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“I feel like I do not exist”

Adolescent Dissociative Experiences and the Importance of Trauma Type, Attachment, and Migration Background

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"I feel like I do not exist"

Adolescent Dissociative Experiences and the Importance of Trauma Type, Attachment, and Migration Background

Sabina Gušić

DOCTORAL DISSERTATION
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"I feel like I do not exist"- Adolescent Dissociative Experiences and the Importance of Trauma Type, Attachment, and Migration Background

Abstract

After experiencing potentially traumatic events (PTEs) some adolescents develop pathological dissociation. Trauma-related dissociation can be described as a break-down of the individual's capacity to integrate emotions, thoughts, sensations, and memories about traumatic or other events into an adaptive and coherent self-image and self-narrative. Dissociative experiences (DE) include experienced loss of control over mental processes or information, and experiential detachment, beyond what would be expected in relation to the person's cognitive development. This dissertation sought to investigate DE and their relation to trauma type, attachment style, and experiences of war and migration among adolescents. Study I and II included a sample of non-clinical Swedish adolescents with socioeconomic and migration background diversity, representing the demographics of larger Swedish cities. Study III and IV included two samples of war-exposed refugee adolescents resettled in Sweden. The dissertation studies used quantitative and qualitative methodologies to enhance the breadth, depth, and ecological validity in this research area.

Study I evaluated the prevalence of DE among Swedish adolescents with a high proportion of migration-background. Self-reported economical vulnerability and parental war-experiences related to higher dissociation. The study also showed that emotional abuse, specifically bullying by school peers, related more strongly to DE than psychical abuse. Finally, adolescent girls appraising primarily emotional experiences as their worst lifetime traumas (e.g., bullying, separation, or living with a severely sick family member) had the highest DE rates in relation to overall PTE exposure, as opposed to those that reported a primarily physical experience as the worst trauma, or those with no worst trauma. This pattern was not found in boys.

Study II showed that self-reported attachment anxiety and/or avoidance related more strongly to DE than PTE exposure alone. Furthermore, insecure anxious attachment styles enhanced the relation between overall PTE exposure and DE, and adolescents reporting an insecure attachment style and the experience of emotional abuse, such as bullying, had the strongest relation between PTE exposure and DE.

Study III provides rates of general and war/refugee specific PTEs, worst lifetime experiences, posttraumatic stress reactions, and DE among two groups of refugee adolescents in Sweden: newly arrived and students with childhood war experiences. Both groups of war-exposed youth reported considerable rates of PTEs, DE, and posttraumatic stress symptoms, with the newly arrived reporting more caregiver abuse and adverse events during the refugee journey.

Study IV includes newly arrived war-exposed refugee youth's narratives of their mental experiences related to dissociation. This study showed that high dissociators reported qualitatively different experiences including frightening loss of control, detachment, high frequency and severity of emotional dysregulation and emotional intensity, negative self- and body-perception and a pervasive depressive mood. Two types of dissociation, a dimensional one and a separate pathological type, were found among the dissociating refugee adolescents, and seem to incorporate somewhat different experiences.

The results of this dissertation expand our knowledge by showing that factors such as economical vulnerability, migration background, type of traumas experienced and appraised as the most negative, and attachment style are related to dissociation in adolescence. The dissertation also contributes by presenting information about the amount and type of dissociative experiences in war-exposed refugee youth, giving information to clinicians to more easily assess these difficulties among traumatized refugee adolescents.

Key words: adolescents, dissociation, trauma, attachment, war, refugee, posttraumatic stress

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"I feel like I do not exist"

Adolescent Dissociative Experiences and the Importance of Trauma Type, Attachment, and Migration Background

Sabina Gušić

LUND
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"I feel like I do not exist" is a quote by one of the participants in study IV.

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Abstract

After experiencing potentially traumatic events (PTEs) some adolescents develop pathological dissociation. Trauma-related dissociation can be described as a breakdown of the individual's capacity to integrate emotions, thoughts, sensations, and memories about traumatic or other events into an adaptive and coherent self-image and self-narrative. Dissociative experiences (DE) include experienced loss of control over mental processes or information, and experiential detachment, beyond what would be expected in relation to the person's cognitive development. This dissertation sought to investigate DE and their relation to trauma type, attachment style, and experiences of war and migration among adolescents. Study I and II included a sample of non-clinical Swedish adolescents with socioeconomic and migration background diversity, representing the demographics of larger Swedish cities. Study III and IV included two samples of war-exposed refugee adolescents resettled in Sweden. The dissertation studies used quantitative and qualitative methodologies to enhance the breadth, depth, and ecological validity in this research area.

