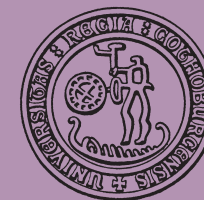


Psychological problems in adolescents and young women with eating disturbances

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Abstract

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This thesis investigated general psychopathology in adolescent and young adult female patients with eating disorders (ED) and in women from the general population with or without self-reported eating problems. First, an overview of different approaches for assessing and classifying psychopathology is presented. The thesis continues with a general description of eating disorders and co-morbidity in eating disorder patients.

Since no appropriate standardized self-report measure of general psychopathology for adolescents was available in Sweden, *study I* provides normative data for the Youth Self-Report (YSR) when completed by Swedish adolescents and tests the impact of various demographical variables. In *Study II*, the YSR was used to assess general psychopathology and competencies in female adolescent ED patients compared to matched controls. Results showed that girls with ED reported less competence and more problems compared to controls. Patients with bulimia nervosa (BN) scored higher than both patients with anorexia nervosa (AN) and those with an eating disorder not otherwise specified (EDNOS) on most problem scales, and AN-bingers/purgers scored higher than pure restrictors on externalizing behaviors. About twice as many patients with BN and the binging/purging type of AN scored in the clinical range on total problems compared to pure restricting AN patients and EDNOS patients. *Study III* compared young adult women with EDs with controls from the general population with and without self-reported eating problems on general psychopathology, using the Symptom Check-List-90 (SCL-90). Results showed that controls with self-reported eating problems reported as many emotional and behavior problems as patients with ED. In *study IV*, a three-year follow-up was obtained on young adult patients and controls concerning eating related problems and general psychopathology. Results showed that after three years, patients with ED did not differ significantly from controls, while the elevated problem scores in women with self-reported eating problems from the general population, remained. Findings are discussed in relation to diagnosis, prevention and treatment.

Key words: Youth Self-Report, Symptom Check List-90, Eating Disorder Inventory-2, Adolescents, Young adults, General psychopathology, Self-reported eating problems, Eating Disorders

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Kerstin Ekeröth

Göteborg, May 2005

List of publications

This thesis is based on the following studies, which will be referred to by their Roman numerals:

- I. Broberg, A.G., Ekeroth, K., Gustafsson, P.A., Hansson, K., Hägglöf, B., Ivarsson, T., & Larsson, B. (2001). Self-reported competencies and problems among Swedish adolescents; a normative study of the YSR. *European Child and Adolescent Psychiatry*, *10*, 186-193
- II. Ekeroth, K., Engström, I., Hägglöf, B., & Broberg, A.G. (2003). Self-reported competence and problems among Swedish girls with eating disorders and a control sample, using the Youth Self-Report. *Eating and Weight Disorders*, *8*, 274-281
- III. Ekeroth, K., Broberg, A.G., & Nevenon, L. (2004). Eating disorders and general psychopathology: a comparison between young adult patients and normal controls with and without self-reported eating problems. *European Eating Disorders Review*, *12*, 208-216
- IV. Ekeroth, K., Broberg, A.G., & Nevenon, L. *Eating related problems and general psychopathology in eating disorder patients and normal controls with and without self-reported eating problems. A three-year follow-up*. Manuscript submitted for publication

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Abbreviations

AN	Anorexia Nervosa
AN-b/p	Anorexia Nervosa - bingeing/purging type
AN-r	Anorexia Nervosa - restricting type
ASEBA	Achenbach System of Empirically Based Assessment
ASR	Adult Self-Report
BN	Bulimia Nervosa
CBCL	Child Behavior Check List
CBT	Cognitive-Behavioral Therapy
EDI-2	Eating Disorder Inventory-2
EDNOS	Eating Disorder Not Otherwise Specified
IPT	Interpersonal Psychotherapy
OCD	Obsessive-Compulsive Disorder
SCL-90	Symptom Check List-90
SES	Socio-economic Status
TRF	Teacher Report Form
YSR	Youth Self-Report

Introduction

Experts warn about the growing number of obese children and adolescents in western countries, and at the same time more attention is directed to the problem of eating disorders especially among female adolescents and young adults. Young people are exposed to an enormous quantity of unhealthy food and snacks, but to fewer “natural” opportunities for exercise (like walking or biking to school). Combining this reality with the picture portrayed in media, that being thin and fit is the way to a happy life and a good career, makes for a truly contradictory message. Feelings of dissatisfaction, frustration and desperation stemming from this “mission impossible”, is common among young females. Fortunately, even though a large number of adolescents and young adults are dissatisfied with their bodies and try out various methods for controlling weight, far from all are affected by an eating disorder. Why is that and what differentiates clinical eating disorders from non-clinical eating problems? Are individuals with eating problems also affected by other emotional and behavioral problems?

Health and ill-health

Many definitions of what constitutes health, both mental and physical, have been suggested. However, since both types of health are strongly related, they probably should be understood from the same dimensional constructs (Brülde, 1998). According to the World Health Organization, the definition of health is “a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”. The word “complete” makes the definition seem much like a Platonian ideal, probably not reachable by many people. From this point of view health is valued as a final or intrinsic goal, good to have in itself, and not merely as a means for a good life (Brülde, 1998). A more functional perspective on health is proposed by Nordenfelt (1995), claiming that a person is healthy if she is in a physical or mental state that enables her to fulfill all her vital goals considering standard conditions. Pörn (1995) defines health as a person’s ability to act in accordance with her life plan, and the balance between a person’s ability and her plans. Brülde (1998) suggests a heterogeneous, multi-factorial definition of health made up of several factors or dimensions.

According to his definition, a person's health is composed of her clinical status, functional health (performance, abilities, competencies), and physical and psychological well-being. This definition views health both as a means (clinical status and functional health) and as a goal (well-being).

Even if many people agree that health is not equal to the absence of clinical ill-health, this is not always regarded in health research. Many studies and instruments claiming to measure health status, in fact rather measure ill-health or disturbances (Antonovsky, 1991; Seedhouse, 1987). Even if we cannot measure or state a bad clinical status, neither physical nor mental, we cannot conclude that the person is healthy or is feeling well. A person's health is definitely influenced by her clinical status, but this is only one dimension or aspect of the health construct. According to Antonovsky (1991) it is important to study both what is necessary for developing good health and to study the development of psychopathology. Since those constructs are not each other's opposites, different criteria and perspectives are needed (Antonovsky, 1991). Psychological disturbance is however one important aspect of health. According to DSM-IV (1994) a mental disorder is "a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress or disability or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom" (American Psychiatric Association, 1994, pp xxi-xxii). Achenbach (1995) broadly defines psychopathology to encompass persistent behavior, thoughts, and emotions that are likely to impede the accomplishment of developmental tasks necessary for long-term adaptation.

This thesis investigates general psychopathology in adolescent girls and young women with eating disturbances, i.e. we do not claim to assess health. The thesis begins with a description of common approaches for measuring and classifying psychological disturbance, and continues with a description of eating disorder diagnoses and related co-morbidity. The thesis is based on four studies, where the first (study I), is a standardization of an instrument for measuring competence and general psychopathology in adolescents, which is thereafter used for assessing competence and psychopathology in teenage girls with eating disorders (study II). Study III continues with an assessment of general psychopathology in young adult women with ED and women from the general population with and without self-reported eating problems. Finally, study IV investigates eating related problems and general psychopathology from a longitudinal perspective.

Approaches for classifying psychological disturbances

The debate on how to assess and classify psychopathology has confounded psychologists and psychiatrists for decades, and there has been a polarization between various standpoints (Jensen, Brooks-Gunn, & Graber, 1999). There are two main approaches for classification of psychological disorders, one theoretical and one phenomenological/descriptive. The theoretical approach tries to understand the underlying causes for a disorder, while the descriptive approach aims to describe the phenomena as they appear and are experienced. The phenomenological/descriptive approach can utilize clinical (categorical) or empirical dimensional methods.

Theoretical approach

Theoretical approaches for classification have emanated from different traditions, but all agree to the assumptions about how intrapsychological events and personality processes are believed to cause psychological disorders. The foremost advocate for this approach was Sigmund Freud. Freud's psychoanalytic theory was primarily based on his clinical work with adults and he did not include observations of normal children as an empirical base for his theory of early development. Anna Freud brought further the theoretical assumptions on how children develop psychopathology. Among other things, she constructed a special developmental profile grounded in psychoanalytically based observations of children (Freud, 1965). The only systematic effort to classify developmental psychopathology came in 1966 from the *Group for the Advancement of Psychiatry* (GAP; 1966). This effort resulted in eight categories based on psychoanalytic terms and presumptions. Supporters of the theoretical approaches claim that by paying attention to the underlying personality processes, from where the disorders are thought to emerge, we will have better opportunities to formulate treatment and interventions. Theoretical approaches are helpful for the clinician when trying to understand and help patients. Disadvantages and constraints with this method for classification are that the theories are based on presumptions and hypotheses not shared by all (Volkmar, 1991), and that

the subjective interpretations make it difficult for clinicians to agree about the diagnosis of a disorder (Weiner, 1992).

Phenomenological/Descriptive approach

Clinical/Categorical approach

The clinical approach to classification is based on observations looking for similarities between various symptoms and manifestations shown in different disorders. Repeated patterns of symptomatology are thought of as a group constituting or representing a syndrome or a diagnosis. Theoretical speculations about causes of the disorder are secondary to the process of establishing a syndrome and its manifestations clinically (Weiner, 1992). American Psychiatric Association's (1994) *Diagnostic and Statistical Manual of Mental Disorders* (DSM) and the schema developed by the World Health Organization (WHO) *International Classification of Diseases* (ICD; 1992) are examples of classification based on clinical observations as those mentioned above. When it comes to the validity for children and adolescents, all upgradings have contained additions and changes as knowledge has expanded and inadequacies have been observed. Before the 1968 version of the DSM (DSM II) there were only two categories of psychopathology for children and adolescents; Adjustment Reaction of Childhood and Schizophrenic Reaction, Childhood Type. In later versions, categories have been added and specified, but critics claim that those categories have not been derived from empirical studies, neither have they been calibrated from one version to another (Achenbach, 1995). The approach is based on the assumption that a disorder is either present or absent. Either you fulfill the criteria for a conduct disorder or you do not. Today, both DSM and ICD have been tested in empirical field trials, but those studies have presupposed what was to be proven, namely that psychiatric dichotomies do exist (Achenbach, 1995) The clinical syndromes have not been derived from empirical studies; on the contrary the empirical investigation has been the second procedure in the process. The categorical method of classification also has reliability problems concerning overlapping syndromes that contain common or similar symptoms, which make it difficult for clinicians to agree about the actual disorder. A problem concerning validity is that the categorical models of classification do not take into consideration that the same disorder can manifest itself differently at different occasions and under different circumstances.

A methodological problem following from the clinical approach concerns treating continuous variables as categorical and thereby reducing them, even

though they would better be described as continuous. Dichotomizing an inherently continuous variable leads to a substantial loss in power. Some psychopathological problems/aspects are not well described as either present or absent, but can manifest themselves in various degrees and in different ways, not least due to the development in childhood and adolescence. By treating them as dichotomous, we risk ignoring important information about the syndrome. Following from the above is the problem about what to do with the false-positive (individuals that score high on a screening or symptom instrument but not meet the criteria for a formal diagnosis), and subthreshold cases (Helmchen, & Linden, 2000; Jensen et al., 1999). However, despite its limitations, the clinical/categorical approach is most advantageous in facilitating decision-making in clinical practice. Also, new empirical research adds valuable knowledge, continually improving comprehension of the categories and diagnoses.

Empirical/dimensional approach

The dimensional approach for classifying psychopathology has been derived from experimental trials or procedures (Weiner, 1992). Data about behavioral and emotional problems have been collected from big representative samples and have been analyzed, using multivariate statistical methods, to identify syndromes of co-occurring problems. Also, by analyzing separate groups with different characteristics, such as sex and age, one is allowed to take into account the variations in problems and symptoms. Comparisons between groups can then be made to reveal similarities and differences in problem patterns, which are related to different characteristics (Achenbach, 1995). One apparent problem with this approach is that you cannot derive anything beyond what is in the data. Odd and rare symptoms might never be clustered and thereby not included in the instrument, leading to loss of important aspects of psychopathology.

One empirically derived procedure for collecting data about psychopathology in children and adolescents is behavior-rating scales. They are typically composed of standardized instructions and answers, and individual scores are added to give quantitative indications on how the individual functions in some areas. The questionnaires contain items concerning problems and/or competencies. Standard scores are calculated from normative samples and scale scores are tested for validity and reliability. The advantage of using rating scales is that quantitative scores often are more reliable methods for measuring children's psychological adjustment than projective tests or subjective judgments. It is

also easier to say something about the child's deviant behavior when he or she is compared to a normative sample. Many questions covering a wide spectrum of relevant behaviors can point towards problems other than those that were the reason for referral. Moreover, it is an effective and economical procedure for collecting data, which gives the researcher or clinician an opportunity to spend more resources on other important sources of information that are not covered by the questionnaire (McConaughy, 1993).

Taken together, all of the approaches have contributed to the understanding of developmental psychopathology. Different approaches and methods for classification are needed in different situations and since none of them are superior in all contexts, they should rather be seen as complementary to each other.

Different dimensional methods

Children and adolescents have not always been seen as reliable and important sources of information about their own emotions and behaviors. During the last decades there has been an increasing development and refinement of behavioral rating scales, including children and adolescents' self-reports (Hart, & Lahey, 1999). Reliability and validity tests have been of great concern, which has increased the utility and usefulness of the instruments in both research and clinical practice. Measurement of behavioral and emotional problems can be made using both broad generic rating scales and more narrow scales developed for assessing specific symptoms or syndromes (Hart, & Lahey, 1999). Examples of instruments developed for specific internalizing symptoms are the Beck Depression Inventory (BDI) (Beck et al., 1981) and its downward extension Children's Depression Inventory (CDI) (Kovacs, 1992), the Depression Self-Rating Scale (DSRS) (Birlerson, 1981), the Revised Children's Manifest Anxiety Scale (RCMAS) (Reynolds, & Richmond, 1978), and the State-Trait Anxiety Inventory for Children (STAIC) (Spielberger, Edwards, Montuori, & Lushene, 1973). For externalizing type of behavior (especially attention deficit, hyperactivity, and oppositional defiant behavior) most existing instruments are parent and teacher reports. One example of self-reports covering externalizing behavior is the Self-Report Delinquency (SRD; Hinshaw, & Nigg, 1999).

Examples of well-developed broad or generic instruments offering self-reports are the Behavior Assessment System of Children (BASC; Hart, & Lahey, 1999), the Strength and Difficulties Questionnaire (SDQ; Goodman, Meltzer, & Bailey, 1998), and the Achenbach System of Empirically Based

Assessment (ASEBA; Bérubé, & Achenbach, 2000), all of which offer a multi-informant approach.

When to use generic versus specific rating scales depends largely upon the purpose and context. Specific scales are in general less time consuming, and sometimes needed for a more detailed assessment and analysis, but considering the frequent overlap between externalizing and internalizing problems and the importance of assessing co-morbid psychopathology, broader instruments are often preferred and advisable, not least at the initial phase. The use of a narrow symptom list can result in a failure to notice important associated behaviors. Individuals with the same type of externalizing behavior can differ in significant ways depending on the profile on other types of scales (Hinshaw, & Nigg, 1999). In Sweden, no standardized, generic self-report questionnaire for adolescents existed in 1998 when the work on this study began.

Swedish studies of psychological ill-health in adolescents

Several studies have been conducted concerning health status among Swedish children and adolescents, looking at the influence of important factors, such as social differences, unemployment, living conditions, habits, drugs, and school environment (for an overview, see Alsterdal, 1996). However, one difficulty with these studies concerns the problem of comparing them and looking at them over time, due to the various methods used (Alsterdal, 1996). This points to the need for developing appropriate methods for measuring health problems in Swedish adolescents. Another issue worth addressing is the increased focus on differences between health problems in boys and in girls (Alsterdal, 1996; Wångby, 1997). For example Wångby (1997) noted the apparent lack of data based on adolescent girls. Using data from the longitudinal Swedish research program "Individual Development and Adjustment" (IDA), Wångby and colleagues (Bergman, & Wångby, 1995; Wångby, 1992; Wångby, Bergman, & Magnusson, 1999) investigated externalizing and internalizing adjustment problems in girls. Both a dimensional variable approach and a person-oriented approach were used at different stages in the research (Wångby, 1997). The authors found that in early adolescence externalizing and internalizing problems seem to be independent phenomena, but from middle adolescence, girls showing externalizing problems are at a higher risk of also developing internalizing problems. They also found that somatic complaints appear to be an important factor, which could be seen as a general sign of maladjustment, independent of type of problems (Wångby, 1997).

