



# Gender differences in the association between emotional maltreatment with mental, emotional, and behavioral problems in Swedish adolescents



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## ABSTRACT

Emotional maltreatment is a common form of child abuse with a powerful negative impact on mental health. The aim of this study was to examine the effect of emotional maltreatment on mental health and mental well-being in a general population of Swedish 12- to 13-year old girls and boys. Data was collected via self-report questionnaires in classroom settings from 1134 students. Emotional maltreatment had significant effects on mental health and mental well-being for both girls and boys. Moreover, there were significant interaction effects between gender and levels of emotional maltreatment. Girls reported decreased mental health and mental well-being at lower degrees of emotional maltreatment compared to boys. Furthermore, girls reported larger decreases in mental health in response to exposure of emotional maltreatment. For internalizing symptoms, mental well-being and psychosomatic symptoms, exposure level of emotional maltreatment seemed to magnify the gender differences. For externalizing symptoms, there were no differences between girls and boys in the group reporting no emotional maltreatment and the increase in externalizing symptoms were of equal magnitude for both genders. Given the impact of emotional maltreatment on mental health in the general population, results from this study implies that a trauma-informed perspective is necessary in understanding gender differences in mental health in early adolescence. Further research is needed in order to understand the underlying processes generating the differences in girls and boys responses to emotional maltreatment.

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## 1. Introduction

Emotional maltreatment may be the most widespread form of child abuse (Hibbard, Barlow, & Macmillan, 2012). According to American Professional Society on the Abuse of Children (APSAC, 1995, p. 2), emotional maltreatment is defined as “A repeated pattern of caregiver behavior or extreme incident(s) that convey to children that they are worthless, flawed, unloved, unwanted, endangered, or only of value in meeting another’s needs”. Results from a growing body of research show that emotional maltreatment has a profound negative impact on the child’s and adolescent’s behavioral, emotional, cognitive, and social development (Gilbert et al., 2009; Maguire et al., 2015). The impairment caused by emotional maltreatment

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on the child's development has been shown to be in par with the detrimental impact of both sexual and physical abuse and the consequences are manifested across the lifespan (Festinger & Baker, 2010; Hart et al., 1998; Spinazzola et al., 2014; Taillieu et al., 2016; Wolfe & McGee, 1994).

Despite the knowledge about the emotional maltreatment's detrimental impact and common occurrence, many aspects of emotional maltreatment continues to be under-studied (Egeland, 2009). For example, in many studies emotional maltreatment have been measured as a single construct and the differentiated impact of both emotional neglect (acts of omission) and emotional abuse (acts of commission) on mental health has been under-researched (Allen, 2008; Shaffer, Yates, & Egeland, 2009; Taillieu et al., 2016). However, in a recent study on young adults, differences in subsequent mental health outcomes of emotional neglect and emotional abuse were found (Taillieu et al., 2016). Hence, it is important to study samples of early adolescents in order to evaluate the relationship between emotional maltreatment and psychosocial impairment found in older samples (Shaffer et al., 2009; Taillieu et al., 2016). Furthermore, in early adolescence, girls start to report higher levels of depression and anxiety than boys. This difference emerges in adolescence but is then stable over the lifespan (e.g. Currie et al., 2012; Ge et al., 2001; Nolen-Hoeksema, 1994). Therefore, it is vital to study the gender-specific impact of emotional maltreatment on a wide array of mental health outcomes in this specific age (Cullerton-Sen et al., 2008). Last, there is a lack of studies where the relationships between maltreatment-severity and subsequent mental health outcomes are analyzed.

### 1.1. Emotional maltreatment and internalizing symptoms

Results from several studies confirm the impact that emotional maltreatment has on the degree of internalizing symptoms in adolescence (Courtney, Kushwaha, & Johnson, 2008; Shapero et al., 2014; Spinazzola et al., 2014). Some studies have shown that the effects of both emotional neglect (Brown, Cohen, Johnson, & Smailes, 1999) and emotional abuse (Hamilton et al., 2013) on internalizing symptoms surpasses that of physical maltreatment. However, it is not clear, if trauma and maltreatment affect internalizing symptoms differently in adolescent girls and boys and studies show different results. There are indications, however, of gender differences in etiology (i.e. girls and boys internalizing symptoms are caused by different sub-types of EM) as well as vulnerability (i.e. girls reacting to EM with significantly larger increases in internalizing symptoms than boys (Ge, Conger, & Elder, 2001; Paul & Eckenrode, 2015)). For example, McGee et al. (1997) have shown that when physical abuse-severity was rated as low, girls and boys did not differ in degree of symptoms. However, with increases in abuse severity, girls internalizing symptoms increased more compared to boys. Contrarily, Chirichella-Besemer (2005) found no significant differences in levels of internalizing symptoms between adult women and men with experiences of emotional maltreatment.

