mikael Henningsson, my clever, witty, and chaotic assistant supervisor, who shared my enthusiasm for statistical analysis.

Olof Semb, my considerate office roommate who reigned over the Division of Psychiatry “youth center” (ungdomsgården) with me, and supported me with much appreciated insights, as well as qualified interpretations regarding sarcasm.

Saori Nishikawa, former office roommate and member of the “youth center”, for the friendship and support.

Anita Forsberg, co-author and friend, together we dealt with fatigue.

Markus Nyström, who recently and valiantly joined the “shame team”, offering invaluable support.

Fredrik Bäcklund, for his heroic act of data entry at the eleventh hour.

All of my fellow PhD students at the Departments of Clinical Sciences and Psychology, for their friendliness and affinity during the past years.

In addition, I would like to extend my heartfelt gratitude to my family and friends who all stood by me throughout the process of working with this thesis:

Nils Westlund, my dearly loved, amiable partner in life, who taught me that confirmation can be received with and without preceding provocation.
Leif Strömsten and Ewa Fröbergh, my beloved parents for their affection, mentorship, and imperturbable conviction regarding my capacities.

Lisa Olofsson, my fabulous big sister who taught me to be independent and to not psychologize everything.

My jovial and warm “in-law family,” who never missed a chance to dress up creatively for an event.

My clever and down-to-earth friends, in particular: heavy metal blacksmith Henrik, troublemaking peacekeeper Ida, Malin, Marcus, Mats, Stefan, Henrik, Erik, Zandra, Anders, Linda and Robert who all always had my back over the years of working with this thesis.

Last but certainly not least I would like to thank Tobias Gustavsson, for the kick-ass cover artwork.

Umeå, November 2011

Lotta Strömsten

Financial support was provided by the Department of Psychology.

This thesis was supported by grants from the County Council of Västerbotten, the J C Kempe Memorial Fund for Scholarships, and the Crime Victims’ Support and Compensation Authority (Brottsoffermyndigheten). In addition, financial support was provided through regional agreement between Umeå University and Västerbotten County Council on cooperation in the field of Medicine, Odontology and Health (ALF).
References


Bäckström, M., Björklund, F., & Larsson, M. R. (2009). Five-factor inventories have a major general factor related to social desirability which can be reduced by framing items neutrally. Journal of Research in Personality, 43(3), 335-344.


REFERENCES