Achenbach System of Empirically Based Assessment (ASEBA)

One of the most widely used and quoted examples of an empirical approach for classification and assessment of psychopathology in adolescents is the Achenbach System of Empirically Based Assessment (ASEBA; Bérubé, & Achenbach, 2000). This “family” of instruments offers tools for assessing adaptive and maladaptive functioning from 1.5 to 90+ years of age. For children aged 1.5-5 years there exists a questionnaire for ratings by daycare providers and teachers, the Caregiver-Teacher Report Form (C-TRF/1½-5) and by parents, the Child Behavior Checklist (CBCL/1½-5). For ages 4-18 there is a parent report, the Child Behavior Checklist (CBCL/4/18) and a teacher report form, the Teacher Report Form (TRF/5/18). For the same age span there also exists a Direct Observation Form (DOF) and a Semistructured Clinical Interview for Children & Adolescents (SCICA). The Youth Self-Report is a self-report questionnaire for children and adolescents between 11-18 years (YSR/11-18). For adults there are two self-report questionnaires, the Adult Self-Report (ASR/18-59) and the Older Adult Self-Report (OASR/60-90+). For parents, partners, or others who know the person well, there are two corresponding questionnaires: the Adult Behavior Checklist (ABCL/18-59) and the Older Adult Check List (OACL/60-90+). A central aim of the questionnaires is to measure competence and psychopathology using dimensions, and an important consequence of this is that the child/adolescent does not have to be placed in a category, which means to have or not have a certain disorder. His/her problems are free to vary on different scales and to have the main emphasis on one or more of these. The ASEBA approach permits the user to find out if the adolescent primarily has internalizing problems, externalizing problems, or both types of problems. Even though there is a positive relation between these two dimensions, some adolescents may have elevated problems on one dimension only, and since children and adolescents that have either of these types of problems can differ in critical and significant ways, information about this pattern can be valuable from several aspects, for example concerning the development of treatment plans, for grouping adolescents with similar problems for group therapy, for interventions, for parent training groups, when making hypotheses about etiology etc. (Achenbach, 1991a). The ASEBA questionnaires also make it possible to look at the specific problem profile for an adolescent. On the CBCL, TRF, and YSR an adolescent’s raw score can be entered on a profile sheet and be compared to normalized T-scores and percentiles from a normative sample of

adolescents of the same sex, which gives a lucid graphic picture of the adolescent's profile (Achenbach, 1991a,b,c).

Multi-informant assessment

The ASEBA approach is a multi-informant assessment tool. Studies that have investigated the agreement between different informants point at the importance of collecting data from different sources. Results from studies of cross-informant agreement between the YSR, CBCL and TRF show low to moderate agreement (Achenbach, 1991d; Baruch, Fearon, & Gerber, 1999; Phares, Compas, & Howell, 1989; Sawyer, Baghurst, & Clark, 1992; Seiffge-Krenke, & Kollmar, 1998; Stanger, & Lewis, 1993; Treiber, & Mabe, 1987; Verhulst, & van der Ende, 1992). The comparatively large disagreement between different informants does not mean that some of the informants must be incorrect or that they lack in reliability and validity. Instead, the lack of agreement points at the importance of multiple informants when assessing psychological problems, since the adolescents behave differently in different situations and in relation to different people (Achenbach, 1991a; Phares et al., 1989). Together, various sources of information can give a more complete picture and a better understanding of the specific problems that exist in various situations. The YSR should therefore be thought of as one component in a *multi-axial* assessment approach, i.e., one instrument among others to measure behavior and competencies in adolescents (Achenbach, 1991a; McConaughy, 1993). The level of agreement between different informants is valuable information when making conclusions about the seriousness of the problems. When there is a high agreement, the problems can more confidently be generalized to various contexts and a more intensive treatment can be used, while a low agreement can show that some problems are specific to particular situations and environments (Martens, 1993).

In the present thesis, two self-report measures of broad, general psychopathology were used. In study I and II, the YSR was used on adolescent populations, and for assessment in young adults, the Symptom Check List-90 (SCL-90) was chosen for study III and IV.

Eating disorders

Eating disorders are among the most common severe disorders in girls and young women (Whitaker, 1992). The western culture's ideal of beauty and slimness is one of the factors that is said to strongly influence girls' and women's perception of their bodies and of how they ought to be and not to be (Stice, & Whitenton, 2002; Tiggemann, & Pickering, 1996). The theoretical models that have been advocated about the causes for different eating disorders have, because of the complexity of the phenomenon, been multi-factorial; from biological, psychoanalytical, and psychodynamical models to feminist, historical, capitalistic/political, and evolutionary models (Banks, 1992; Lee, 1995). Moreover, eating disorders have for a long time been thought of as a culture-bound syndrome concerning white, middle class women, and often have not been thought to exist in other societies or cultures. However, studies show that eating disorders are present also in non-western societies, though not as prevalent (Al-Subaie, 2000; Lee, 1993; Oyewumi & Kazarian, 1992a,b). In a recent review, Keel and Klump (2003), suggest that BN is a culture-bound syndrome, while AN is not. On the other hand, the concept of culture is difficult to define. We can for example, in a broad sense, talk about western culture versus eastern culture, but none of these cultures is homogeneous. Instead both contain an array of ethnicities and subcultures, for example Swedish, American, or Italian culture. In addition, these cultures in turn contain subcultures such as Afro American, Latin American or Sami culture. By culture one can also refer to different social classes, or like feminists, talk about the different cultures of men and women. The westernized, industrialized culture is often thought of as one important factor, giving rise to the form of eating disorders we see today, but are there any differences within the western society? Studies have found differences between the USA and western Europe on eating disorders and disturbed body-image with a higher proportion of problems in the USA than in Europe (Mangeweth, Pope & Hudson, 1994; Raich et al., 1992). However, these differences have in some cases been explained by variations in diagnostic praxis rather than in true cultural differences. Mautner, Owen, and Furnham (2000) did not find any differences in relations between body-image

disturbance and related factors, such as self-esteem, obesity, social comparison, maturational status, teasing, and sociocultural influence in Italian, American, and English female university students. However, the result might indicate the similarity between female university students rather than cultural similarities.

Like many other syndromes, eating disorder diagnoses have been defined in Western societies from Western criteria and values, and thereafter been applied to other cultures. The same also holds for the methods of assessment that have been used for studies of representation and manifestation of eating problems. Obviously, this can strongly influence and affect the results of cross-cultural comparisons and the conclusions made from those studies. In other cultures, eating disorders might have grounds and manifestations that are not discovered and noted when applying western-derived diagnoses and instruments on these cultures.

Diagnostic criteria according to DSM-IV

According to DSM-IV criteria, there are two main diagnoses for disturbed eating behaviors: anorexia nervosa (AN) and bulimia nervosa (BN), plus a third category: eating disorders not otherwise specified (EDNOS), containing patients who do not completely fulfill any of the two principal diagnoses (see Table 1, 2, and 3). AN is characterized by a strongly restricted food intake and BN is characterized by periods of binge eating which are compensated for by different inappropriate compensatory behaviors, such as vomiting, use of laxatives, excessive training etc. The criteria for eating disorder diagnoses have changed and developed with different versions of the diagnostic manuals.

Table 1 *Diagnostic criteria for Anorexia Nervosa according to DSM-IV-TR (2000)*

Anorexia Nervosa

- a) Refusal to maintain body weight at or above a minimal normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected).
- b) Intense fear of gaining weight or becoming fat, even though underweight.
- c) Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.
- d) In postmenarcheal females, amenorrhea, i.e., the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen administration.)

Specify type:

Restricting Type: during the current episode of Anorexia Nervosa, the person has not regularly engaged in binge-eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

Binge-Eating/Purging Type: during the current episode of Anorexia nervosa, the person has regularly engaged in binge-eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

Table 2 *Diagnostic criteria for Bulimia Nervosa according to DSM-IV-TR (2000)*

Bulimia Nervosa

- a) Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:
 - (1) eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances,
 - (2) a sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating)
- b) Recurrent inappropriate compensatory behavior in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise.
- c) The binge eating and inappropriate compensatory behaviors both occur, on average, at least twice a week for 3 months.
- d) Self-evaluation is unduly influenced by body shape and weight.
- e) The disturbance does not occur exclusively during episodes of Anorexia Nervosa.

Specify type:

Purging Type: during the current episode of Bulimia Nervosa, the person has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

Nonpurging Type: during the current episode of Bulimia Nervosa, the person has used other inappropriate compensatory behaviors, such as fasting or excessive exercise, but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

Table 3 *Diagnostic criteria for Eating Disorder Not Otherwise Specified according to DSM-IV-TR (2000)*

Eating disorder not otherwise specified

This is a diagnostic group for patients who do not fulfill the criteria for AN or BN.

1. For females, all of the criteria for AN are met except that the individual has regular menses.
 2. All of the criteria for AN are met except that, despite significant weight loss, the individual's current weight is in the normal range.
 3. All of the criteria for BN are met except that the binge eating and inappropriate compensatory mechanisms occur at a frequency of less than twice a week or for duration of less than 3 months.
 4. The regular use of inappropriate compensatory behavior by an individual of normal body weight after eating small amounts of food (e.g., self-induced vomiting after the consumption of two cookies).
 5. Repeatedly chewing and spitting out, but not swallowing, large amounts of food.
 6. Binge eating disorder: recurrent episodes of binge eating in the absence of the regular use of inappropriate compensatory behaviors characteristic of BN.
-

Prevalence and incidence

How common are eating disorders in the population? In epidemiological research a distinction is made between *prevalence* and *incidence*. Prevalence refers to the total number of cases in the population. Incidence on the other hand refers to the number of new cases in a particular population during a specific time period, and is commonly reported as the number of new cases per 100 000 in the population per year (Hoek, & van Hoeken, 2003).

Epidemiological research on ED is problematic for several reasons. Firstly, the definition of cases varies, both due to different diagnostic systems, and also because the diagnostic systems have changed over time. Also, especially concerning the EDNOS diagnosis, inclusion and exclusion criteria are vague. Secondly, the prevalence of ED is relatively low, which makes statistical power a methodological problem; and thirdly, there is a tendency of individuals with ED to hide their illness and to avoid seeking treatment, which makes the real number of affected individuals difficult to estimate (Engström, 2002; Hoek, & van Hoeken, 2003). Preferably, studies investigating the epidemiology of eating disorders should be population based and use a two-stage design, i.e. a screening procedure is followed by clinical interviews of individuals found to be at risk through the screening.

Several reviews on prevalence and incidence have been conducted, and the prevalence of AN among young women has been estimated to 0.2 – 0.4 %, and 1-2 % for BN (Engström, 2002, Hoek, & van Hoeken, 2003). The prevalence of individuals with an EDNOS diagnosis is much more difficult to estimate and valid research is lacking. According to Engström (2002), EDNOS is likely to be three to four times as common as AN and BN. The female to male ratio for EDs is approximately 10:1 (Engström, 2002; Hoek, & van Hoeken, 2003). The incidence of AN appears to be about 10 to 40 new cases/100 000 women/year (Engström, 2002), and for BN, which is much less investigated than AN, it varies between 5 and 65 new cases/100 000/ year. In a recent review, Hoek and van Hoeken (2003) found the incidence for AN and BN to be 8 and 12 per 100 000 population/year respectively. However, the authors assume that even the most rigorous case-finding methods will underestimate the true incidence in the population. For the city of Göteborg, it would mean that as a minimum, there are approximately 20 new cases of AN and 30 new cases of BN each year.

Treatment and outcome

There is no simple and universal treatment for EDs. The choice of treatment depends on factors such as kind and severity of problems, age of the patient, and additional problems. In treating AN, the primary goal is always to restore a healthy body weight. Not until then is it meaningful to work therapeutically with other psychological problems. In cases of severe ED, inpatient treatment can be necessary. Therapy and treatment can be given both individually and in groups. Especially for BN, group therapy has shown to be effective. The group format offers the patient a possibility to get feedback and to discuss problems and strategies with other patients and to work with their interpersonal difficulties.

Psychoeducation is an important part of treatment and is usually incorporated in treatment independently of “therapeutic school”. It can be given individually as well as in family and groups. The aim of psychoeducation is to correctly inform about eating disorders and their multifactorial nature. It should contain information about causes, maintaining factors and physical complications. It should also include information about nutrition, healthy eating and exercising, effects of various weight controlling behavior, the theory of set-point, treatment strategies, and techniques for preventing relapses. Psychoeducation has more or less become a standard component in cognitive-behavioral therapy (CBT) for ED (Garner, & Needleman, 1997; Nevenon, 2002).

Family therapy is recommended for young patients still living with their parents (or other caretakers). It has been argued that ED often reflects certain conflicts, dysfunctional alliances and interaction patterns within the family, which can be manifested in different ways. Moreover, parents and other family members need support and assistance in dealing with the disordered young patient (Garner, & Needleman, 1997).

Cognitive-behavioral therapy (CBT) is most often the choice of treatment for BN, and to a large part also for AN, even though there are some differences in their strategies. A common ground is to work with the patient's dysfunctional thoughts and attitudes about weight and shape as a foundation for feelings of self-worth and personal value. Another important component in CBT is the emphasis on self-monitoring of food intake, bingeing, and purging, and what kind of thoughts and feelings that trigger and follow from these behaviors. Also important in the therapy is to normalize the disordered eating patterns (Garner, & Needleman, 1997).

In contrast to CBT, *interpersonal therapy* does not have its main focus on ED symptoms; instead the attention is focused on interpersonal and relational problems and how to modify them. According to Fairburn (1997), interpersonal therapy includes three stages where the first stage focus on identifying the problems that have caused and maintain the disturbed eating behavior. In the second stage the patient takes a more active role in working with these issues and problems. In the last stage, attention is on the future, and how to prevent relapses.

Psychopharmacological treatment is sometimes recommended as a supplement to other forms of treatment for BN patients. Generally, the medication consists of antidepressants, most often a SSRI (Selective Serotonin Reuptake Inhibitor). For AN patients, support for pharmacological therapy is limited and it is generally not recommended (Garner, & Needleman, 1997; Hägglöf, 2002).

Sequenced therapy: Lately, several attempts have been undertaken with the intention to integrate different forms of therapy. The idea is that it is advantageous to include a broader scope of target areas in the treatment. At the Anorexia and Bulimia Unit at Queen Silvia Children's Hospital in Göteborg, a sequenced group therapy, consisting of CBT (ten sessions) and IPT (thirteen sessions) has been in use since 1998. The intention is to integrate treatment of symptoms and interpersonal difficulties. Two studies comparing sequenced therapy in group versus individually for patients with BN and EDNOS (type

three), have been completed (Nevonen, & Broberg, 2005; Nevonen, & Broberg, submitted).

When it comes to treatment outcome, it has been estimated that approximately 50 % of ED patients fully recover, about 30 % partially recover, while 20 % do not respond well to treatment (Fisher, 2003; Keel, & Mitchell, 1997; Steinhausen, 2002). The mortality in AN is estimated to be 5 to 10 %, including suicide (Steinhausen, 2002). In a meta-analysis on treatment outcome, Fisher (2003) concludes that treatment outcome is slightly better among adolescents compared to adults. Likewise, long duration of illness has been found to have a negative effect on outcome (Pirke, 1998; Reas, Williamson, Martin, & Zucker, 2000; Steinhausen, 2002).

Type of treatment can also influence outcome. To date, CBT has been shown to be the most effective treatment for BN (Fairburn, & Harrison, 2003), but also IPT has proven to be effective (Agras, Walsh, Fairburn, Wilson, & Kraemer, 2000). Controlled treatment studies are fewer for AN and EDNOS patients. Important to bear in mind though, is that there seems to be a better outcome for treatments given in treatment studies, compared to the “ordinary” treatments given in treatment facilities. Perhaps the study situation itself makes participants, both patients and clinicians, more motivated and focused. Also, it is not always the case that the treatment under study is the treatment usually offered at the unit doing the research.