### 1.2. Emotional maltreatment and externalizing symptoms

Most studies on the relationship between emotional maltreatment and externalizing symptoms have focused on the effects of emotional abuse. However, studies that include younger children indicate a differentiated impact of emotional abuse and emotional neglect. For example, Egeland, Sroufe, and Erickson (1983) found that emotional abuse predominantly affected anger and hyperactivity while emotional neglect affected self-esteem in preschoolers. In a study on young adults, Taillieu et al. (2016) found that emotional abuse was associated with a broad outcome of mental health problems while emotional neglect primarily was associated with social withdrawal and interpersonal problems. In the study by Taillieu et al. (2016), however, externalizing symptoms were not included. In a study on imprisoned adolescents it was found that emotional abuse positively correlated with externalizing but not internalizing symptoms and no gender-differences were found (Silva, Graña, & González-Cieza, 2014). In another study on physically abused adolescents, it was found that emotional abuse moderated the relationship between physical abuse and externalizing symptoms (Butaney, Pelcovitz, & Kaplan, 2011). In one of the few studies investigating the prevalence and impact of emotional maltreatment on mental health in adolescent community samples, it was found that emotional maltreatment made unique, significant contributions to the development of both emotional and behavioral problems (Arslan, 2015). Examining gender-differences concerning externalizing symptoms as an effect of emotional maltreatment in clinical samples of children and adolescents, both Crittenden, Claussen, and Sugarman (1994) and Spinazzola et al. (2014) found a higher degree of externalizing symptoms as an effect of emotional maltreatment for boys compared to girls.

### 1.3. Psychosomatic symptoms

Stomach ache, headache and sleeplessness are common in adolescence (Knishkowsky, Palti, Tima, Adler, & Gofin, 1995) and, in general, more common among girls compared to boys (Berntsson & Gustafsson, 2000). A number of potentially traumatic experiences such as physical abuse, emotional abuse, natural disasters and sexual abuse have been linked to higher degrees of psychosomatic symptoms (Bonvanie, van Gils, Janssens, & Rosmalen, 2015; Jernbro, Svensson, Tindberg, & Janson, 2012; Masuda et al., 2007; Sun et al., 2014). Although findings are somewhat inconsistent, most studies report a stronger relationship between traumatic experiences and psychosomatic problems in females compared to males (Afarri et al., 2014).

#### 1.4. Mental well-being

Mental well-being includes the individuals' subjective, global assessment of quality of life and is usually constructed from three dimensions: psychological (sense of purpose in life), subjective (satisfaction with life), and social well-being (quality of connections to important others and society; Pavot & Diener, 2008). There are, to our knowledge, no studies on adolescent samples examining the relationship between emotional maltreatment and degree of psychological and subjective well-being. However, in one study examining the degree of PTSD in adults, following an earthquake, it was found that high mental well-being (sense of purpose in life) could be a protective factor against posttraumatic symptoms (Feder et al., 2013). Most studies show that, in early adolescence, boys generally report a higher degree of mental well-being than girls (Moksnes & Espnes, 2013).

#### 1.5. Current study

There are a scarcity of studies examining the individual effects of both emotional abuse and emotional neglect on adolescents internalizing and externalizing symptoms, above all in the same sample. There are also a lack of studies measuring emotional maltreatment exposure continuously rather than dichotomize it as present or not. Furthermore, in spite of the well-known gender-differences in mental health (Currie et al., 2012; Nolen-Hoeksema, 1994), most studies do not analyze the interaction between level of maltreatment and gender.

In this study, we investigated the impact of emotional maltreatment, sub-divided into emotional abuse and emotional neglect, on internalizing, externalizing and psychosomatic symptoms, and on mental well-being in a general population-sample of 12–13 year old girls and boys living in Sweden. Moreover, we investigated if the previous observed differences between girls and boys in responses to emotional maltreatment found in clinical samples, also was present in this general population-sample. In line with earlier research (e.g. Paul & Eckenrode, 2015; Spinazzola et al., 2014; Taillieu et al., 2016) it was hypothesized that the analyses would show main effects of emotional maltreatment as well as gender on the outcome variables (e.g. internalizing, externalizing and psychosomatic symptoms, and mental well-being), and also interaction effects on these outcome variables. Furthermore, it was hypothesized that boys will react to emotional maltreatment with elevated externalizing symptoms whereas girls will react with elevated internalizing and psychosomatic symptoms.

## 2. Methods

### 2.1. Study population

Data were obtained from the 1520 children and adolescents enrolled in the ongoing “Longitudinal Research on Development in Adolescence” (LoRDIA) program. LoRDIA is an on-going multidisciplinary prospective and longitudinal research program studying developmental pathways leading forward to alcohol- and drug use and mental health problems in a non-clinical population of Swedish adolescents from the age of 12–18. For this study, data from the first wave of data gathering (mean age 12.7) and the second wave of data gathering (mean age 13.4) were used. The first wave of measurement was conducted in February and March 2014 while the second wave of data gathering was conducted in October and November the same year.

### 2.2. Procedure

Data was collected via annual surveys using pen and paper questionnaire in class-room settings. The research program was reviewed by the Region Research Ethics Board in Gothenburg, Sweden (No. 362-13). For extensive description of the LoRDIA design and study population (see, Boson, Berglund, Wennberg, & Fahlke, 2016). The adolescent's ratings of externalizing, internalizing and, psychosomatic symptoms and mental well-being were collected at the first wave of data gatherings. Ratings of emotional neglect and emotional abuse were collected at the second wave of data gathering.

## 3. Measures

### 3.1. Emotional maltreatment

This form of maltreatment was assessed using the emotional neglect and emotional abuse sub-scales which is a part of the Swedish version of the Childhood Trauma Questionnaire-Short Form (CTQ-SF; Bernstein et al., 2003; Gerdner & Allgulander, 2009). CTQ is a retrospective self-rating scale aiming to identify abuse and neglect during childhood, in both teenagers and adults (Bernstein & Fink, 1994). Items on the CTQ are rated on a 5-point, Likert-type scale with response options ranging from (1) *never true* to (5) *very often true*. The CTQ has five subscales; physical abuse, sexual abuse, emotional abuse, physical neglect, and emotional neglect, which have been empirically verified (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997; Bernstein et al., 1994).

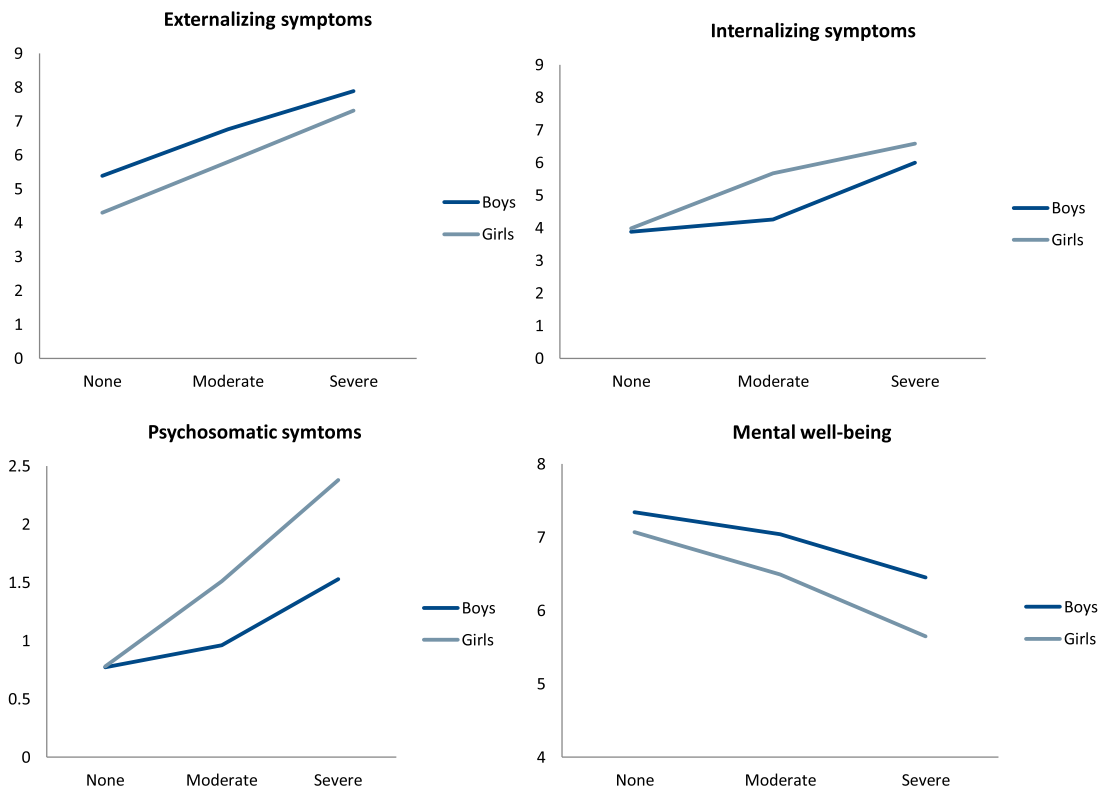


Fig. 1. Illustration of Interaction Effects between level of Emotional Abuse and Gender on Mental Health and Mental well-being.

### 3.2. Internalizing and externalizing symptoms

Internalizing and externalizing symptoms were measured using the Swedish version of the Strengths and Difficulties Questionnaire (SDQ-S; Goodman, 1999, 2001; R. Smedje, Broman, Hetta, & von Knorring, 1999). The SDQ-S is a self-rating scale containing 25 items that screens for behavioral and emotional problems in children and adolescents. SDQ provides five problem-scales (Emotional Symptoms, Conduct Problems, Hyperactivity-Inattention, Peer Problems, and Total Difficulties) and one prosocial scale (Goodman, 1997, 1999, 2001). Out of the five scales we created a three factor model consisting of Internalizing (Emotional + Peer-problems), Externalizing (Conduct + Hyperactivity-Inattention) and Total difficulties scale (Internalizing + Externalizing). This procedure has been recommended when using the SDQ in low-risk, general population sample (R. Goodman, Lamping, & Ploubidis, 2010),

**3.2.1. Psychosomatic symptoms.** Psychosomatic symptoms were measured using the Psychosomatic Problems Scale (PsP). The PsP is an eight-item questionnaire developed to measure psychosomatic health complaints in general populations of adolescents. The PsP-scale has been shown to adequately meet measurement criteria of invariance and proper categorization of the items, and also the targeting is good and the reliability is high (Hagquist, 2008). Questions are asked about difficulties to concentrate, difficulties falling asleep, headaches, stomach ache, feeling tense, bad appetite, feeling sad, and dizziness. Response-options are: “never”, “rarely”, “sometimes”, “often” and “always”. If the respondent answered “often” or “always” on an item, this was coded as presence of one symptom. This generated an index of number of symptoms ranging from 0 to 8.