Continuity/Discontinuity hypothesis

One important question that has come to light from the discussion of diagnosis and etiology is how clinical ED differs from other forms of eating problems or disturbances. There is no clear and simple answer to this question but there are mainly two theories that have been advocated: the continuity hypothesis and the discontinuity hypothesis. The continuity hypothesis claims that eating disorders fall on a continuum from mild to severe, and what mainly distinguishes clinical ED from non-clinical eating behavior disturbances is the severity of problems (both eating related and general problems). From this perspective, the same variables that distinguish clinical ED from subthreshold ED, should also distinguish subthreshold ED from nondeviant eating (Fitzgibbon, Sánchez-Johnsen, & Martinovich, 2003). The discontinuity hypothesis views ED as something qualitatively different from milder eating problems. It is not only a matter of degree, but also a matter of type. As an example

McLaren and co-workers (2001) argue that what distinguishes ED from the non-clinical variants is the elevated general psychopathology found in ED patients. However, this argument raises several questions. Is it not possible to have a clinical ED if you are not also showing high general psychopathology? How much and what kind of psychopathology do you need to show? If what makes clinical ED something qualitatively different from sub-clinical ED is the increased general psychopathology, then someone not showing this, but still fulfilling all diagnostic criteria, cannot have an ED. Furthermore, if clinical ED is in fact qualitatively different from sub-clinical eating problems, then studies of eating problems and weight concerns in non-clinical samples might generate information which is not relevant for theories of ED, since it will be information about a different phenomenon (Williamson, Gleaves, & Stewart, 2005). However, as is usually the case, there exists a third possibility, which is a combination of the continuity and discontinuity approaches. Support for this perspective was found by Williamson and co-workers (2005) who reviewed the literature on ED taxonomy and found preliminary support for the idea that binge eating (and possibly purging) does not exist on a continuum, but that the restricting form of AN can be seen as something varying in degree from normalcy.

Co-morbidity and general psychopathology

Many patients with eating disorders suffer from co-morbid psychiatric disorders or show other concurrent psychological symptoms. In the following, the term co-morbid psychopathology will be used for conditions that have been given a formal psychiatric diagnosis (according to for example e.g. the DSM system), while general psychopathology will refer to psychological problems in a more general sense.

Depression

One often reported co-existing form of co-morbid psychopathology is depression (Casper, 1998; Halmi et al., 1991; Pollice, Kaye, Greeno, & Weltzin, 1997; Herzog, et al., 1992a). However, it is important to be aware that symptoms of starvation closely resemble symptoms of primary depressive disorder and might influence depression ratings, especially by underweight AN patients, but also among normal weight BN patients (Casper, 1998). Self-reported scores of depression, anxiety and obsessive-compulsive behavior have been found to be elevated in AN patients during the underweight state and to improve with

weight restoration (Pollice et al., 1997). Important though, is that there existed significantly elevated scores also after long-term weight restoration compared to healthy women. Corcos and co-workers (2000) found AN patients to have higher depression and anxiety scores on Hospital Anxiety and Depression Scale compared to BN patients, even though both patient groups scored higher than controls. Hertzog and co-workers (1992a) found affective disorders to be the most frequent co-morbid disorder at intake. Major depression, which was most common, was present in 53 % of the AN patients seeking treatment. In a Swedish study, Ivarsson and colleagues (2000) investigated depressive disorders in AN patients longitudinally over a ten-year period. The authors found that a depression diagnosis (major depression or dysthymia) existed in more than four of five patients with teen-age onset AN within a ten year period after onset of the eating disorder.

Anxiety disorders

Among the anxiety disorders, several studies have reported an elevated frequency of social phobia, both in AN and BN (Brewerton et al., 1995; Godart, Flament, Lecrubier, & Jemmet, 2000; Halmi, et al., 1991; Kaye et al., 2004). Godart and colleagues (2000) found social phobia to be the most common co-morbid anxiety disorder in both AN and BN. In 75 % of AN patients and 88 % of BN patients the anxiety disorder had predated the eating disorder. Halmi and co-workers (1991) found that 33.9 % of the AN patients at sometime had been affected by social phobia. Brewerton and colleagues (1995) studied a group of 59 BN patients, where ten (17 %) were found to meet the criteria for social phobia (not related to fear of eating in public) and in all cases the onset of the phobia predated the onset of BN. In addition, the same ten patients also had a history of major depression. Brewerton and co-workers argue that these findings point at etiological associations between eating disorders, affective disorders, and social phobia. More support for the co-existence of eating disorders and social phobia was found in a study of social phobia, in which four of twenty-one (20 %) phobic women met the criteria for an eating disorder (2 AN, 2 BN) (Van Ameringen, et al., 1991).

Godart and co-workers (2000) assessed lifetime prevalence of seven anxiety disorders and the age of onset compared to the onset of the eating disorder. Among AN and BN patients, 83 % and 71 % respectively, had at least had one anxiety disorder diagnosis during their lifetime. Social phobia was the most common diagnosis for both patients with anorexia and bulimia. The only significant dif-

ference between AN and BN patients was for Obsessive-Compulsive Disorder (OCD), where 21 % of AN and none of the BN patients had had such a diagnosis. Among those with a co-morbid anxiety disorder, the anxiety disorder had predated the eating disorder in 75 % of the AN patients and 88 % of the BN patients. Among BN patients, OCD has been reported to range from 3 % - 80 % (Herzog, Nussbaum, & Marmor, 1996; Kaye et al., 2004; Matsunaga et al., 1999). At a six-year follow-up of AN patients, Råstam, Gillberg, and Gillberg (1995), found that 31 % had at some time in their life met the criteria for OCD and that 20 % met the criteria for OCD at the time of follow-up. In BN, OCD symptoms have been found to be persistent after recovery, possibly indicating that the behavior is trait-related (von Ranson, Kaye, Weltzin, Rao, & Matsunaga, 1999). Davis and Claridge (1998) found AN patients to report themselves to be more obsessive-compulsive and socially conforming than BN patients. Especially in AN, many of the core symptoms could be thought of as obsessional (body-image distortion, pathological feeding, calorie counting, and exercise) which is important to remember when studying obsessive-compulsive symptoms in AN (Kaye, Weltzin, & Hsu, 1993). Excluding the obsessions “inherent” in AN, orderliness, symmetry, cleanliness, and perfectionism have been the obsessions of particular concern for AN patients (Goodman et al., 1989a, 1989b; Matsunaga, et al., 1999; Rothenberg, 1986; von Ranson et al., 1999).

Personality disorders

Personality disorders have been reported for both AN and BN patients (Herzog et al., 1992b; Diaz-Marsa, Carrasco, & Saiz, 2000; Rosenvinge, Martinussen, & Ostensen, 2000). In DSM-IV, personality disorders are coded on axis II. Based on descriptive similarities, they are divided into three clusters; A, B, and C. Cluster A contains paranoid, schizoid, and schizotypal personality disorders; cluster B contains antisocial, borderline, histrionic, and narcissistic personality disorders; and cluster C contains avoidant, dependent, and obsessive-compulsive personality disorders. Among AN patients, avoidant and obsessive-compulsive personality disorders (cluster C) seem to be the most common (Herzog, et al., 1992b; Gillberg, Råstam, and Gillberg, 1995; Diaz-Marsa et al., 2000; Rosenvinge et al., 2000). Bulimic AN patients have been found to more likely to have a cluster B personality disorder compared to restrictors (Braun, Sunday, Halmi, 1994; Hertzog et al., 1992b). Among BN patients, cluster B personality disorders are frequently reported, with borderline personality disorder being the most prevalent (Rosenvinge et al., 2000). Diaz-Marsa and colleagues

(2000) found borderline personality disorder to be most common among BN patients and patients with AN-b/p. For BN patients, personality disorders in cluster C have been reported to be as common as for AN patients (Rosenvinge et al., 2000). Råstam and co-workers (1995) and Gillberg and co-workers (1995) noted a considerable overlap between axis I and axis II disorders, and that a co-morbid personality disorder was a significant predictor for poor outcome in AN-patients. However, in a fresh, well-conducted, longitudinal study, Rø, Martinsen, Hoffart, and Rosenvinge (2005), question earlier studies reporting very high frequencies of personality disorders among ED patients. In their study, the frequency of PD decreased from 77 % at admission to 54 % at 2-year follow-up. Patients in remission at follow-up had significantly lower prevalence of personality disorders (21 %). Nevertheless, it is still unclear if the personality disorder disappears when the ED disappears or if recovery rates are higher in patients without a personality disorder.

Substance abuse disorders

Eating disorder patients have in several studies been found to have substance abuse disorders. In AN patients, lifetime substance abuse has been found to be moderate, with higher rates for bulimic AN patients than for restrictors. For BN patients, higher rates of substance dependence has been reported (9 % - 55 %) (Beary, Lacey, & Merry, 1986; Hertzog et al., 1996). Alcohol abuse was found to be more prevalent for patients with bulimia compared to sub-syndromal bulimics and controls (Garfinkel et al., 1995). In addition, elevated rates of eating disorders have been found among substance abusers (Beary et al., 1986; Jonas et al., 1987). Both AN and BN patients have been reported to score high on the addiction scale on the Eysenck Personality Questionnaire (Davis, & Claridge, 1998), and one study found BN patients to score higher on the addiction scale and to be more similar to drug addicts compared to AN patients (de Silva and Eysenck, 1987). Bulik, Sullivan, Carter, and Joyce (1997) found bulimics with a concurrent alcohol misuse to show a higher frequency of suicidal behavior, anxiety disorders, higher misuse of other drugs, conduct disorders and personality disorders (especially borderline and histrionic). They also had higher scores on novelty seeking, impulsivity, and immature defense.

Impulsivity disorders

As several studies have reported a higher frequency of suicidal behavior, drug use, and stealing in girls with BN (Baum, & Goldner, 1995; Garfinkel, Mol-

dofsky, & Garner, 1980; Garner, Garfinkel, & O'Shaughnessy, 1985), there has been an increased interest in the constructs of impulsivity and aggression, and their importance for, and relation to, eating disorders. Bulimic behavior is often thought of as an expression or manifestation of a failure to control impulses to eat, and to get rid of the food afterwards. In addition, earlier studies have found that girls with bulimia not only have lower impulse control and elevated rates of impulsive behavior but also express more aggression compared to girls with AN (Fahy & Eisler, 1993; Keel et al., 2000; Mitchell, Hatsukami, Pyle, & Eckert, 1985). Some authors have suggested the existence of a subgroup of bulimics with multi-impulsive BN, where the weak impulse control is the fundamental or basic psychopathology (Fichter, Quadflieg, & Rief, 1994; Lacey, & Evans, 1986). In combination with BN the patient should also exhibit problems with stealing, alcohol or drug misuse, overdoses, repeated self-harm, or sexual disinhibition. Each of those behaviors should also be accompanied with a feeling of dyscontrol. The definitions of multi-impulsive BN diverge somewhat, which makes comparisons between studies difficult. Some authors have meant that one of these behaviors plus BN are enough for multi-impulsive BN, while others say that three of these behaviors are necessary. Moreover, another important difference concerns the type of sample used. Clinical samples probably contain patients with more co-morbid psychopathology than non-clinical samples. Irrespective of if there exists such a subgroup or not, many patients with BN seem to have disinhibitory problems. Some studies have found restricting AN patients to be less impulsive than AN-b/p patients (Garfinkel et al., 1980; Garner et al., 1985; Diaz-Marsa et al., 2000). It has been suggested that patients with bulimic behavior, regardless of weight, show types of psychopathology that resemble each other, and that this seems to be qualitatively different and more severe than that of non-bulimic AN-patients (Garfinkel et al., 1980; Sohlberg, Norring, Holmgren, & Rosmark, 1989). This view contrasts somewhat with the idea that eating disorders are strongly related since many patients have both AN and BN symptoms and even change diagnosis or symptoms over time (Harper-Giuffre, 1992).

Aggressive behavior

Even though aggressive behavior is not necessarily studied as a psychopathological state and often lacks a proper definition of aggression, studies have found differences in aggressiveness not only compared to controls but also between ED diagnoses. Fava and co-workers (1995) found more aggression attacks in

patients with eating disorders compared to matched controls, and a non-significant trend for BN patients to report more aggression attacks than AN patients and patients with both disorders (a diagnosis of both AN and BN was possible according to the DSM-III-R criteria). Tiller, Schmidt, Ali, and Treasure (1995) compared patients with eating disorders and controls on the Hostility and Direction of Hostility Questionnaire. Results showed that patients with eating disorders scored significantly higher on hostility and were more intrapunitive compared to controls. Outwardly directed hostility was higher in BN patients and patients with both disorders, compared to AN patients and controls. BN patients also reported more general hostility than AN patients. Extrapunitiveness has been suggested to be a trait, while intrapunitiveness is thought to be more state dependent (Farmer, 1987 ref. in Tiller et al., 1995). Monteleone and co-workers (1998) found BN patients to report significantly higher scores on six of eight subscales plus total aggressiveness on Buss-Durkee Hostility Inventory compared to healthy matched controls.

Neurobiological aspects on psychopathology and eating disorders

An eating disorder almost always begins with dieting behavior. Diet or semi-starvation has been shown not only to influence mood lability, but also to perturb different psychoneuroendocrinological systems. Above all, it is the serotonergic system that has been the target for biochemical and psychobiological investigations. Serotonin (5-hydroxytryptamine: 5-HT) has been found to be involved in depression, anxiety, aggression, impulsiveness, and addictive behavior (Brewerton, 1995; Lee, & Coccaro, 2001). It has also been shown to influence eating behavior, such as impaired satiety function and inhibition of appetite, which has been a link to BN and AN respectively (Blundell, 1986; Brewerton, 1995; Leibowitz, & Shor-Posner, 1986). On the other hand, serotonin can also be linked to eating disorders through its relation to other psychiatric symptoms. Serotonin activity has been proposed both to increase (McBride, Anderson, Khait, Sunday, & Halmi, 1991) and to decrease (Smith, Fairburn, & Cowen, 1999; Steiger et al., 2001) in patients with eating disorders, and some have suggested that it is increased in AN (Kaye et al., 1993) and decreased in BN (Smith et al., 1999; Steiger et al., 2001). This line of argument gets problematic considering the number of AN patients who also show bulimic behavior. Brewerton (1995) argues that it would be more appropriate

to speak about a *dysfunctional* system that is far more complex. It does not merely concern the types of receptors involved, but also where they are located – both on the neuron and within the neural systems. Several studies have found relations between BN, a dysfunctional serotonergic system, and impulsiveness (Steiger et al., 2001; Verkes et al., 1996). However, if the serotonergic dysfunction is primary or secondary to the eating disorder is still an open question, and authors have argued different directions of the association.

Summary

To sum up, several studies have pointed to the importance of concurrent psychopathology in patients with eating disorders. The direction of the relation between eating disorders and co-morbid psychopathology is however, unclear. Effects of starvation or semi-starvation might influence symptom expression and studies have found biological similarities between eating disorders, affective disorders, anxiety disorders, and lack of impulse control (Laessle, Platte, Schweiger, & Pirke, 1996). Studies have shown that some psychopathology exists even after recovering from the eating disorder (Kaye et al., 1998; Pollice et al., 1997; von Ranson et al., 1999; Wentz Nilsson, Gillberg, Gillberg, & Råstam, 1999), and that other types of psychopathology precede the eating disorder (Brewerton et al., 1995; Smith, Feldman, Nasserbakht, & Steiner, 1993). Knowledge about co-morbidity such as for example depression, aggression, and impulsivity is important not least since studies have found those factors to be essential for treatment outcome (Keel, et al., 2000; Smith et al., 1993; Sohlberg et al., 1989). Depression, OCD, and social phobia seem to be prevalent both in AN and BN patients. Especially among BN patients, disorders concerning impulsive behavior and substance abuse have been frequently reported. Regarding co-morbid personality disorders, disorders in cluster C (see p. 27) have been reported for both AN and BN patients, while disorders in cluster B seem to be more frequent in bulimic patients, and among AN patients with bulimic symptoms. In addition, there seems to be psychobiological data supporting at least some relation or linkage between eating disorders and general psychopathology, possibly also related to type of diagnosis. However, even though many studies have found several forms of co-morbidity in ED patients, it is important to note that most of this research has been conducted on young adults and age-mixed samples and might not necessarily be transferable to teenage girls.

Competence

An important area to consider when discussing the development of psychopathology is its relation to competence and abilities. Several models have been proposed when discussing this relation, such as shared stressors and risk factors, shared vulnerability, that competence problems lead to psychopathology, that psychopathology undermines competence, etc. Generally, individuals with internalizing problem profiles have showed relatively good competence, except for peer social problems. Children with externalizing problem profiles have shown less academic and social competence. Children showing both internalizing and externalizing problems have most problems with competence (Masten, & Curtis, 2000). What then, has been reported about competencies in patients with eating disorders?

Patients with eating disorders often have conflicted relations to friends and family, and tend to withdraw from social interaction (Grissett, & Norvell, 1992; Toro et al., 1995). On the other hand especially girls with AN can be active and perform very well in school and sports (Davis et al., 1997; Toro et al., 1995). In comparison to emotional problems and problem behavior, relatively few studies have investigated competencies and skills in patients with eating disorders. Feelings of competence could be an essential factor influencing coping possibilities and strategies. Knowing more about competence and skills in these patients would be important and could give valuable information when considering risk and treatment factors.

Bers and Quinlan (1992) compared AN patients to a psychiatric control group and a non-clinical control group on The Interest and Abilities Questionnaire. They found that AN patients, like non-clinical controls, were interested in a variety of activities, but just as the clinical controls, they rated their abilities significantly lower than non-clinical controls. The disparity between interest and perceived abilities – perceived competence deficit (PCD), was significantly higher for AN patients compared to the other two groups. The difference was not related to level of depression. Grissett and Norvell, (1992) studied quality of relationships, perceived social support, social skills, and psychopathology in 21 girls with BN and 21 controls. They found that BN girls reported less received support from friends and family, had more negative interactions and conflicts, and had less social competence compared to controls.

Concluding remarks

Despite the large amount of research on eating disorders, many questions remain unanswered or have generated contradicting results. For example, there is still large uncertainty about the relevant distinction between AN-r, AN-b/p, and BN. Few studies contain large enough samples to allow the dividing up of AN into subtypes, without substantial loss of statistical power. Also, we know that concurrent psychopathology is commonly reported in patients with ED, but few studies have directly compared general psychopathology between patients and women from the general population with and without self-reported eating problems. There is also a lack of research on the course and outcome of young women with sub-clinical eating problems not showing up at treatment facilities. Furthermore, much research is based on age-mixed samples (adolescents/adults), which confounds interpretation of results. Based on the abovementioned, the studies in this thesis try to extend the knowledge in the field of ED and related psychopathology.

Empirical studies

General aim

The overall aim of this thesis was to investigate eating related problems and general psychopathology in adolescent girls and young women with eating disturbances using a dimensional perspective. However, since there did not exist an appropriate instrument that was standardized for Swedish adolescents, to establish such an instrument became necessary for achieving the aim of this thesis. In that respect *Study I* did not add knowledge on specific ED topics, but was an important and necessary means to accomplish reliable data for *Study II*. Since the YSR measures a wide spectrum of competencies and problems it can be a valuable instrument in clinical practice and shed light upon important issues such as treatment and research about general psychopathology in adolescents with eating disorders. The relation and interaction between competence and psychopathology has been rather ignored in developmental research. The YSR could be an opportunity to look into this relation from a dimensional perspective. *Study III* and *Study IV* have their focus on young adult women, both women from the general population with self-reported eating problems as well as patients with an ED diagnosis. For this age group, standardized instruments existed. Based on abovementioned circumstances, Study I and II are presented first and are followed by Study III and IV. In the general discussion, findings from all studies are discussed in relation to each other.

Study I and II

Aims

STUDY I

The basic aim of this study was to present/provide normative data for the self-report questionnaire YSR when completed by 13- 18 year olds. We also wanted to investigate the impact of gender, age, and demographic factors such as region and parents' socio-economic status (SES) on YSR scores.

STUDY II

The aim of study II was to investigate if girls with eating disorders (AN, BN, and EDNOS) differ from controls with regard to self-reported competence and general psychopathology. We also wanted to find out if there were any differences between eating disorder subgroups, and if girls with different types of AN (restrictors versus bingers/purgers) differed on competence and general psychopathology. A final aim was to find out which proportion of patients and controls that scored over the cut-off point, indicating severe enough problems to be of clinical significance. Four hypotheses were tested:

1. Girls with eating disorders report significantly more internalizing problems than normal controls.
2. Girls with BN report significantly more externalizing problems than girls with AN.
3. AN-purgers/bingers report significantly more externalizing problems than restrictors.
4. Girls with eating disorders report lower competence than control girls.

Method

MEASURE

The Youth Self-Report (YSR) – a measure of competencies and emotional/behavioral problems

The Youth Self-Report (YSR) is a standardized self-report questionnaire for adolescents between 11-18 years (Achenbach, 1991a). It contains questions about competence as well as problems. The competence section is made up of seven items that concern hobbies, jobs, academic performance, family, and friends. The problem section consists of 119 items. Of those items, 16 are about social desirability and are not counted when constructing an individual profile for the problem scales. The adolescent is asked to describe or rate his or her thoughts, emotions and behavior now and/or during the past six months on a three point scale by circling 0 if the item or statement is *not true*, 1 if it is *somewhat or sometimes true*, and 2 if it is *very true or often true*.

The problem items make up eight narrow-band syndrome scales and two broadband dimensions. The narrow-band scales are: withdrawn, somatic com-

plaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behavior, aggressive behavior, self-destructive/identity problems (a syndrome for boys only). The broadband dimensions are internalizing and externalizing. Items that are not included in any of the eight syndromes are collected under the heading 'other problems', but this is not a syndrome scale.

The YSR has 102 questions in common with CBCL and 89 are common for all three instruments (YSR, CBCL, and TRF; Achenbach, 1991a). The ratings are added for every syndrome to give a raw score for each dimension. The sum of the scores for all 103 problem items forms a total problem score. To be able to say something about an individual's problems and deviant behavior, he or she is compared to individuals of the same sex and age in a national normative sample. From this normative sample percentiles and standardized T-scores have been calculated for every syndrome and dimension and are used for comparisons with the adolescent's score. The profile shows the problem pattern and if the adolescent's behavior and emotions lie within the normal variation or not (Achenbach, 1991a).

Cross-informant syndromes

By factor analyzing a large clinical sample separately for each sex and age, and for different informants (adolescents, parents, and teachers), eight core syndromes were constructed. Items that occurred on at least two of the three informant versions made up eight *cross-informant syndromes constructs*, which means that the syndromes are also representative for the CBCL and the TRF. Withdrawn did not turn out to be a syndrome when analyzing the YSR data, but became a cross-informant syndrome when taking the CBCL and the TRF into account. It is included as a scale in the current YSR profile (Achenbach, 1991a).

Internalizing – Externalizing

By performing a second order factor analysis on the eight syndromes, separate for boys and girls in each age interval, it was found that withdrawn, somatic complaints and anxious/depressed made up one distinct group and that delinquent behavior and aggressive behavior made up another. These two broadband dimensions were named internalizing and externalizing. Attention problems, social problems, and thought problems did not get high enough loadings on any of the two broadband dimensions to be included. A score for those dimensions is calculated by summing the syndrome scores for their subscales (Achenbach, 1991a).

Borderline/Clinical range

In the YSR, cut-off points are based on standardized T-scores that have shown to discriminate between clinical and non-clinical populations. There are two 'cut-off levels' on the YSR, where *borderline clinical* range indicates that the adolescent is not clearly in the normal range, nor clearly in the clinical range, while *clinical* range indicate more clearly deviant behavior. The cut-off points are separate for boys and girls (Achenbach, 1991a).

Several studies have investigated the psychometric properties of the YSR. Results have shown good test-retest reliability and stability (Achenbach, 1991a; Achenbach, Howell, McConaughy, & Stanger, 1995; Verhulst, Prince, Ver-vuut-Poot, & de Jong, 1989; Verhulst & van Wattum, 1993), internal consistency (Achenbach, 1991a; Kvernmo, & Heyerdahl, 1998; Slobodskaya, 1999; Song, Singh, & Singer, 1994), and validity (Achenbach, 1991a; Belter, Foster, & Imm, 1996; Gould, Bird, Staghezza Jaramillos, 1993; Ivarsson, Gillberg, Arvidsson, & Broberg 2002; Rey, & Morris-Yates, 1992; Thurber, & Hollingsworth, 1992).

Utilities of the YSR

The YSR has been used in clinical/medical settings, school settings, and as a screening instrument in general population studies. If the YSR is used in general populations, using the various subscales can be unreliable since the total scale scores are relatively low. Scores on the internalizing, externalizing, and total problems are more reliable. In a clinical context it can aid the clinician to find important issues needing special attention, for planning interventions, for making assessments during and after interventions etc. In research it can be used for identifying risk factors or problem patterns associated with various conditions, for epidemiological research, outcome studies etc (Achenbach, 1991a).

The YSR describes psychopathology from a dimensional perspective. The two broadband dimensions indicate if the youth has problems of the internalizing type, externalizing type, or both. The YSR also encompasses three scales that do not count as either internalizing or externalizing problems (social problems, attention problems, thought problems). Internalizing and externalizing problems can occur more or less independently but have been reported to correlate relatively highly (Achenbach, 1991a). Among patients with eating disorders, who often show concurrent general psychopathology and co-morbidity, patients with anorexia nervosa are often described as introvert, rigid and showing

high levels of internalizing problems, while patients with bulimia nervosa are commonly described as having more pronounced externalizing problems, such as impulsivity, aggressiveness, and delinquency. Considering the broad general scope and well-studied psychometric properties, the YSR has the possibility of being a properly suited instrument for measuring competencies and problems in girls with eating disorders.

Participants

STUDY I

The sample consisted of 2 522 adolescents between 13 and 18 years (1 222 boys and 1 274 girls, 26 did not fill in which sex they were). The adolescents answered the YSR class by class, with a research assistant present to explain the purpose of the test and to answer any questions that might arise. Almost every student/pupil present filled in the YSR, but as one has to account for a normal absence due to illness, etc., the dropout was estimated to 15 %.

The socio-economic status (SES) of the parents was assessed using the Hollingshead index (Hollingshead, 1975). Unfortunately SES was available for only half of the sample (51 % of the mothers and 52 % of the fathers). Data attrition was due to failure to give the right instruction at some sites, not to adolescent refusal to answer the questions. Mean SES score was 4.9 for mothers and 5.2 for fathers on a 9-point scale. SES scores did not differ significantly compared to a recent population based study of parents of children and adolescents with developmental disabilities and normal controls (Olsson, & Hwang, 2001).

STUDY II

The patient data was collected in six special units for treating patients with eating disorders in child and adolescent psychiatric clinics in Sweden. Patients filled in the YSR at the treatment unit at the start of treatment. Patients were included if they were between 13-18 years, were assessed as having an eating disorder according to DSM-IV, and had an intent to treat. The patient group consisted of 211 girls between 13 and 17 years ($M = 15.48$, $SD = 1.31$). Three DSM-IV diagnoses were represented; anorexia nervosa ($n = 93$), bulimia nervosa ($n = 25$), and eating disorder not otherwise specified ($n = 93$).

The control group consisted of 211 girls matched for age and geographical area/region ($M = 14.70$, $SD = 1.21$). Data was drawn from the Swedish norma-

tive sample (study I) and were from the same geographical areas as the patient groups. Individuals were not screened for eating disorder symptoms.

Parents' socio-economic status (SES) was measured using the Hollingshead nine-point scale (Hollingshead, 1975). Mean SES for the patient group was 6.2 and for the control group 5.7 when using the parent with the highest SES. Since this difference was significant at $p = 0.028$; $F = 4.88$, we controlled for SES in the analyses. Unfortunately, SES data was missing for 36 % of the control sample, because of a failure to give the right instructions at some sites and not depending on the girls' refusal to answer the questions.

Results

STUDY I

Competence scales

Data was reported for three age groups (13-14, 15-16, 17-18 years) for boys and girls respectively. A significant main effect of gender was found for social competence, where boys rated themselves higher than girls did. Also, main effects for age were found for the activity and the total competence scales. Older adolescents scored higher on the activity scale. Likewise, the oldest adolescents (17-18 years) rated themselves significantly higher than the younger ones (13-14 and 15-16 years) on the total competence scale. There were no interaction effects for gender and age. All effects were small according to Cohen's (1988) criteria for effect sizes ($\eta^2 = .016 - .033$).

Problem scales

Significant main effects for gender were found for most syndromes except for social problems, thought problems, aggressive behavior and the externalizing dimension. Boys scored higher on delinquent behavior and girls on the remaining scales. All effects were negligible or small according to Cohen's (1988) criteria for effect sizes ($\eta^2 = .004 - .052$)

There were relatively small differences between the three age groups (13-14, 15-16, 17-18) for both boys and girls. However, significant main effects of age were found for somatic complaints, social problems, delinquent behavior, self-destructive/identity problems, and total problems. The oldest adolescents (both boys and girls) had lower scores on the problem scales, while 15 and 16-year-olds most often scored highest. Even though there were some significant differences between age groups, only social problems reached the lower limit

for a small effect according to Cohen's criteria. There were no interaction effects for age and gender.

Differences due to demographic factors

Residence

We found significant main effects for region for all competence scales and most problem scales, but the effect sizes of these differences were very small. Only the effects for activity scale, total competence, social problems, delinquent behavior, internalizing, and total problems reached even the lower limit for a small effect size (1%) according to Cohen's criteria. Adolescents living in a city scored higher on both competence scales and on the externalizing problem scales compared to adolescents living in smaller towns. However, as in the case with region, all effects were small and only the activity scale, total competence, and delinquent behavior reached the lower limit for a small effect (1%). We found no interaction effects between region and city/town.

SES

Small effects of SES were found for the competence scales but not for the problem scales. Adolescents with mothers from the lowest SES group scored significantly lower than other adolescents on the activity and total competence scales. Adolescents with mothers from the highest SES group scored high compared to adolescents from the two other groups on social competence. For fathers, a small but significant difference was found for total competence. As in the case of mothers, adolescents with fathers from the lowest SES group scored significantly lower than adolescents with fathers from middle and high SES groups.

Co-occurrence of internalizing and externalizing problems

The correlations between the internalizing and externalizing dimensions were 0.51/0.49 (boys/girls), and for anxious/depressed, and aggressive behavior the correlations were 0.49/0.45 (boys/girls). Moreover, self-destructive/identity problems correlated high with anxious/depressed ($r = 0.78/0.82$ boys/girls) as well as with the internalizing dimension ($r = 0.77/0.78$ boys/ girls).

Relationships between competence and problems

The relation between adolescents' ratings of their competence and their problems was small. Total competence had correlation coefficients below 0.15 with the internalizing and externalizing dimensions, as well as with the total problem scores (boys $r = -0.13, 0.04,$ and -0.04 ; girls $r = -0.13, 0.03,$ and -0.06).

For both boys and girls, the strongest correlations were found between social competence and withdrawn ($r = -0.27 / -0.21$ boys/girls) and social problems ($r = -0.23 / -0.21$ boys/girls).

STUDY II

Problems

Result showed that girls with ED reported significantly more problems than controls on all scales except for social problems, thought problems, delinquent behavior, aggressive behavior and the externalizing dimension.

BN patients scored higher than both AN and EDNOS patients on somatic complaints, attention problems, delinquent behavior, aggressive behavior, externalizing, and total problems. Patients with BN also reported more problems than AN patients on other problems, and more problems than EDNOS patients on anxious/depressed, self-destructive/identity problems and internalizing. Analyses also showed that AN-bingers/purgers scored higher than AN-restrictors on somatic complaints, delinquent behavior and the externalizing dimension. In addition, there was no significant difference between AN-b/p and patients with BN.

Competence

ED patients reported significantly poorer competence than controls. There were no differences between eating disorder subgroups. Pearson correlations between the competence and problems scales were quite small for both patients and controls, but they were generally higher for patients.

Percent of patients scoring over borderline/clinical range

We used the Swedish normative sample as reference data (study I). The BN and AN-b/p groups had most girls scoring in the clinical range compared to the other groups, except for total competence. On the total problem score about 39 % of the BN group, 21 % of the AN-r group, 41 % of the AN-b/p group, 20 % of the EDNOS, and 14 % of the control group scored in the clinical range.

Discussion

Study I aimed at providing a Swedish standardization of the YSR. The Swedish total problem scores were fairly similar to adolescents' ratings in the US, Norway, and Germany (Achenbach, 1991; Kvernmo, & Heyerdahl, 1998; Lösel et al., 1991).

Like most other studies we found girls to score higher on emotional problems and boys on behavioral problems. We also found girls to have a higher total problem score than boys, which is in line with some studies (Achenbach, 1991a; Kvernmo, & Heyerdahl, 1998; Roussos, et al., 2001), but in contrast to others (Fitzpatrick, & Deehan, 1999; Slobodskaya, 1999; Verhulst et al. 1993; Verhulst et al., 1989). Noteworthy is that results from a Norwegian study showed gender differences on the same syndromes and dimensions and in the same direction (Kvernmo, & Heyerdahl, 1998).

Most previous studies have not found age effects on total problems. However, our finding that 15 to 16 year-olds reported more problems than both younger and older youths is well in line with the common idea that these years can be rather turbulent. The only SES effect found showed that adolescents reporting low parental SES scored lower on competence than adolescents with higher parental SES, which is also supported by the US norm sample (Achenbach, 1991a).

The significant correlation between the internalizing and externalizing dimensions has been reported in other studies as well (Achenbach, 1991a; Roussos, et al., 2001). This result do not have to be an indication of low discrimination between different types of problems, but instead indicate that individuals can have a complex problem profile, with both behavioral and emotional problems being present at the same time. This explanation might be even more probable when studying clinically referred adolescents. In clinical practice, information about the problem profile can be important for the choice of treatment. An individual with antisocial behavior also reporting internalizing problems can need completely different interventions than an individual who is “only” antisocial.