### 3.3. Mental well-being

Mental well-being was measured using an index created by Boson et al. (2016) showing a satisfactory alpha value (0.77). The index consists of two items: In general, how happy are you with life at the moment? The item was scored 1–4: “very happy”, “quite happy”, “quite unhappy” and “very unhappy”. The second item was: I think that my life has purpose and meaning. The item was scored 1–4 by: “completely agree”, “partly agree”, “partly disagree” and “completely disagree”. Scores from these items were merged into a reversed index ranging from 2 to 8 with 2 indicating the lowest degree of mental well-being and 8 indicating the highest possible mental well-being.

**TABLE 1**

Percentiles used, range of scores within the three severity-groups and distribution of respondents.

Type of abuse	None (Range) n (%)	Moderate (Range) n (%)	Severe (Range) n (%)	Mean (SD)
Emotional neglect <sup>a</sup>	(5–7)	(8–11)	(12–25)	7.54 (3.18)
Boys	412 (60.2)	196 (28.7)	76 (11.1)	7.69 (3.21)
Girls	471 (64.3)	185 (25.3)	76 (10.4)	7.40 (3.15)
Emotional abuse <sup>b</sup>	(5–7)	(8–11)	(12–25)	7.17 (2.95)
Boys	426 (64.5)	168 (25.5)	66 (10)	7.39 (3.08)
Girls	(5–6)	(7–10)	(11–25)	
Girls	431 (60.9)	200 (28.2)	77 (10.9)	6.96 (2.80)
Percentile	0–65	66–90	91–99	

<sup>a</sup> Same cut-off score were generated for both genders.<sup>b</sup> There was a significant difference ( $p = 0.008$ ) in mean-scores between genders resulting in different cut-off scores.**Table 2**

Means and Standard Deviations in Outcomes as an effect of Emotional Maltreatment Severity and Gender.

Emotional Maltreatment severity	None (n)		Moderate (n)		Severe (n)	
	Boy	Girl	Boy	Girl	Boy	Girl
Emotional Abuse	(319)	(347)	(117)	(157)	(47)	(62)
Externalizing Problems	5.39 (3.08)	4.30 (2.62)	6.76 (3.04)	5.80 (2.69)	7.89 (2.75)	7.31 (3.00)
Internalizing Problems	3.88 (2.86)	3.98 (2.68)	4.26 (3.04)	5.68 (3.35)	6.00 (3.49)	6.58 (4.05)
Total difficulties	9.28 (4.68)	8.29 (4.31)	11.02 (5.08)	11.48 (4.99)	13.89 (5.38)	13.89 (5.84)
Psychosomatic symptoms	0.78 (1.27)	0.77 (1.42)	0.96 (1.54)	1.51 (1.92)	1.53 (2.14)	2.38 (2.23)
Mental well-being	7.34 (.91)	7.07 (1.14)	7.04 (1.05)	6.49 (1.28)	6.45 (1.53)	5.65 (1.71)
	Boy	Girl	Boy	Girl	Boy	Girl
Emotional Neglect	(314)	(379)	(145)	(145)	(54)	(59)
Externalizing Symptoms	5.56 (3.23)	4.47 (2.69)	6.55 (2.96)	5.93 (2.79)	6.67 (3.30)	7.17 (2.78)
Internalizing Symptoms	3.80 (2.88)	4.02 (2.67)	4.39 (2.92)	5.88 (3.58)	5.80 (3.22)	7.32 (3.57)
Total difficulties	9.37 (4.95)	8.49 (4.48)	10.94 (4.80)	11.81 (5.06)	12.46 (5.31)	14.49 (5.20)
Psychosomatic symptoms	0.80 (1.30)	0.74 (1.31)	1.01 (1.59)	1.70 (2.10)	1.28 (1.91)	2.76 (2.23)
Mental well-being	7.41 (0.90)	7.15 (1.08)	6.96 (1.12)	6.20 (1.33)	6.42 (1.22)	5.17 (1.57)

### 3.4. Statistical analysis

Since there are no population-based norm data for the CTQ-SF on early adolescents, the participants were grouped into three emotional neglect and emotional abuse severity groups (*none*, *moderate* and *severe*, respectively) by percentile as advised by Bernstein and Fink (1998). This was done for girls and boys separately. Independent samples *t*-test was conducted to compare the emotional abuse and emotional neglect scores. See Table 1 for results and percentiles used. Out of the 1520 adolescents enrolled in the research program, a total of 1371 children completed the SDQ, psychosomatic problems and mental well-being questionnaires at the first wave of data gathering. Of these, 1134 also completed the CTQ at the second data-gathering yielding an attrition rate of 16.3% between the first two waves of measurements. Chi square tests showed that the attrition-group contained a significantly higher proportion of boys ( $p = 0.036$ ) and a higher proportion of children with divorced parents ( $p = 0.021$ ). Independent samples *t*-tests showed significantly higher levels of externalizing symptoms ( $p = 0.032$ ) in the attrition-group. For all other study variables, there were no significant differences between the attrition-group and those who completed questionnaires, both at the first and the second data gathering.

In order to analyze main and interaction effects of emotional maltreatment (i.e. emotional abuse and neglect) and gender on the outcome variables (internalizing, externalizing and psychosomatic symptoms, and mental well-being) a 3 (none vs. moderate vs. severe maltreatment)  $\times$  2 (boys vs. girls) ANOVA was used. In addition, One-way ANOVA's were conducted, separately for girls and for boys and emotional abuse/emotional neglect, to explore differences in outcome variables mean-scores between the three emotional maltreatment severity-groups. Effect sizes were calculated using eta square and interpreted as advised by Cohen (1988, pp. 284–7). Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. All analyses were done utilizing IBM SPSS Statistical Software Version 21.0.

## 4. Results

### 4.1. The impact of emotional maltreatment and gender on outcomes

Table 2 presents means and standard deviations for the outcome variables whereas the *p*-levels for the main and interaction effects are shown in Table 3. There were significant main effects for level of emotional neglect on internalizing symptoms

**Table 3**  
Analysis of Variance (3 × 2) between Level of Emotional Maltreatment and Gender on Outcome Measures.

	SS	df	MS	<i>f</i>	Partial eta square
Emotional Neglect					
Internalizing Symptoms					
Main effect – EN	812.29	2	406.15	45.81 <sup>*</sup>	0.078
Main effect – Gender	190.78	1	190.78	21.52 <sup>*</sup>	0.020
EN X Gender	97.69	2	48.84	5.51 <sup>*</sup>	0.010
Externalizing Symptoms					
Main effect – EN	15.65	2	7.82	29.71 <sup>*</sup>	0.052
Main effect – Gender	0.801	1	0.801	3.04	–
EN X Gender	1.48	2	0.739	2.81	–
Psychosomatic Symptoms					
Main effect – EN	182.26	2	91.13	37.19 <sup>*</sup>	0.065
Main effect – Gender	77.66	1	77.66	31.70 <sup>*</sup>	0.029
EN X Gender	64.26	2	32.13	13.12 <sup>*</sup>	0.024
Mental Well-being					
Main effect – EN	243.99	2	121.99	99.25 <sup>*</sup>	0.161
Main effect – Gender	84.45	1	84.45	68.70 <sup>*</sup>	0.062
EN X Gender	24.72	2	1.23	10.01 <sup>*</sup>	0.019
Emotional Abuse					
Internalizing Symptoms					
Main effect – EA	582.78	2	291.39	31.98 <sup>*</sup>	0.058
Main effect – Gender	128.47	1	128.47	14.10 <sup>*</sup>	0.013
EA X Gender	47.99	2	23.99	2.63	–
Externalizing Symptoms					
Main effect – EA	19.66	2	9.83	38.04 <sup>*</sup>	0.068
Main effect – Gender	1.53	1	1.53	5.92	–
EA X Gender	0.237	2	0.119	0.460	–
Psychosomatic Symptoms					
Main effect – EA	172.15	2	86.07	35.51 <sup>*</sup>	0.065
Main effect – Gender	64.79	1	64.79	26.73 <sup>*</sup>	0.025
EA X Gender	40.51	2	20.26	8.36 <sup>*</sup>	0.016
Mental Well-being					
Main effect – EA	134.08	2	67.03	50.56 <sup>*</sup>	0.092
Main effect – Gender	59.75	1	59.75	45.06 <sup>*</sup>	0.043
EA X Gender	12.54	2	6.27	4.73 <sup>*</sup>	0.009

<sup>\*</sup>*p* < 0.01; EN = Emotional Neglect; EA = emotional abuse.

( $F(2, 95) = 45.81, p = 0.000$ ), psychosomatic symptoms ( $F(2, 26) = 37.20, p = 0.000$ ), externalizing symptoms ( $F(2, 22) = 29.71, p = 0.000$ ) and mental well-being ( $F(2, 12) = 99.25, p = 0.000$ ). The main effect of gender was significant for internalizing symptoms ( $F(1, 190) = 21.51, p = 0.000$ ), psychosomatic symptoms ( $F(1, 78) = 31.70, p = 0.000$ ), and mental well-being ( $F(1, 12) = 68.70, p = 0.000$ ). There was no significant main effect for gender on externalizing symptoms ( $F(1, 28) = 3, p = 0.082$ ). The interaction between the effects of gender and level of emotional neglect was significant for internalizing symptoms ( $F(2, 95) = 5.509, p = 0.004$ ), psychosomatic symptoms ( $F(2, 26) = 13.12, p = 0.000$ ), and mental well-being ( $F(2, 12) = 10.01, p = 0.000$ ). There was no significant interaction effect for gender and level of emotional neglect on externalizing symptoms ( $F(2, 2) = 2.81, p = 0.061$ ).