Also, the weak relation between competence scores and problem scores is supported by studies in the US (Achenbach, 1991a; Talbott, & Lloyd, 1997) and in Greece (Roussos et al., 2001). The significant negative correlations between social competence and both withdrawn and social problems, supports the validity of those scales. Notably though, is that previous studies on developmental psychopathology have found strong relations between competence and psychopathology (Masten, & Curtis, 2000). Studies on different forms of competence (academic performance, activities, social competence) and their relation to psychopathology will add essential information about risk and pro-

TECTIVE factors. For this aim, both prospective, longitudinal population studies and studies on clinical samples would be valuable.

In conclusion: even though we found some effects due to age, gender, and demographic factors, the magnitudes of those effects were small and the individual variation was much larger. This supports the robustness of the YSR and points at its capability of being a useful instrument measuring self-reported competence and problems among adolescents.

Study II compared self-reported competence and problems in girls with eating disorders to a control group. As hypothesized and in accordance with other studies (Brewerton et al., 1995; Casper, 1998; Godart et al., 2000; Halmi, et al., 1991; Herzog et al., 1996; Matsunaga et al., 1999; Pollice et al., 1997; Råstam et al., 1995), we found patients with ED to score higher on internalizing problems, especially on the withdrawn and anxious/depressed problem scales. Support was also found for the second hypothesis. We found BN patients to report a higher degree of externalizing problems compared to AN patients, especially concerning delinquent behavior, which is in line with other studies (Baum, & Goldner, 1995; Davis, & Claridge, 1998; Fahy & Eisler, 1993; Garfinkel et al., 1995; Garfinkel et al., 1980; Garner et al., 1985; Keel et al., 2000; Mitchell, et al., 1985). Studies that do not differ between the two types of AN might blur the picture concerning differences between BN and AN. The fact that AN patients with bulimic behavior reported more delinquent behavior and externalizing problems than restrictors did (supporting the third hypothesis), could indicate similarities with normal-weight bulimic patients. It further suggests that it would be more relevant to draw the diagnostic line between bulimic/non-bulimic behavior. Perhaps a difference in the underlying personality makes some AN patients more vulnerable to externalizing problems and to loss of control in eating behavior than others.

In line with the fourth hypothesis we found that girls with ED scored significantly lower on competence compared to controls. Feelings of self-competence and having close and good relations to family and peers might be important factors influencing coping potential and treatment outcome. Information about these aspects can be of great importance when planning treatment.

Study III and IV

Aims

STUDY III

The aim of the study was to compare self-reported psychopathology in three groups of young women: (1) eating disorder patients, young women (2) with or (3) without self-reported eating disorder problems. Another aim was to investigate differences between eating disorder patient subgroups (AN, BN, ED-NOS). Finally, we wanted to investigate the three study groups with regard to the percentage of patients scoring over the clinical cut-off score for general psychopathology on the SCL-90. Based on earlier research on psychopathology in eating disorders we hypothesized that:

1. Patients with eating disorders report significantly more problems compared to controls
2. Young women with self-reported eating problems report more problems compared to controls with no eating problems
3. Patients with BN report higher scores on externalizing problems (hostility scale) and on general psychopathology compared to AN patients.

STUDY IV

The over all aim was to do a longitudinal study on general psychopathology and eating related problems in young women with an ED diagnosis and normal controls with and without self-reported eating problems. The study specifically aimed to investigate if there was a change in psychopathology and eating related problems among ED patients between pre-treatment and a follow-up 36-month later, and if so, if a comparable change could also be seen in controls. This question is grounded on the possibility that an individual's problem level decreases by itself when leaving the period of "adolescent turmoil" behind and reaching the early twenties and being more mature. If that turns out to be the case, such a tendency must be taken into account when interpreting a decrease in patients' problem scores during this period. Another important aim was to investigate if there was a change in reported psychopathology among controls with self-reported eating problems. Finally, we wanted to see if patients changed differently depending on diagnosis and if changes were stable over time.

Following questions were analyzed:

- Is there a significantly different change in reported problems between young adult patients in treatment for their ED and normal controls over a three-year period?
- Do eating disorder patients score and change differently compared to control women with self-reported eating problems?
- Does type of diagnosis affect psychopathology and eating related problems in a longitudinal perspective?

Method

MEASURES

Rating of Anorexia and Bulimia Interview, revised version (RAB-R)

The RAB-R is a semi-structured interview for eating disorder psychopathology, through which the patient receives a DSM-IV diagnosis (Nevonen, Broberg, Clinton, & Norring, 2003). It has shown good psychometric properties, equal to other comparable interviews like the Eating Disorder Examination (EDE; Cooper, Cooper, & Fairburn, 1989), and the Clinical Eating Disorder Rating Instrument (CEDRI; Palmer, Christie, Cordle, Davies, & Kendrick, 1987).

The Symptom Check List-90 (SCL-90) (Study III and IV)

The Symptom Check List-90 (SCL-90) and its revised version is a well-known and commonly used instrument for measuring general distress or psychopathology. It contains 90 problem items comprising 9 sub-scales, which are labeled: somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Seven items do not belong to any of the sub-scales, but are accounted for under the heading “additional items”. The SCL also contains three global indices of distress: the Global Severity Index (GSI), the Positive Symptom Distress index (PSDI), and the Positive Symptom Total (PST). The GSI, which is the most commonly used index, is the sum of each raw score divided by the number of answered questions/items. Items are rated on five-point scales (0 to 4), ranging from “not at all” to “extremely”. The individual is asked to rate how much each described problem has bothered or distressed him/her during the last seven days (Derogatis, 1992). Both internal consistency and validity have been shown to be satisfactory for the SCL-90 and later versions (Deroga-

tis, 1992; Holi Sammallahti, & Aalberg, 1998; Don Morgan, Wiederman, & Magnus, 1998; Peveler, & Fairburn, 1990; Schmitz et al., 2000; Schmitz, Kruse, Heckrath, Alberti, & Tress, 1999), and it has been validated in Sweden (Malling-Andersen, & Johansson, 1998)

The Eating Disorder Inventory-2 (EDI-2) (Study IV)

The EDI-2 is a widely used self-report questionnaire designed to measure problems associated with eating disorders. The questionnaire contains 91 items and provides standardized scale scores on eleven sub-dimensions. The first three scales concern eating disorder symptoms (Drive for Thinness, Bulimia, Body Dissatisfaction) and the other sub-scales tap more general psychopathological traits or problems (Ineffectiveness, Perfection, Interpersonal Distrust, Interoceptive Awareness, Maturity Fears, Asceticism, Impulse Regulation and Social Insecurity (the last three are considered provisional subscales). The answers are rated on a six-point scale from “always” to “never”. The EDI also provides a total index for the symptom scales (scales 1-3) and for the general problem scales (scales 4-11), as well as a total EDI score summing all items (Garner, 1991). The EDI has been shown to have good validity and reliability (McCarthy, Simmons, Smith, Tomlinson, & Hill, 2002) and has been validated in Swedish populations (Nevonen, & Broberg, 2001; Norring, & Sohlberg, 1988).

Background questionnaire (Study III and IV)

A questionnaire containing background information was given to both patients and controls. For the present study we used items concerning age, occupation, and parents' occupations. SES was measured using Hollingshead's nine-point scale (1 = lowest and 9 = highest) of occupational status (Hollingshead, 1975; Broberg, 1992) based on the information provided in the background questionnaire.

Eating disorder problems: The background questionnaire also contained an item reading as follows “Have you, according to your own understanding, had eating disorder problems, i.e. engaged in self-starvation or binge eating?” If answering Yes to this question, they were also asked to describe the type of problems (self-starvation and/or binge eating) and when they had occurred (now, previously, now and previously). There was also a question asking if they had had any professional contact due to their eating problems, and if so, if they still had this contact or when it had ended.

PARTICIPANTS

Participants in study III and IV are from the same data collection. Study III is based on “baseline” (controls) or pre-treatment (patients) data, while study IV also includes follow-up data.

Patients

At pre-treatment (T1), the patient group consisted of 96 patients (Study III) between 18 and 24 years ($M = 21.6$, $SD = 2.0$) with a DSM-IV confirmed ED diagnosis (24 AN, 41 BN, and 31 EDNOS). The patients had all agreed to participate in an evaluative and follow-up program at the Anorexia and Bulimia Unit at the Queen Silvia Children’s Hospital in Göteborg. Two women with bingeing/purging type of AN were omitted in order to get a homogenous AN group containing only the restricting type. Data was collected at three times: Pre-treatment (T1), after 18 months (T2), and after 36 months (T3). The examination consisted of a semi-structured interview (Rating of Anorexia and bulimia interview, revised version (RAB-R); Nevenon, Broberg, Clinton, & Norring, 2003) and a battery of self-report questionnaires. In *study IV* data were available for 70 patients (18 AN, 28 BN and 24 EDNOS; Mean age = 21.8, $SD = 2.0$ at T1).

Controls

Women asked to participate in the control group were randomly chosen from the County civic register in the city of Göteborg. The questionnaires were mailed, and two reminders were sent out if necessary. Data was gathered at two times; at “baseline” (T1) and at a 36-months follow-up (T3). Only women participating at T1 were asked to participate in the follow-up. Because too many questionnaires to answer might have a negative effect on the response rate, the control group was divided into two groups, answering either the SCL-90 or the EDI-2, plus a background questionnaire.

In *study III*, the control group consisted of 265 young women ($M = 21.0$, $SD = 2.0$) who had answered the SCL-90. In all, 315 women were asked to participate, setting the response rate to 84 %. However, the response rate varied between over 90 % among Swedish citizens in well-to-do areas and 59 % among immigrants in less prosperous areas. A consequence of this selective attrition is that our SES data for the control group may be somewhat skewed towards the higher end compared to a normative control sample.

In *study IV*, data from both the EDI-2 and SCL-90 were analyzed. In the EDI group 188 women and 207 in the SCL group filled in the instrument both at T1 and T3. For both the EDI and SCL group the response rate was 60 % at T3 if counting the original T1 sample. Mean age at T1 was 20.9, (SD = 2.0) in the EDI group and 21.0, (SD = 2.0) in the SCL group (only counting the women who also participated in the follow-up at T3).

Attrition

The only significant difference between patients and controls answering at T3 and those not answering, was a significant SES effect for patients. Patients not participating at T3 had parents with a somewhat lower SES compared to those who participated in T3 ($M = 6.6$, $SD = 2.2$ versus $M = 5.5$, $SD = 2.2$; $F = 4.64$, $p = .034$). There was no significant difference on any problem index or in self-reported eating problems either among controls or patients.

Results

STUDY III

In the control group 65 (24.5 %) individuals reported problems with either starving or bingeing. Among these women, 47 (17.7 %) reported previous problems and 18 (6.8 %) current problems (data was missing for two women).

Results showed that control women without any eating problems scored significantly lower than the other three groups on all scales, except for phobic anxiety, where they only scored lower than the ED group. Also, no significant differences were found between the ED group and controls with current eating disorder problems on any sub-scale or on the GSI. Women reporting previous eating disorder problems scored significantly lower than the ED group on interpersonal sensitivity, depression, anxiety, psychoticism, additional items, and on the GSI. We found no significant differences between different types of self-reported problems (i.e. binge-eating, self-starvation, or both types of problems).

Using Kruskal-Wallis, we found no significant differences between eating disorder diagnoses for any of the sub-scales or for the GSI. To test for differences between as pure diagnostic groups as possible, AN-patients (all restrictors) were compared with BN-patients. This analysis revealed only one significant difference, for the sub-scale psychoticism ($p = 0.049$; $Z = 1.97$), and one almost significant difference, for depression ($p = 0.052$). In both cases BN-patients scored higher than AN-patients.

Percent over clinical range

In the patient group, about 58 % with BN and EDNOS, and 46 % with AN, scored above the cut-off point for caseness on the GSI or on two or more subscales. For controls with current problems, previous problems, and no eating problems, the percentages were 61, 30, and 12 for each group respectively. Women with no eating disorder problems differed significantly from all other groups. Women with self-reported previous eating disorder problems scored less often in the clinical range compared to women with current eating disorder problems and compared to the ED group.

STUDY IV

In all, 87 (22%) of the control women in the longitudinal sample reported either current or previous eating problems at T1 (6.3 % with current problems). Among these, 66 (76 %) had never sought any kind of professional help for their problems, 18 (21 %) had ended any contact, and 3 (3 %) reported that they still had some kind of professional contact.

*Patients versus controls*The EDI-2

Significant differences in change scores were found between patients and controls on all three indexes. Patients' scores decreased significantly more than controls'. Also, controls reporting current eating problems at T1 scored significantly higher than ED patients at T3 on the EDI symptom index ($t = -2.88$, $p = .005$), the problem index 4-11 ($t = -2.75$, $p = .021$) and the EDI total score ($t = -2.82$, $p = .006$). In addition, there were no significant differences between patients and the complete control group at T3.

The SCL-90

Patients changed significantly more on the GSI compared to controls. The mean change between T1 and T3 was .48 in the patient group and .01 for controls. Control women who reported either current or previous eating problems at T1, scored significantly higher than the patient group at T3 ($t = 2.83$, $p = .006$), but there was no significant difference between patients and the complete control group at T3.

Differences due to diagnosis

The EDI-2

Main effects for time as well as interaction effects (time*diagnosis) were found for all three EDI-2 indexes. BN patients changed significantly more compared to AN patients. The explained variance was large in every case, except for the linear interaction effect on the scale 4-11, which was a medium effect.

As a second step in the analysis we made a repeated measure ANOVA on group level, and Helmert's contrasts showed that the significant effects were between T1 and T2/T3 for all diagnostic groups.

The SCL-90

There was no significant interaction effect on the GSI, but a linear main effect for time ($F = 25.57, p < .001$). The effect was large according to Cohen's (1988) criteria ($\text{Partial } \eta^2 = 0.302$).

Discussion

Study III: Results from this study confirmed earlier studies reporting higher psychopathology in patients with ED compared to controls from the general population (Fava et al., 1995; Halmi et al., 1991; Newton, Freeman, & Munro, 1993). In accordance with the first and second hypotheses, women without any eating problems scored significantly lower compared to the other groups. The second hypothesis was also supported by the fact that we did not find any significant differences between controls with *current* self-reported problems and ED patients, but did find significant differences between controls with *previous* eating problems and ED patients, which indicates that emotional and behavioral problems are related to the presence of eating problems rather than with being a psychiatric patient. Other studies have also reported relations between general psychopathology and eating behavior in non-clinical samples (Bushnell et al., 1994; Lewinsohn et al., 2000; Peñas Lledó, & Waller, 2001; Milligan, & Waller, 2000). The third hypothesis, stating that BN patients should report more externalizing problems and a higher total problem score compared to patients with AN was only supported to a small extent. In addition we did not find any differences between controls reporting binge eating and self-starvation.

Another important finding was that 60 % of the women from the general population with self-reported current eating problems scored over the clinical

“cut-off”, which was in line with the proportions found for BN and EDNOS patients. The implication from this finding ought to be that greater attention is paid to this group of women and that efforts are made to change their/the situation.

Study IV: An important finding from this study is the fact that among young women from the general population with self-reported eating problems, more than 75 % had never sought treatment for their problems and their high degree of general psychopathology still persisted at follow-up three years later. That insight, in addition to the improvement (and also stability in improvement) in the ED group, strongly pinpoints the need for effective strategies to locate this group of women and offer them adequate help. Muratori and co-workers (2004) found time prior to admission (more/less than one year) to be an important factor influencing psychopathology, which again points to the importance of convincing individuals with eating problems to seek treatment (and of course to have access to treatment).

Another main finding was that the ED group changed to a normal level of problems, and that they at follow-up did not differ from the control group. However, the control group also included unhealthy women (since that is what a general population looks like), and patients might have differed from a group consisting of only “healthy” women. The result concerning the decrease in reported problems among patients is specially promising and indicates a good treatment outcome.

General discussion

General psychopathology is commonly reported among individuals with eating disturbances. Despite this consensus in research, many questions still exist concerning kind, degree, causality et cetera. One confounding factor in much eating disorder research is the inclusion of both adolescents and adult persons in the same sample, which can be problematic for various reasons. Firstly, one cannot assume that adolescents' and adults' scores on a self-report measure are comparable to each other. Adolescence can be a rather unstable period, and there are many both physical and psychological changes taking place during this time. Secondly, measures derived on adults might be inappropriate in targets/questions and language when used on adolescents. Thirdly, there can also be differences between adolescents and adults due to duration of illness. Following from these arguments, research would gain from studies made on different age groups. In this thesis adolescents and young women were studied separately, which makes the interpretations more reliable. Another important contribution with this thesis is the testing of hypotheses in the Swedish culture. Much research is based on other cultures, and even though Sweden counts as a western culture, there are several important and striking differences compared to for example the USA. To culturally validate both assessment tools and research results is essential.