The same procedure was conducted for level of emotional abuse and gender for the outcome variables (see also Tables 2 and 3 for presentation of data and *p*-values). There were significant main effects for level of emotional abuse on internalizing symptoms ( $F(2, 94) = 31.98, p = 0.000$ ), psychosomatic symptoms ( $F(2, 24) = 35.51, p = 0.000$ ), externalizing symptoms ( $F(2, 2) = 38.01, p = 0.000$ ) and mental well-being ( $F(2, 13) = 50.56, p = 0.000$ ). The main effect of gender was significant for internalizing symptoms ( $F(1, 94) = 14.10, p = 0.000$ ), psychosomatic symptoms ( $F(1, 24) = 35.53, p = 0.000$ ), and mental well-being ( $F(1, 13) = 45.06, p = 0.000$ ). There was no significant main effect for gender on externalizing symptoms ( $F(1, 21) = 5.91, p = 0.015$ ). The interaction effects (i.e. gender x levels of emotional abuse) were significant for psychosomatic symptoms ( $F(2, 24) = 8.36, p = 0.000$ ) and mental well-being ( $F(2, 13) = 4.73, p = 0.009$ ). However, there was no significant interaction effect on internalizing symptoms ( $F(2, 94) = 2.63, p = 0.072$ ) or externalizing symptoms ( $F(2, 27) = 0.460, p = 0.632$ ).

As illustrated in Figs. 1 and 2, internalizing symptoms, psychosomatic symptoms and mental well-being, emotional maltreatment-severity seem to magnify gender differences. For externalizing symptoms, emotional maltreatment-severity seems to even out the differences between girls and boys.

#### 4.2. The effect of emotional maltreatment on externalizing symptoms among boys

Results from one-way ANOVA's, including only boys, showed that emotional abuse had a significant impact on all the outcome variables: internalizing symptoms ( $F(2, 488) = 10.52, p = 0.000$ ), externalizing symptoms ( $F(2, 2483) = 14.46, p = 0.000$ ), psychosomatic symptoms ( $F(2, 473) = 11.46, p = 0.004$ ), and mental well-being ( $F(2, 462) = 17.08, p = 0.000$ ). See Table 2 for



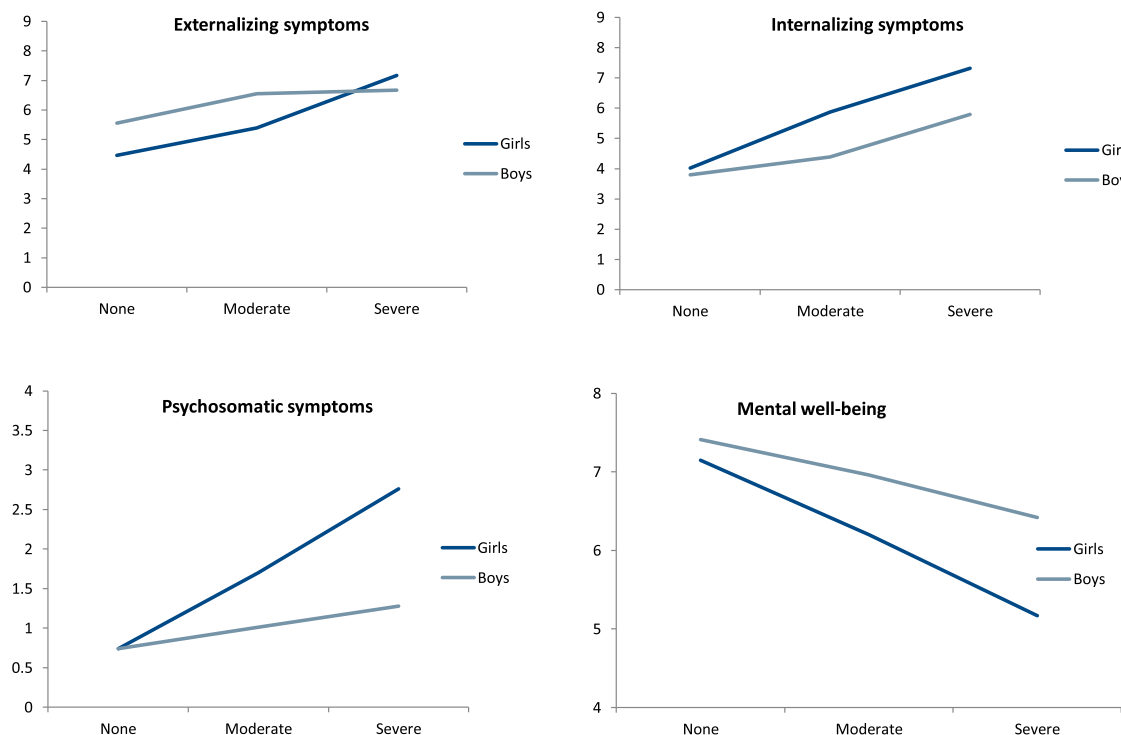


Fig. 2. Illustration of Interaction Effects between level of Emotional Neglect and Gender on Mental Health and Mental well-being.

means and standard deviations. Effect sizes were medium for externalizing symptoms and mental well being and small for internalizing and psychosomatic symptoms. Concerning emotional neglect, the results showed a significant increase in internalizing symptoms ( $F(2, 509) = 11.28, p = 0.000$ ), externalizing symptoms ( $F(2, 504) = 6.49, p = 0.002$ ) and mental well-being ( $F(2, 482) = 25.74, p = 0.000$ ). The impact of emotional neglect on psychosomatic symptoms was not significant ( $F(2, 492) = 2.88, p = 0.057$ ). Effect sizes for internalizing and externalizing symptoms were interpreted as small. For mental well-being there was a medium effect size.

#### 4.3. The effect of emotional maltreatment on internalizing and psychosomatic symptoms among girls

Results from one-way ANOVA's, including only girls, showed that they responded to emotional abuse with significant increase in all outcome variables: internalizing symptoms ( $F(2, 563) = 29.62, p = 0.000$ ), externalizing symptoms ( $F(2, 565) = 39.01, p = 0.000$ ), psychosomatic symptoms ( $F(2, 558) = 28.18, p = 0.000$ ) and mental well being ( $F(2, 535) = 35.28, p = 0.000$ ) (see Table 2 for means and standard deviations). All effect sizes were interpreted as medium.

The same pattern was found for emotional neglect: Internalizing symptoms ( $F(2, 581) = 43.27, p = 0.000$ ), externalizing symptoms ( $F(2, 582) = 30.78, p = 0.000$ ), psychosomatic symptoms ( $F(2, 575) = 47.61, p = 0.000$ ) and mental well being ( $F(2, 551) = 80.22, p = 0.000$ ). Effect sizes ranged from medium, in externalizing and internalizing symptoms, to large in psychosomatic symptoms and mental well-being.

## 5. Discussion

To our knowledge, this is the first study investigating the impact of the two dimensions, of emotional maltreatment, i.e. emotional neglect and emotional abuse, on mental health and mental well-being in a general population of 12–13 year old girls and boys.

The main finding was that emotional maltreatment had a negative impact on mental health and mental well-being in the 12–13 year old girls and boys investigated in this study. In fact, both emotional neglect and emotional abuse had significant effects on all outcome variables (i.e. internalizing, externalizing and psychosomatic symptoms, and mental well-being). Furthermore, when analyzing girls and boys separately, both genders reported significant negative impact of emotional maltreatment on the outcome variables. The only exception was that boys did not report an increase in psychosomatic symptoms in relation to emotional abuse. Thus, when analyzing girls and boys together, no clear pattern of specific types of symptom outcomes for emotional abuse or emotional neglect was found. This is in line with other studies investigating the effects of either emotional abuse or emotional neglect in relation to behavioral and emotional problems (Arslan, 2015; Sturge-Apple, Davies, & Cummings, 2006; Taillieu et al., 2016). However, when interpreting effect sizes, it should be noted

that emotional neglect had a more powerful negative impact on both girls and boys mental health and mental well-being than emotional abuse. Especially notable is the strong impact of emotional neglect on mental well-being. Thus, when we examined the role of gender, a more complex image emerged. First, girls reported higher levels of internalizing and psychosomatic symptoms and lower levels of mental well-being compared to boys. This is in line with an abundant literature on aspects influencing mental health in adolescence (e.g. Moksnes & Espnes, 2013; Currie et al., 2012). Somewhat surprisingly, the commonly reported finding that boys report more externalizing symptoms than girls, was not found in this study.

In the groups of boys and girls reporting no or minimal emotional maltreatment, there were mainly no gender differences concerning internalizing symptoms, psychosomatic problems and level of mental well-being. This is interesting since gender differences, concerning the same mental health outcomes used here, are commonly reported when investigating other samples of adolescents, as for example in Sweden (Lundh, Wångby-Lundh, & Bjärehed, 2008) as well as internationally (Inchley et al., 2016). Nolen-Hoeksema (1994) has suggested that the often reported higher levels of internalizing symptoms in adolescent girls could be explained by the higher prevalence of sexual abuse among girls compared to boys. Results from the current study indicate that emotional maltreatment might influence the quality of mental well-being, internalizing symptoms and psychosomatic problems in a similar way. However, in the present study, the prevalence of emotional neglect was similar for boys and girls and boys reported a higher degree of emotional abuse compared to girls. Hence, results from the current study imply that the effect of emotional maltreatment on internalizing symptoms in the total sample has to do with girls stronger reactions to emotional maltreatment compared to boys and could not be explained by a higher prevalence of emotional maltreatment among girls.

For internalizing symptoms, mental well-being and psychosomatic symptoms, the results indicate that emotional maltreatment exposure magnified the gender differences on these symptoms. For externalizing symptoms, there were, however, no differences between girls and boys in the group reporting no emotional maltreatment and the increase in mean scores were of equal magnitude for both genders. This result contradicts what Crittenden et al. (1994) and Spinazzola et al. (2014) found; a larger increase in boys' externalizing behaviors as an effect of emotional maltreatment. This might be explained by the wider age-range used in their studies and that clinical populations were used.

With the exception of externalizing symptoms, girls reported a larger increase in mental health problems at lower levels of emotional maltreatment than boys did. This is partly in line with McGee et al. (1997) who found the same pattern concerning internalizing symptoms for girls when examining physical abuse. Furthermore, the relationship between emotional maltreatment and outcome variables yielded larger effect sizes among girls compared to boys. This is partly in line with both Ge et al. (2001) and Paul and Eckenrode (2015) who found larger increases in internalizing symptoms for girls compared to boys as an effect of emotional maltreatment. These results contradicts, however, the studies by Crittenden et al. (1994) and Spinazzola et al. (2014) who found larger increases in boys' externalizing behaviors as an effect of emotional maltreatment. These divergent results can depend for example upon sample size, age of the participants, how data were collected and use of self-rating scales. Therefore, in order to clarify possible gender differences in internalizing symptoms as an effect of emotional maltreatment, further studies are thus needed. However, in line with Nolen-Hoeksema (1994) our results imply that significant findings in maltreatment-related impairment may be hard to find if the interaction between gender and level of maltreatment are not analyzed.