One puzzling finding is that we in study II, using the YSR, found clear differences between patients with bulimic behavior and patients with pure restricting behavior, which was not verified in study III, using the SCL-90 on young women. Why was this and how should it be interpreted? Except from chance, one reason could be that there in fact are differences between teenage girls and young adult women, and that the impulsive behavior is not that apparent in young adults. Another plausible explanation could be that the two instruments differ in what behavior they catch. For example, there are no questions concerning delinquent behavior in the SCL-90. A recent Finnish study (Kaltiala-Heino, Rissanen, Rimpelä, & Rantanen, 2003), found self-reported bulimic behavior to be associated to bullying, truancy, excessive drinking and sexual disinhibition among 14-16 years old boys and girls from the general popula-

tion, which points to the relevance of questions about delinquent behavior. Bulimic behavior has been linked to impulsivity in earlier studies (Baum, & Goldner, 1995; Fahy, & Eisler, 1993; Fichter et al., 1994; Kaltiala-Heino et al., 2003). However, the definition of impulsivity is not clear-cut and simple. Fisher, Smith and Anderson (2003) suggest that impulsivity consists of two different aspects, lack of planning and urgency (the tendency to act rashly when experiencing negative affect), and that it is urgency, which is linked to bulimic behavior. Others have pointed at the distinction between internally and externally directed impulsive behavior, and suggest that general psychopathology is related to internally directed impulsivity (e.g. self-harm), while bulimic pathology is more specifically associated to externally directed impulsivity (e.g. theft) (Peñas-Lledó, Vaz, Ramos, & Waller, 2002). Future research in this area would preferably be done using the Adult Self-Report (ASR), the upward extension of the YSR, which would permit comparisons of results found using the YSR. Unfortunately, neither the ASR nor its forerunner the Young Adult Self-Report (YASR) were available in Swedish when this study began. Today the ASR is translated into Swedish (Hägglöf, 2004).

Nevertheless, the similarity found in study II among adolescents with bulimic symptoms, should be taken into consideration when discussing current diagnostic criteria, which base a large part of the diagnosis on weight, which is not a completely satisfactory criterion. It could point to the fact that the present diagnostic criteria in DSM-IV are not the most relevant. Our study indicates that adolescent patients with AN-b/p are more similar to patients with BN than to restricting AN patients. Perhaps a more relevant distinction would be between purging and non-purging behavior. The relatively high crossover between diagnoses makes the question of classification even more problematic. Herzog and co-workers (1999) prospectively followed treatment seeking women for 7.5 years and found 16 % of patients diagnosed with AN-r to develop BN, and 7 % of patients with BN to develop AN. Also, 14 % of the women with AN-r had histories of prior BN, and 18 % of the women diagnosed with BN at intake had histories of AN episodes. It would be valuable to study how many ED patients that never exhibit any bingeing/purging behavior. It is possible that there is a special personality that "succeeds" in being a restricting AN patient, who probably has a very high impulse control. The diagnostic categories of DSM-IV do not take into account that eating disorders vary in severity during the illness and maybe should be seen as a phase rather than a temporally stable disorder (Hertzog, & Delinsky, 2002). In this context, a follow-up on study II

would gain important data on how many of the patients with AN-r vs. AN-b/p develop BN over time. For this kind of research, multi-center studies are required to attain large enough samples allowing the separation between AN-r and AN-b/p. Also important in the perspective of diagnosis and classification, is the highly understudied group of EDNOS patients. It is a very heterogeneous category, grouping together everything that is not AN or BN. This category is also important because of the fact that it is thought to be three to four times as common as AN and BN (Engström, 2002).

Another interesting result is the number of individuals scoring in the clinical range on the YSR (study II) vs. the SCL-90 (study III). In the adolescent study about 40 % of both BN and AN-b/p scored over the clinical cut-off (using the YSR), whereas 20 % of AN-r and EDNOS patients did the same. In the young adult study 60 % of BN and EDNOS patients scored in the clinical range (using the SCL-90), compared to 46 % of AN patients.¹ In addition 60 % of the women from the general population with current eating problems scored in the clinical range. Twice as many young adults patients with AN-r scored in the clinical range compared to adolescent AN-r patients. One possible explanation to this finding could be that young adult women diagnosed with AN are much worse off than adolescent girls with AN due to longer duration of illness. Also of course, these individuals can have been worse off from the beginning, which is why they are still ill in young adulthood. More patients with BN and EDNOS also scored in the clinical range in study III compared to study II. However, one should bear in mind that two different measures were used. Considering the above-mentioned, a follow-up of the samples in study II into young adulthood would generate important knowledge in this area.

An important finding in this thesis is that young women with self-reported eating problems have emotional and behavioral problems as severe as have patients with ED, and that their problems are stable over time. However, there is one important distinction to keep in mind when interpreting the results concerning ED patients and women with self-reported eating problems, and that is to distinguish between *clinical* versus *subclinical* problems on the one

¹ In the study on adolescents (study II), the EDNOS group mostly consisted of girls not fulfilling all criteria for AN, whereas in the study on young adults (study III), it mostly contained women not fulfilling the criteria for BN. The reason for the divergent distribution of symptom “types” in the EDNOS groups is that BN generally tend to have a later onset than AN.

hand, and *ED patients* versus *individuals with eating disorders* on the other. If we view women with self-reported eating problems as having subclinical eating problems, then the interpretation would be that women with subclinical ED have as much problems as have ED patients (who by definition are clinical because of their diagnosis). This would be in line with the continuity perspective on ED. If we on the other hand think of women with self-reported eating problems as persons who would fulfill the criteria for an ED diagnosis if they had sought help, then a plausible interpretation would be that these individuals have as much problems as have ED patients, which is to say that general psychopathology is not what distinguishes patients from non-patients. It seems plausible to assume that the group of women with self-reported eating problems in our study contains both individuals with subclinical eating problems and individuals who fulfill the criteria for an ED diagnosis. To find out, one would need to validate the self-report questions with a clinical interview, e.g. the RAB-R.

Regardless of interpretation, the big task/assignment will be to get in contact with those girls and young women at an early stage and be able to offer them appropriate interventions. In support for this statement are both the possibility of milder dietary behavior to escalate into more severe problems (Patton, Selzer, Coffey, Carlin, & Wolfe, 1999) and the more favorable prognosis for adolescents compared to adults (Fisher, 2003), and the advantage following from early interventions. Support for the latter was found by Muratori and colleagues (2004) reporting that individuals seeking treatment within a year from problem onset, scored significantly lower on the YSR scales internalizing, externalizing, total problems, anxious/depressed, thought problems, and aggressive behavior compared to individuals with more than one year of problems prior to admission. A forthcoming task will be to investigate the validity of the self-report questions about starvation and binge-eating that were used on controls in study III and study IV. If answers to these questions are validated against for example the Rating of Anorexia and Bulimia interview – revised version (RAB-R) (Nevonen, Broberg, Clinton, & Norring, 2003), these simple and straightforward questions could be useful and effective in screening for eating problems in school health services, occupational health service, and in public health care. Also, both because of the seriousness of eating disorders and the relatively high frequency of affected individuals (even though most of them do not seek treatment), prevention work must be given higher priority. Society today makes women insecure and self-dissatisfied by setting standards

more or less impossible to achieve. Both protective factors and risk factors exist on various levels; individual, relational (family, peers), and societal, which imply that preventions should be implemented on all levels. Besides the need of both primary and secondary prevention, the results from study III and study IV also call for studies on treatment-seeking behavior among individuals with distorted eating behavior. Following the theoretical framework on developmental pathways and developmental psychology (Cicchetti, & Cohen, 1995), Hofstra, Van der Ende and Verhulst (2002), used the YSR and YASR for measuring psychopathological pathways from adolescence into young adulthood. The authors found support for the view that the more persistent a deviant pathway is followed, the more difficult it is to return to a normal developmental course. They concluded that a constantly high level of psychopathology from adolescence into young adulthood will have negative consequences on many areas of functioning. They also found that individuals with high levels of psychopathology at adolescence but whose problems decreased by adulthood, were as healthy as individuals who never reported any severe psychopathology. Those findings clearly show the importance of early interventions.

Except from putting attention to the bad psychological status among women with problematic eating, this thesis also shows promising results concerning the effectiveness of treatment for individuals who search help in special ED units. The treatment studied in study IV is the ordinary treatment offered at this unit, and not a treatment used/tested just for the sake of research. The treatment focuses both on symptoms and interpersonal problems and appears to have a good effect on both areas of functioning. From this perspective an important question is what motivates or makes a person to seek, or not to seek, professional help. One possibility is that a high level of concurrent psychopathology differentiates those who seek help from those who do not, and patients from non-patients. However, this thesis contradicts that thought, since it shows that women with eating problems from the general population (of which most of them had never sought professional help) had as much problems as clinical ED patients had. If additional psychological distress is not the main reason, what is? Perhaps a well functioning social network can act as a substitute for treatment, or maybe it is the opposite, that a supportive social network can encourage and motivate a person to seek help. This will be an important future question to research.

Another common feature of persons with eating disorders seems to be a lack of self-competence. Like many other constructs, competence is not easily defined

and there are several aspects included within it, which can be relevant to eating psychopathology. In Study II it was found that girls with ED reported lower competence than controls. Research on resilience (the ability to cope with, or recover from, disadvantageous or stressful situations) has pointed out factors such as academic competence, social skills, and peer friendship networks to be important protective factors for general emotional and behavioral problems. In addition, regular sport participation has been found to have a protective function in relation to eating disorders (Fulkerson, Keel, Leon, & Dorr, 1999). Elite sport participation and sports stressing thinness (long distance runners, ballet dancers) have however been linked to increased risk for eating disturbances (Smolak, Murnen, & Ruble, 2000). All the abovementioned protective factors and risk factors are covered in the competence scales of the YSR, which underlines its relevance in research on psychopathology and eating disturbances. In general, competence seems to be an area of research that has been more or less forgotten in relation to eating disorders. The upward extension of the YSR, the Adult Self-Report, could be a valuable instrument covering both competence and problems in young adults. A Swedish standardization of the instrument would be highly valuable, since that would permit a longitudinal investigation from adolescence into adulthood, using the “same” instrument. Competence is an area that should be more deeply studied, not only in its own right but also regarding its relation to and interaction with psychopathology.

This thesis was based on self-report questionnaires only. Even though it is reasonable to believe that the individual knows himself/herself best, several factors influence the reliability of self-ratings, for example the willingness to report about problems, social desirability, and the level of awareness of problem behavior. Consequently, even if it’s an important perspective, it is not the only perspective to consider. Parents, teachers, partners, peers, and treatment personnel, can also add valuable information.

Conclusions

- The YSR seems to be a fruitful instrument of studying important aspects of psychological problems in adolescents. Neither diagnostic categories, nor empirically derived syndromes and dimensions are completely satisfactory in their own right, but both can be needed depending on the situation and purpose. The YSR can be seen as a complement to DSM-diagnoses giving important information about psychological adjustment and functioning.
- Current distinction between AN and BN should be questioned. Perhaps a more relevant criterion has to do with the presence or absence of bingeing/nourging behavior. More studies separating AN-r and An-b/p are needed.
- Adolescent girls and young women with eating disturbances have more emotional and behavioral problems than individuals without such problems. This was true both for ED patients and controls from the general population with self-reported eating problems.
- Treatment based on CBT and IPT, carried out in a specialist unit, is effective. At three-year follow-up, patients did not differ significantly from normal controls on eating related problems and general psychopathology.
- Disturbed eating behavior is common among adolescent girls and young women and many of them do not show up at treatment facilities. This group of girls/young women shows psychopathology comparable to patients with ED and their problems persist if untreated. Both primary and secondary preventions are essential.
- More severe general psychopathology does not seem to be what differentiates individuals who seek treatment from those who do not. Factors influencing treatment-seeking behavior should be more deeply investigated.

References

- Achenbach, T.M. (1991a). *Manual for the Youth Self-Report and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T.M. (1991b). *Manual for the Child Behavior Checklist/4-18 and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T.M. (1991c). *Manual for the Teacher's Report Form and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T.M. (1991d). *Integrative guide to the 1991 CBCL, YSR, and TRF profiles*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Achenbach, T.M. (1995). *Developmental issues in assessment, taxonomy and diagnosis of child and adolescent psychopathology*. In: D. Cicchetti, & D. Cohen (Eds.). *Developmental Psychopathology*, vol. 1. Theory and methods (pp 57-80). New York: John Wiley & Sons, Inc.
- Achenbach, T.M., Howell, C.T., McConaughy, S.H., & Stanger, C. (1995). Six-year predictors of problems in a national sample of children and youths: 1. cross-informant syndromes. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 336-347
- Agras, W.S., Walsh, B.T., Fairburn, C.G., Wilson, G.T., & Kraemer, H.C. (2000). A multicenter comparison of cognitive-behavioral therapy and interpersonal psychotherapy for bulimia nervosa. *Archives of General Psychiatry*, 57, 459-466
- Alsterdal, T. (1996). Ungdomars hälsa. En kartläggning av aktuella studier. 199 rapporter och forskningsprojekt om ungdomars hälsa och levnadsvanor, livsvillkor och värderingar i Sverige på 90-talet. Landstingsförbundet, Folkhälsoprogrammet.
- Al-Subaie, A. (2000). Some correlates of dieting behavior in Saudi schoolgirls. *International Journal of Eating Disorders*, 28, 242-246
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR)*. Washington, DC. American Psychiatric Association Press

- American Psychiatric Association. (1994). *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. Washington, DC. American Psychiatric Association Press
- Antonovsky, A. (1991). *Hälsans mysterium (Unraveling the mystery of health)*. Stockholm: Natur och Kultur
- Banks, C.G. (1992). 'Culture' in culture-bound syndromes: the case of anorexia nervosa. *Social Science Medicine*, *34*, 867-884
- Baruch, G., Fearon, P., & Gerber, A. (1999). Emotional and behavioural problems in adolescents/young adults receiving treatment at a community-based psychotherapy centre for young people: a preliminary study of the correspondence among adolescent/young adult and significant other reports. *British Journal of Medical Psychology*, *72*, 251-265
- Baum, A., & Goldner, E.M. (1995). The relationship between stealing and eating disorders: a review. *Harvard Review of Psychiatry*, *3*, 210-221
- Beary, M.D., Lacey, J.H., & Merry, J. (1986). Alcoholism and eating disorders in women of fertile age. *British Journal of Addiction*, *81*, 685-689
- Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., & Erbaugh, J. (1981). An inventory for measuring depression. *Archives of General Psychiatry*, *4*, 561-571
- Belter, R.W., Foster, K.Y., & Imm, P.S. (1996). Convergent validity of selected scales of MMPI and the Achenbach Child Behavior Checklist – Youth Self-Report. *Psychological Reports*, *79*, 1090-1100
- Bergman, L.R., & Wångby, M. (1995). The teenage girl: Patterns of self-reported adjustment problems and some correlates. *International Journal of Methods in Psychiatric Research*, *5*, 171-188
- Bers, S.A., & Quinlan, D.M. (1992). Perceived-competence deficit in anorexia nervosa. *Journal of Abnormal Psychology*, *101*, 423-431.
- Bérubé, R.L., & Achenbach, T.M. (2000). Bibliography of published studies using ASEBA instruments: 2000 edition. Burlington VT: Vermont University, Department of Psychiatry
- Birleson, P. (1981). The validity of depressive disorder in childhood and the development of a self-rating scale: a research report. *Journal of Child Psychology and Psychiatry*, *22*, 73-88
- Blundell, J.E. (1986). Serotonin manipulations and the structure of feeding behavior. *Appetite*, *7 (suppl.)*, 39-56

- Braun, D.L., Sunday, S.R., & Halmi, K.A. (1994). Psychiatric comorbidity with eating disorders. *Psychological Medicine*, *24*, 859-867
- Brewerton, T.D. (1995). Toward a unified theory of serotonin dysregulation in eating and related disorders. *Psychoneuroendocrinology*, *20*, 561-590
- Brewerton, T.D., Lydiard, T.B., Herzog, D.B., Brotman, A.W., O'Neil, P.M., & Ballenger, J.C. (1995). Comorbidity of axis I psychiatric disorders in bulimia nervosa. *Journal of Clinical Psychiatry*, *55*, 77-80
- Broberg, A.G. (1992). Hollingshead four factor index of social status (1975) Swedish adaption. Unpublished manuscript. Department of Psychology, Göteborg University
- Brülde, B. (1998). Vad är hälsa? Några reflektioner kring hälsobegreppet. Rapport nr 59, Filosofiska meddelanden, Gröna serien, Filosofiska Institutionen, Göteborgs Universitet
- Bulik, C.M., Sullivan, P.F., Carter, F.A., & Joyce, P.R. (1997). Lifetime comorbidity of alcohol dependence in women with bulimia nervosa. *Addictive Behaviors*, *22*, 437-446.
- Bushnell, J.A., Wells, J.E., Mc Kenzie, J.M., Hornblow, A.R., Oakley-Browne, M.A., & Joyce, P.R. (1994). Bulimia comorbidity in the general population and in the clinic. *Psychological Medicine*, *24*, 605-611
- Casper, R.C. (1998). Depression and eating disorders. *Depression and Anxiety*, *8* (suppl. 1), 96-104
- Cicchetti, D., & Cohen, D. (Eds.). (1995). *Developmental psychopathology: Vol. 1. Theory and methods*. New York: Wiley
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Second edition. New York: Academic Press
- Cooper, Z., Cooper, P.J., & Fairburn, C.G. (1989). The validity of Eating Disorder Examination and its subscales. *British Journal of Psychiatry*, *154*, 807-812
- Corcos, M., Guilbaud, O., Speranza, M., Paterniti, S., Loas, G., Stephan, P., & Jeammet, P. (2000). Alexithymia and depression in eating disorder. *Psychiatry Research*, *93*, 263-266
- Davis, C., & Claridge, G. (1998). The eating disorders as addiction: a psychological perspective. *Addictive Behaviors*, *23*, 463-475
- Davis, C., Katzman, D.K., Kaptein, S., Kirsh, C., Brewer, H., Kalmbach, K., Olmsted, M.P., Woodside, D.B., & Kaplan, A.S. (1997). The prevalence of

- high-level exercise in the eating disorders: etiological implications. *Comprehensive Psychiatry*, 38, 321-326
- Derogatis, L.R. (1992). *SCL-90. Administration, scoring, and procedures: Manual II*. Towson: Clinical Psychometric Research, Inc.
- de Silva, P., & Eysenck, S. (1987). Personality and addictiveness in anorexic and bulimic patients. *Personality and Individual Differences*, 8, 749-751
- Diaz-Marsa, M., Carrasco, J.L., & Saiz, J. (2000). A study of temperament and personality in anorexia and bulimia nervosa. *Journal of Personality Disorders*, 14, 352-359
- Don Morgan, C., Wiederman, M.W., & Magnus, R.D. (1998). Discriminant validity of the SCL-90 dimensions of anxiety and depression. *Assessment*, 5, 197-201
- Engström, I. (2002). *Ätstörningarnas förekomst*. In: D. Clinton, & C. Norring (Eds.). *Ätstörningar. Bakgrund och aktuella behandlingsmetoder* (pp 43-50). Natur och Kultur, Stockholm
- Fahy, T., & Eisler, I. (1993). Impulsivity and eating disorders. *British Journal of Psychiatry*, 162, 193-197
- Fairburn, C.G. (1997). *Interpersonal psychotherapy for bulimia nervosa*. In: D.M. Garner, & P.E. Garfinkel (Eds.). *Handbook of treatment for eating disorders*. (2:d ed). The Guilford Press, New York
- Fairburn, C.G., & Harrison, P.J. (2003). Eating Disorders, *Lancet*, 361, 407-416
- Fava, M., Rappe, S., West, J., & Hertzog, D.B. (1995). Anger attacks in eating disorders. *Psychiatry Research*, 56, 205-212
- Fichter, M.M., Quadflieg, N., & Rief, W. (1994). Course of multi-impulsive bulimia. *Psychological Medicine*, 24, 591-604
- Fisher, M. (2003). The course and outcome of eating disorders in adults and in adolescents: a review. *Adolescent Medicine*, 14, 149-158
- Fisher, S., Smith, G.T., & Anderson, K.G. (2003). Clarifying the role of impulsivity in bulimia nervosa. *International Journal of Eating Disorders*, 33, 406-411
- Fitzgibbon, M.L., Sánchez-Johnsen, L.A.P., & Martinovich, Z. (2003). A test of the continuity perspective across bulimic and binge eating pathology. *International Journal of Eating Disorder*, 31, 83-97

- Fitzpatrick, C., & Deehan, A. (1999). Competencies and problems of Irish children and adolescents. *European Child & Adolescent Psychiatry, 8*, 17-23
- Freud, A. (1965). *Normality and pathology in childhood*. New York: International Universities Press.
- Fulkerson, J.A., Keel, P.K., Leon, G.R., & Dorr, T. (1999). Eating-disordered behaviors and personality characteristics of high school athletes and non-athletes. *International Journal of Eating Disorders, 26*, 73-79
- Garfinkel, P.E., Moldofsky, H., & Garner, D.M. (1980). The heterogeneity of anorexia nervosa. Bulimia as a distinct subgroup. *Archives of General Psychiatry, 37*, 1036-1039
- Garfinkel P.E., Lin, E., Goering, P., Spegg, C., Goldbloom, D.S., Kennedy, S., Kaplan, A.S., & Woodside, D.B. (1995). Bulimia nervosa in a Canadian sample: prevalence and a comparison of subgroups. *American Journal of Psychiatry, 152*, 1052-1058
- Garner, D.M. (1991). *Eating Disorder Inventory-2 manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Garner, D.M., & Needleman, L.D. (1997). *Sequencing and integration of treatments*. In: D.M. Garner, & P.E. Garfinkel (Eds.). *Handbook of Treatment for Eating Disorders*. (2nd ed. The Guilford Press, New York.
- Garner, D.M., Garfinkel, P.E., & O'Shaughnessy, M. (1985). The validity of the distinction between bulimia with and without anorexia nervosa. *American Journal of Psychiatry, 142*, 581-587
- Gillberg, I.C., Råstam, M., & Gillberg, C. (1995). Anorexia nervosa 6 years after onset: part I. Personality disorders. *Comprehensive Psychiatry, 36*, 61-69
- Godart, N.T., Flament, M.F., Lecrubier, Y., & Jeammet, P. (2000). Anxiety disorders in anorexia nervosa and bulimia nervosa: co-morbidity and chronology of appearance. *European Psychiatry, 15*, 38-45
- Grissett, N.I., & Norvell, N.K. (1992). Perceived social support, social skills, and quality of relationships in bulimic women. *Journal of Consulting and Clinical Psychology, 60*, 293-299
- Goodman, R., Meltzer, H., & Bailey, V. (1998). The strengths and difficulties questionnaire: A pilot study on the validity of the self-report version. *European Child and Adolescent Psychiatry, 7*, 125-130
- Goodman, W.K., Price, L.H., Rasmussen, S.A., Mazure, C., Fleischmann, R.L., Hill, C.L., Heninger, G.R., & Charney, D.S. (1989a). The Yale-Brown Ob-

- sessive Compulsive Scale (Y-BOCS); I: development, use and reliability. *Archives of General Psychiatry*, 46, 1006-1011
- Goodman, W.K., Price, L.H., Rasmussen, S.A., Heninger, G.R., & Charney, D.S. (1989b). The Yale-Brown Obsessive Compulsive Scale (Y-BOCS); II: validity. *Archives of General Psychiatry*, 46, 1012-1016
- Gould, M.S., Bird, H., & Staghezza Jaramillo, B. (1993). Correspondence between statistically derived behavior problem syndromes and child psychiatric diagnoses in a community sample. *Journal of Abnormal Child Psychology*, 21, 287-313
- Group for the Advancement of Psychiatry (1966). *Psychopathological Disorders in Childhood: Theoretical Considerations and a Proposed Classification* (GAP Report 62). Formulated by the Committee on Child Psychiatry
- Halmi, K.A., Eckert, E., Marchi, P., Sampugnaro, V., Apple, T., & Cohen, J. (1991). Comorbidity of psychiatric diagnoses in anorexia nervosa. *Archives of General Psychiatry*, 48, 712-718
- Harper-Giuffre, H. (1992). *Overview of the Eating Disorders*. In H. Harper-Giuffre, & K.R. MacKenzie (Eds.). *Group Psychotherapy for Eating Disorders*. American Psychiatric Press, Washington DC.
- Hart, E.L., & Lahey, B.B. (1999). *General child behavior rating scales*. In: D. Shaffer, C. P. Lucas, & J.E. Richter (Eds.). *Diagnostic assessment in child and adolescent psychopathology* (pp 65-87). The Guilford Press: New York
- Helmchen, H., & Linden, M. (2000). Subthreshold disorders in psychiatry: clinical reality, methodological artifact, and the double-threshold problem. *Comprehensive Psychiatry*, 41, (suppl. 1), 1-7
- Herzog, D.B., & Delinsky, S.S. (2002). *Classification of eating disorders*. In: R.H. Striegel-Moore, & L. Smolak (Eds.). *Eating Disorders. Innovative directions in research and practice* (pp 31-51), Washington, DC: American Psychological Association
- Herzog, D.B., Nussbaum, K.M., & Marmor, A.K. (1996). Comorbidity and outcome in eating disorders. *The Psychiatric Clinics of North America*, 19, 843-859
- Herzog, D.B., Keller, M.B., Sacks, N.R., Yeh, C.J., & Lavori, P.W. (1992a). Psychiatric comorbidity in treatment-seeking anorexics and bulimics. *Journal of the American Child and Adolescent Psychiatry*, 31, 5, September

- Herzog, D.B., Keller, M.B., Lavori, P.W., Kenny, G.M., & Sacks, N.R. (1992b). The prevalence of personality disorders in 210 women with eating disorders. *Journal of Clinical Psychiatry*, *53*, 147-152
- Herzog, D.B., Dorer, D.J., Keel, P.K., Selwyn, S.E., Ekeblad, E.R., Flores, A.T., Greenwood, D.N., Burwell, R.A., & Keller, M.B. (1999). Recovery and relapse in anorexia and bulimia nervosa: A 7.5-year follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *38*, 829-837
- Hinshaw, S.P., & Nigg, J.T. (1999). *Behavior rating scales in the assessment of disruptive behavior problems in childhood*. In: D. Shaffer, C. P. Lucas, & J.E. Richters (Eds.) *Diagnostic assessment in child and adolescent psychopathology* (pp 91-126). The Guilford Press: New York
- Hoek, H.W., & van Hoeken, D. (2003). Review of the prevalence and incidence of eating disorders. *International Journal of Eating Disorders*, *34*, 383-396
- Hofstra, M.B., Van der Ende, J., & Verhulst, F.C. (2002). Pathways of self-reported problem behaviors from adolescence into adulthood. *American Journal of Psychiatry*, *159*, 401-407
- Holi, M.M, Sammallahti, P.R., & Aalberg, V.A. (1998). A Finnish validation study of the SCL-90. *Acta Psychiatrica Scandinavica*, *97*, 42-46
- Hollingshead, A.B. (1975). *Four Factor Index of Social Position*. Unpublished manuscript. Department of Sociology. New Haven. CT: Yale University, Swedish adaption Broberg AG, 1992
- Hägglöf, B. (2004). ASEBA (Achenbach System of Empirically Based Assessment). Retrieved May 9, 2005 from Umeå University, Department of Clinical Sciences, Child and Adolescent Psychiatry Web site: http://www.umu.se/clin_sci/psychchild/forskning/aseba.htm
- Hägglöf, B. (2002). *Farmakologisk behandling vid ätstörningar*. In: D. Clinton, & C. Norring (Eds.). *Ätstörningar. Bakgrund och aktuella behandlingsmetoder* (pp 121-127). Natur och Kultur, Stockholm
- Ivarsson, T., Råstam, M., Wentz, E., Gillberg, I.C., & Gillberg, C. (2000). Depressive disorders in teenage-onset anorexia nervosa: a controlled longitudinal, partly community-based study. *Comprehensive Psychiatry*, *41*, 398-403
- Ivarsson, T., Gillberg, C., Arvidsson, T., & Broberg, A.G. (2002). The Youth Self-Report (YSR) and the Depression Self Rating Scale (DSRS) as meas-

- ures of depression and suicidality among adolescents. *European Child and Adolescent Psychiatry*, *11*, 31-37
- Jensen, P.S., Brooks-Gunn, J., & Graber, J.A. (1999). Dimensional scales and diagnostic categories: constructing crosswalks for child psychopathology assessments. *Journal of the American Academy of Child and Adolescent Psychiatry*, *38*, 118-120
- Jonas, J.M., Gold, M.S., Sweeney, D., & Pottash, A.L. (1987). Eating disorders and cocaine abuse: a survey of 259 cocaine abusers. *Journal of Clinical Psychiatry*, *48*, 47-50
- Kaltiala-Heino, R., Rissanen, A., Rimpelä, M., & Rantanen, P. (2003). Bulimia and impulsive behaviour in middle adolescence. *Psychotherapy and Psychosomatics*, *72*, 26-33
- Kaye, W.H., Greeno, C.G., Moss, H., Fernstrom, J., Fernstrom, M., Lilienfeld, L.R., Weltzin, T.E., & Mann, J. (1998). Alterations in serotonin activity and psychiatric symptoms after recovery from bulimia nervosa. *Archives of General Psychiatry*, *55*, 927-935
- Kaye, W.H., Bulik, C.M., Thornton, L., Barbarich, N., & Masters, K. (2004). Comorbidity of anxiety disorders with anorexia and bulimia nervosa. *American Journal of Psychiatry*, *2004*, *161*, 2215-2221
- Kaye, W.H., Weltzin, T., & Hsu, L.K.G. (1993). Relationship between anorexia nervosa and obsessive and compulsive behaviors. *Psychiatric Annals*, *23*, 365-373
- Keel, P.K., & Klump, K.L. (2003). Are eating disorders culture-bound syndromes? Implications for conceptualizing their etiology. *Psychological Bulletin*, *129*, 747-769
- Keel, P.K., & Mitchell, J.E. (1997). Outcome in bulimia nervosa. *American Journal of Psychiatry*, *154*, 313-321
- Keel, P.K., Mitchell, J.E., Miller, K.B., Davis, B.A., & Crow, S.J. (2000). Predictive validity of bulimia nervosa as a diagnostic category. *American Journal of Psychiatry*, *157*, 136-138
- Kovacs, M. (1992). *Children's Depression Inventory, CDI, Manual*. Multi-Health Systems, Ontario
- Kvernmo, S., & Heyerdahl, S. (1998). Influence of ethnic factors on behavior problems in indigenous Sami and majority Norwegian adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, *37*, 743-751

- Lacey, J.H., & Evans, C.D.H. (1986). The impulsivist: a multi-impulsive personality disorder. *British Journal of Addiction*, *81*, 641-649
- Laessle, R.G., Platte, P., Schweiger, U., & Pirke, K.M. (1996). Biological and psychological correlates of intermittent dieting behavior in young women. A model for bulimia nervosa. *Physiology & Behavior*, *60*, 1-5
- Lee, R., & Coccaro, E. (2001). The neuropsychopharmacology of criminality and aggression. *Canadian Journal of Psychiatry*, *46*, 35-43
- Lee, S (1993). How abnormal is the desire for slimness? A survey of eating attitudes and behaviour among Chinese undergraduates in Hong Kong. *Psychological Medicine*, *23*, 437-451
- Lee, S. (1995). Self-starvation in context: towards a culturally sensitive understanding of anorexia nervosa. *Social Science Medicine*, *41*, 25-36
- Leibowitz, S.F., & Shor-Posner, G. (1986). Brain serotonin and eating behavior. *Appetite*, *7 (suppl. 1.)*, 1-14
- Lewinsohn, P.M., Striegel-Moore, R.H., & Seeley, J.R. (2000). Epidemiology and natural course of eating disorder in young women from adolescence to young adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry*, *39*, 1284-1292
- Lösel, F., Bliesener, T., & Köferl, P. (1991). Behavioral and emotional problems in adolescents: German adaption of the Youth Self-Report of the Child Behavior Checklist and a comparison with U.S.-data. *Zeitschrift für Klinische Psychologie*, *XX*, 22-51
- Malling Andersen, S., & Johansson, M. (1998). SCL-90 (Symptom Checklist) En svensk normering och standardisering (Swedish norms and standardization). Rapport no 3, Missbruksprojekten vid Institutionen för Tillämpad Psykologi, Lunds Universitet (Department of Applied Psychology, Lund University).
- Mangeweth, B., Pope, P.G., & Hudson, J.I. (1994). Bulimia nervosa in two cultures: A comparison of Austrian and American college students. *International Journal of Eating Disorders*, *17*, 403-412
- Martens, B.K. (1993). Social labeling, precision of measurement, and problem solving: key issues in the assessment of children's emotional problems. *School Psychology Review*, *22*, 308-312
- Masten, A.S., & Curtis, W.J. (2000). Integrating competence and psychopathology: Pathways toward a comprehensive science of adaptation in development. *Development and Psychopathology*, *12*, 529- 550

- Matsunaga, H., Kiriike, N., Miyata, A., Iwasaki, Y., Matsui, T., Fujimoto, K., Kasai, S., & Kaye, W.H. (1999). Prevalence and symptomatology of comorbid obsessive-compulsive disorder among bulimic patients. *Psychiatry and Clinical Neuroscience*, *53*, 661-666
- Mautner, R.D., Owen, S.V., & Frunham, A. (2000). Cross-cultural explanations of body image disturbance in western cultural samples. *International Journal of Eating Disorders*, *28*, 165-172
- McBride, P.A., Anderson, G.M., Khait, V.D., Sunday, S.R., & Halmi, K.A. (1991). Serotonergic responsivity in eating disorders. *Psychopharmacological Bulletin*, *27*, 365-372
- McCarthy, D.M., Simmons, J.R., Smith, G.T., Tomlinson, K.L., & Hill, K.K. (2002). Reliability, stability, and factor structure of the Bulimia Test-Revised and Eating Disorder Inventory-2 scales in adolescence. *Assessment*, *9*, 382-389.
- McConaughy, S.H. (1993). Advances in empirically based assessment of children's behavioral and emotional problems. *School Psychology Review*, *22*, 285-307
- McLaren, L., Gauvin, L., & Steiger, H. (2001). A two-factor model of disordered eating. *Eating Behaviors*, *2*, 51-65
- Milligan, R-J., & Waller, G. (2000). Anger and bulimic psychopathology among nonclinical women. *International Journal of Eating Disorders*, *28*, 446-450.
- Mitchell, J.E., Hatsukami, D., Pyle, R., & Eckert, E.D. (1985). Characteristics of 275 patients with bulimia. *American Journal of Psychiatry*, *142*, 482-485
- Monteleone, P., Brambilla, F., Bortolotti, F., Ferraro, C., & Maj, M. (1998). Plasma prolactin response to D-fenfluramine is blunted in bulimic patients with frequent binge episodes. *Psychological Medicine*, *28*, 975-983
- Muratori, F., Viglione, V., Maestro, S., & Picchi, L. (2004). Internalizing and externalizing conditions in adolescent anorexia. *Psychopathology*, *37*, 92-97
- Nevonen, L. (2002). *Pykopedagogik vid ätstörningar*. In: D. Clinton, & C. Norring. (Eds.). *Ätstörningar. Bakgrund och aktuella behandlingsmetoder* (pp 129-136). Natur och Kultur, Stockholm
- Nevonen, L., & Broberg, A. G. (2005). A comparison of group and individual psychotherapy for eating disorder not otherwise specified. *European Eating Disorders Review*, *13*, 29-37.