Results from this study show a strong impact of emotional neglect on girls and boys self-reported sense of meaning and general health (mental well-being) worth highlighting. One possible model of understanding the strong relation could be via the concept of self-esteem. Results from several studies have shown that emotional neglect has a profound negative effect on self-esteem (Kim & Cicchetti, 2006; Lynch & Cicchetti, 1998). In turn, self-esteem has been found to be one of the most potent predictor of satisfaction with life (Moksnes & Espnes, 2013), one dimension of mental well-being measured in this study. Another possibly mediating factor known to influence satisfaction with life is "sense of coherence" (Antonovsky, 1987; Moksnes, Løhre, & Espnes, 2013). In turn, key aspects of "sense of coherence" have been shown to be negatively affected by emotional maltreatment (Egeland, 2009). Investigation of such mediating variables that could explain the powerful relationship between emotional neglect and mental well-being in young adolescent girls and boys could thus be an important task for future research.

### 5.1. Limitations and strengths

There are limitations with the current study that need to be mentioned. First, this study relies on self-report only. A multiple source analysis might have yielded different results in rating of both emotional maltreatment and mental health. On the other hand, self-report have been found to be a stronger predictor of maltreated adolescents rating of psychopathology than for example reports from social services (Shaffer, Huston, & Egeland, 2008). Furthermore, multiple sources could be argued to be extra important when examining early adolescents since this is a turbulent developmental period characterized by self-questioning and heightened levels of anxiety. Hence, the developmental period itself could be viewed as a confounding variable when self-reports are not corroborated by other sources of information. Second, the possible presence of other types of maltreatment than emotional maltreatment should be mentioned. Other studies have, for example, shown that different forms of maltreatment tend to co-exist and that few maltreated adolescents experience only one sort of maltreatment (Taillieu et al., 2016; Danielsson, Blom, Nilses, Heimer, & Hogberg, 2009; Finkelhor, Vanderminden, Turner, Hamby, & Shattuck, 2014; Witt et al., 2016). Sexual abuse, of which girls run a two-and-one-half to three times greater risk of victimization (Putnam, 2003), could be a unmeasured factor influencing girls symptoms in this study. Third, the cross-sectional design



of the current study limits our possibilities to analyze the directions of the relationship between mental health and emotional maltreatment. It is for example possible that depressive symptoms negatively bias the adolescents rating of the quality of the relationship with their parents. Fourth, since respondents stated maltreatment experiences approximately seven months after stating externalizing, internalizing and psychosomatic symptoms and level of mental well-being, there is a small risk that there might have occurred maltreatment after the outcome variables were reported. However, the instructions for the Childhood Trauma Questionnaire instruct the informants to focus on experiences of maltreatment that happened prior twelve years of age. Since the respondents were over twelve years old ( $m = 12.4$ ) at the first wave of measurements, this risk should not be in question. On the other hand, given the vast number of questions and time pressure, there is a risk that some students did not pay attention to this exact instruction.

Nevertheless, there are also a number of methodological strengths with the current study, not the least of which is the large number of participants from a general population of girls and boys living in Sweden. This enabled us to analyze the relationships between a non-maltreated group and two different types of emotional maltreatment, i.e. emotional abuse and emotional neglect. In addition, with the large study sample, we were also able to analyze gender differences as well as within group differences. Another methodological strength is the thorough, continuous measurement of emotional maltreatment, using valid scales for both emotional abuse and emotional neglect. The use of a multidimensional construct of mental health allowed us to compare boys and girls self-reported reactions to emotional maltreatment in respect to externalizing, internalizing and psychosomatic symptoms, and degree of mental well-being.

## 5.2. Implications for practice and research

Results from this study could be seen as hypotheses generating which holds important implications for clinical practice and further research. Given the impact of emotional maltreatment on mental health, emotional maltreatment should be given the same amount of attention as sexual and physical abuse within child and adolescent mental health facilities. Furthermore, clinicians need to be aware of the unique and detrimental impact of emotional maltreatment so that necessary actions could be taken to ensure adequate treatment for children and adolescents with experiences of emotional maltreatment. Family interventions and parent-training programs could be seen as important for prevention and treatment. There are a few evidence-based parent training programs (e.g. Circle of Security-Home visiting and SafeCare) that address prevention of parental abuse and neglect specifically. Such programs need to be made available for relevant health-care and social services in Sweden. To our knowledge, there are to this date, few treatment studies focusing on experiences of emotional maltreatment. To find adequate treatment for emotionally maltreated children and adolescents needs to be a joint mission for researchers and clinicians in the future. Broad intervention-strategies and education for e.g. teachers are also needed since a large percentage of adolescents report significant but sub-clinical decline in mental health already at moderate levels of emotional maltreatment. The results from the current study imply that a trauma-informed perspective is necessary in understanding the sex differences in mental health. Hence, questions about maltreatment and trauma-experiences need to be included in all public surveys on mental health. Often, these questions have been omitted. More research is also needed to help us map and understand the underlying processes generating the differences in girls and boys responses to emotional maltreatment found in this study.

## 6. Competing interests

None to declare

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