- Nevonen, L., & Broberg, A. G. (submitted). A comparison of group and individual psychotherapy for bulimia nervosa.
- Nevonen, L., & Broberg, A.G. (2001). Validating the Eating Disorder Inventory-2 in Sweden. *The Journal of Eating and Weight Disorders: Studies on Anorexia, Bulimia and Obesity*, 6, 59-67.
- Nevonen, L., Broberg, A.G., Clinton, D., & Norring, C. (2003). A measure for the assessment of eating disorders: Reliability and validity studies of the Rating of Anorexia and Bulimia Interview-revised version (RAB-R). *Scandinavian Journal of Psychology*, 44, 303-310.
- Newton, J.R., Freeman, C.P., & Munro, J. (1993). Impulsivity and dyscontrol in bulimia nervosa: is impulsivity an independent phenomenon or a marker of severity? *Acta Psychiatrica Scandinavica*, 87, 389-394
- Nordenfeldt, L. (1995). *Om holistiska hälsoteorier*. In K. Klockars, & B. Österman, (Eds.). *Begrepp om hälsa*. (pp 29-42). Liber Utbildning
- Norring, C., & Sohlberg, S. (1988). Eating Disorder Inventory in Sweden: description, cross-cultural comparison, and clinical utility. *Acta Psychiatrica Scandinavica*, 78, 567-575.
- Olsson, M.B., & Hwang, P.C. (2001). Depression in mothers and fathers of children with developmental disabilities. *Journal of Intellectual Disability Research*, 45, 535-543
- Oyewumi, L.K., & Kazarian, S.S (1992a). Abnormal eating attitudes among a group of Nigerian youths: I. Bulimic behaviour. *East African Medical Journal*, 69, 663-666
- Oyewumi, L.K., & Kazarian, S.S (1992b). Abnormal eating attitudes among a group of Nigerian youths: I. Anorexic behaviour. *East African Medical Journal*, 69, 667-669
- Palmer, T., Christie, M., Cordle, C., Davies, D., & Kendrick, J. (1987). The Clinical Eating Disorder Rating Instrument (CEDRI): A preliminary description. *International Journal of Eating Disorders*, 6, 9-16
- Patton, G.C., Selzer, R., Coffey, C., Carlin, J.B., & Wolfe, R. (1999). Onset of adolescent eating disorders: population based cohort study over 3 years. *British Medical Journal*, 318, 765-768
- Peñas-Lledó, E., & Waller, G. (2001). Bulimic psychopathology and impulsive behaviors among nonclinical women. *International Journal of Eating Disorders*, 29, 71-75.

- Peñas-Lledó, E., Vaz, F.J., Ramos, M.I., & Waller, G. (2002). Impulsive behaviors in bulimic patients: relation to general psychopathology. *International Journal of Eating Disorders*, *32*, 98-102.
- Peveler, R.C., & Fairburn, C.G. (1990). Measurement of neurotic symptoms by self-report questionnaire: validity of the SCL-90-R. *Psychological Medicine*, *20*, 873-879
- Phares, V., Compas, B.E., & Howell, D.C. (1989). Perspectives on child behavior problems: comparisons of children's self-reports with parent and teacher reports. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, *1*, 68-71
- Pirke, K.M. (1998). Long-term course of anorexia nervosa: response, relapse, remission, and recovery. *Clinical Psychology Review*, *18*, 447-475
- Pollice, C., Kaye, W.H., Greeno, C.G., & Weltzin, T.E. (1997). Relationship of depression, anxiety, and obsessiveness to state of illness in anorexia nervosa. *International Journal of Eating Disorders*, *21*, 367-376.
- Pörn, I. (1995). *Vad är hälsa?* In K. Klockars, & B. Österman (Eds.). *Begrepp om hälsa*. (pp 14-28). Liber Utbildning
- Raich, R., Rosen, J., Deus, J., Perez, O., Requena, A., & Gross, J. (1992). Eating disorder symptoms among adolescents in the United States and Spain: A comparative study. *International Journal of Eating Disorders*, *11*, 63-72
- Reas, D.L., Williamson, D.A., Martin, C.K., & Zucker, N.L. (2000). Duration of illness predicts outcome for bulimia nervosa: a long-term follow-up study. *International Journal of Eating Disorders*, *27*, 428-434
- Rey, J.M., & Morris-Yates, A. (1992). Diagnostic accuracy in adolescents of several depression rating scales extracted from a general purpose behavior checklist. *Journal of Affective Disorders*, *26*, 7-16
- Reynolds, C.R., & Richmond, B.O. (1978). What I think and feel: a revised measure of children's manifest anxiety. *Journal of Abnormal Child Psychology*, *6*, 271-280
- Rosenvinge, J.H., Martinussen, M., & Ostensen, E. (2000). The comorbidity of eating disorders and personality disorders: a meta-analytic review of studies published between 1983 and 1998. *Eating and Weight Disorders*, *5*, 52-61
- Rothenberg, A. (1986). Eating disorder as a modern obsessive-compulsive syndrome. *Psychiatry*, *49*, 45-53

- Roussos, A., Francis, K., Zoubou, V., Kiprianos, S., Prokopiou, A., & Richardson, C. (2001). The standardization of Achenbach's Youth Self-Report in Greece in a national sample of high school students. *European Child & Adolescent Psychiatry, 10*, 47-53
- Råstam, M., Gillberg, I.C., & Gillberg, C. (1995). Anorexia nervosa 6 years after onset: part II. Comorbid psychiatric problems. *Comprehensive Psychiatry, 36*, 70-76
- Rø, Ø., Martinsen, E.W., Hoffart, A., & Rosenvinge, J. (2005). Two-year prospective study of personality disorders in adults with longstanding eating disorders. *International Journal of Eating Disorders, 37*, 112-118
- Sawyer, M.G., Baghurst, P., & Clark, J. (1992). Differences between reports from children, parents, and teachers: implications for epidemiological studies. *Australian and New Zealand Journal of Psychiatry, 26*, 652-660
- Schmitz, N., Hartkamp, N., Kiuse, J., Franke, G.H., Reister, G., & Tress, W. (2000). The Symptom Check-List-90-R (SCL-90-R): a German validation study. *Quality of Life Research, 9*, 185-193
- Schmitz, N., Kruse, J., Heckrath, C., Alberti, L., & Tress, W. (1999). Diagnosing mental disorders in primary care: the General Health Questionnaire (GHQ) and the Symptom Check List (SCL-90-R) as screening instruments. *Social Psychiatry and Psychiatric Epidemiology, 34*, 360 – 366
- Seedhouse, D. (1987). *The need for a philosophy of health*. In: D. Lamb (Ed.). *Explorations in Medicine*. (pp 152-198). Aldershot: Avebury
- Seiffge-Krenke, L., & Kollmar, F. (1998). Discrepancies between mothers' and fathers' perceptions of sons' and daughters' problem behavior: a longitudinal analysis of parent-adolescent agreement on internalising and externalising problem behavior. *Journal of Child Psychology and Psychiatry, 39*, 687-697
- Slobodskaya, H.R. (1999). Competence, emotional, and behavioural problems in Russian adolescents. *European Child & Adolescent Psychiatry, 8*, 173-180
- Smith, K.A., Fairburn, C.G., & Cowen, P.J. (1999). Symptomatic relapse in bulimia nervosa following acute tryptophan depletion. *Archives of General Psychiatry, 56*, 171-176
- Smith, C., Feldman, S., Nasserbakht, A., & Steiner, H. (1993). Psychological characteristics and DSM-III-R diagnoses at 6-year follow-up of adolescent anorexia nervosa. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*, 1237-1245

- Smolak, L., Murnen, S.K., & Ruble, A.E. (2000). Female athletes and eating problems: A meta-analysis. *International Journal of Eating Disorders*, 27, 371-380
- Sohlberg, S., Norring, C., Holmgren, S., & Rosmark, B. (1989). Impulsivity and long-term prognosis of psychiatric patients with anorexia nervosa/bulimia nervosa. *Journal of Nervous and Mental Disorders*, 177, 249-258.
- Song, L., Singh, J., & Singer, M. (1994). The Youth Self-Report inventory: a study of its measurement fidelity. *Psychological Assessment*, 6, 236-245
- Spielberger, C.D., Edwards, C.D., Montuori, J., & Lushene, R. (1973). *Manual for the State-Trait Anxiety Inventory for Children*. Consulting Psychologists Press, Palo Alto, CA.
- Stanger, S., & Lewis, M. (1993). Agreement among parents, teachers, and children on internalizing and externalizing behavior problems. *Journal of Clinical Child Psychology*, 22, 107-115
- Steiger, H., Young, S.N., Kin, N.M., Koerner, N., Israel, M., Lageix, P., & Paris, J. (2001). Implications of impulsive and affective symptoms for serotonin function in bulimia nervosa. *Psychological Medicine*, 31, 85-95
- Steinhausen, H-C. (2002). The outcome of anorexia nervosa in the 20th century. *American Journal of Psychiatry*, 159, 1284-1293
- Stice, E., & Whitenton, K. (2002). Risk factors for body dissatisfaction in adolescent girls: a longitudinal investigation. *Developmental Psychology*, 38, 669-678
- Talbott, E., & Lloyd, J.W. (1997). Raters' views of the problems and competence of adolescent girls. *Exceptionality*, 7, 229-243
- Thurber, S., & Hollingsworth, D.K. (1992). Validity of the Achenbach and Edelbrock Youth Self-Report with hospitalized adolescents. *Journal of Clinical Child Psychology*, 21, 249-254
- Tiggeman, M., & Pickering, A.S. (1996). Role of television in adolescent women's body dissatisfaction and drive for thinness. *International Journal of Eating Disorders*, 20, 199-203.
- Tiller, J., Schmidt, U., Ali, S., & Treasure, J. (1995). Patterns of punitiveness in women with eating disorders. *International Journal of Eating Disorders*, 17, 365-371
- Toro, J., Nicolau, R., Cervera, M., Castro, J., Blecua, M.J., Zaragoza, M., & Toro, A. (1995). A clinical and phenomenological study of 185 Spanish

- adolescents with anorexia nervosa. *European Child and Adolescent Psychiatry*, 4, 165-174
- Treiber, F.A., & Mabe, P.A. (1987). Child and parent perceptions of children's psychopathology in psychiatric outpatient children. *Journal of Abnormal Child Psychology*, 15, 115-124
- Van Ameringen, M., Mancini, C., Styan, G., & Donison, D. (1991). Relationship of social phobia with other psychiatric illness. *Journal of Affective Disorders*, 21, 93-99
- Verhulst, F.C., & van der Ende, J. (1992). Agreement between parents' reports and adolescents' self-reports of problem behavior. *Journal of Child Psychology and Psychiatry*, 33, 1011-1023
- Verhulst, F.C., & van Wattum, P.J. (1993). Two-year stability of self-reported problems in an epidemiological sample of adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 87, 322-328
- Verhulst, F.C., Achenbach, T.M., Ferdinand, R.F., & Kasius, M.C. (1993). Epidemiological comparisons of American and Dutch adolescents' self-reports. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32, 1135-1144
- Verhulst, F.C., Prince, J., Vervuut-Poot, C., & de Jong, J. (1989). Mental health in Dutch adolescents: self-reported competencies and problems for ages 11-18. *Acta Psychiatrica Scandinavica*, 80 (suppl. 365)
- Verkes, R.J., Pijl, H., Meinders, A.W., & Van Kempen, G.M.J. (1996). Borderline personality, impulsiveness, and platelet monoamine measures in bulimia nervosa and recurrent suicidal behavior. *Biological Psychiatry*, 40, 173-180
- Volkmar, F.R. (1991). *Classification in child and adolescent psychiatry: principles and issues*. In: I. M. Lewis (Ed.). *Child and adolescent psychiatry. A comprehensive textbook* (pp 415-434). Baltimore: Williams & Wilkins
- von Ranson, K.M., Kaye, W.H., Weltzin, T.E., Rao, R., & Matsunaga, H. (1999). Obsessive-compulsive disorder symptoms before and after recovery from bulimia nervosa. *American Journal of Psychiatry*, 156, 1703-1708
- Weiner, I.B. (1992). *Psychological disturbance in adolescence (2nd ed.)*. New York: John Wiley & Sons, Inc.
- Wentz Nilsson, E., Gillberg, C., Gillberg, I.C., & Råstam, M. (1999). Ten-year follow-up of adolescent-onset anorexia nervosa: Personality disorders.

- Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 1389-1395
- Whitaker, A.H. (1992). An epidemiological study of anorectic and bulimic symptoms in adolescent girls: implications for pediatricians. *Pediatrics Annual*, 21, 752-759
- Williamson, D.A., Gleaves, D.H., & Stewart, T.M. (2005). Categorical versus dimensional models of eating disorder: an examination of the evidence. *International Journal of Eating Disorders*, 37, 1-10
- World Health Organization (1992). *International Classification of Diseases (ICD-10)*: Geneva
- Wångby, M. (1997). Externalizing and internalizing adjustment problems in teenage girls. A longitudinal study. Doctoral Thesis, Department of Psychology, Stockholm University, ISBN: 91-7153-568-3
- Wångby, M. (1992). Teen-age girls' self-reported patterns of adjustment problems. Reports from the Department of Psychology, Stockholm University, No. 760
- Wångby, M., Bergman, L.R., & Magnusson, D. (1999). Development of adjustment problems in girls: what syndromes emerge? *Child Development*, 70, 678-699.

Appendix

- I. Broberg, A.G., Ekeroth, K., Gustafsson, P.A., Hansson, K., Hägglöf, B., Ivarsson, T., & Larsson, B. (2001). Self-reported competencies and problems among Swedish adolescents; a normative study of the YSR. *European Child and Adolescent Psychiatry, 10*, 186-193
- II. Ekeroth, K., Engström, I., Hägglöf, B., & Broberg, A.G. (2003). Self-reported competence and problems among Swedish girls with eating disorders and a control sample, using the Youth Self-Report. *Eating and Weight Disorders, 8*, 274-281
- III. Ekeroth, K., Broberg, A.G., & Nevonen, L. (2004). Eating disorders and general psychopathology: a comparison between young adult patients and normal controls with and without self-reported eating problems. *European Eating Disorders Review, 12*, 208-216
- IV. Ekeroth, K., Broberg, A.G., & Nevonen, L. *Eating related problems and general psychopathology in eating disorder patients and normal controls with and without self-reported eating problems. A three-year follow-up.* Manuscript submitted for publication.