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The results of this dissertation expand our knowledge by showing that factors such as economical vulnerability, migration background, type of traumas experienced and appraised as the most negative, and attachment style are related to dissociation in adolescence. The dissertation also contributes by presenting information about the amount and type of dissociative experiences in war-exposed refugee youth, giving information to clinicians to more easily assess these difficulties among traumatized refugee adolescents.

Sammanfattning på svenska

Titel på svenska:

Jag känner som att jag inte finns – Dissociativa upplevelser hos ungdomar och betydelsen av traumatyp, anknytning och migrationsbakgrund.

Vissa ungdomar som upplevt potentiellt traumatiserande händelser kan utveckla dissociationssymptom. Under gynnsamma förhållanden har människor en förmåga att integrera känslor, tankar, sinnesintryck och minnen av livshändelser in i en adaptiv och sammanhängande självbild och berättelse om självet. Dissociation i samband med trauma kan beskrivas som ett sammanbrott av denna förmåga. Dissociativa upplevelser innefattar upplevelser av förlorad kontroll över mentala processer och/eller information samt upplevelse av att vara främmande och avskärmad från självet och/eller omgivningen. Dessa upplevelser är av sådan natur att de går bortom vad som kan förväntas vara normalt hos en person utifrån hens kognitiva utveckling. Syftet med denna avhandling var att utforska dissociativa upplevelser och deras relation till traumatyp, anknytningsstil och erfarenheter av krig och migration hos ungdomar. Studie I och II undersökte en icke-klinisk grupp ungdomar med heterogen migrations- och socioekonomisk bakgrund, vilket är typiskt för större svenska städer. Studie III och IV omfattade två grupper av ungdomar som flytt krig och anlänt till Sverige. Avhandlingens studier använde sig av både kvantitativa och kvalitativa metoder för att öka såväl bredden, som djupet och den ekologiska validiteten inom detta forskningsfält.

Studie I undersökte förekomsten av dissociativa upplevelser hos svenska ungdomar i en storstad där en stor andel hade migrationsbakgrund. Självrapporterad ekonomisk sårbarhet och föräldrars krigsupplevelser var kopplade till högre dissociation. Studien visade också att dissociativa upplevelser i högre grad var kopplade till psykisk misshandel, specifikt mobbning i skolan, än till fysisk misshandel. Slutligen visade studien att tonårsflickor som uppgav en emotionell upplevelse som deras värsta livshändelse (t.ex. mobbning, separation eller att leva med en svårt sjuk familjemedlem) hade de högsta nivåerna av dissociation i relation till upplevda traumatiska händelser i livet. Detta i jämförelse med dem vars värsta livshändelse var av fysisk natur, eller de som inte kunde eller ville uppge någon. Motsvarande mönster fanns inte hos pojkar.

Studie II visade att självrapporterad ängslig och/eller undvikande anknytningsstil var mer förbunden med dissociation än vad endast traumatiska upplevelser var. Vidare visade studien att de som enligt självrapporten hade en otrygg, ängslig anknytningsstil hade en starkare koppling mellan trauma och dissociation. Slutligen visade resultaten att ungdomar som både hade en otrygg anknytningsstil

och hade erfarenheter av psykisk misshandel, såsom mobbning, hade starkast samband mellan trauma och dissociation.

Studie III presenterade och jämförde förekomsten av trauman, värsta livshändelser, posttraumatiska stressreaktioner och dissociativa upplevelser hos två grupper av flyktingungdomar i Sverige: nyanlända och ungdomar som levt länge i Sverige men undflytt krig tidigare i livet. Trauman omfattade både sådana som är direkt kopplade till krig och flykt och sådana som inte är det. Båda grupperna hade varit med om många hemska upplevelser och förekomsten av posttraumatiska stressreaktioner och dissociativa upplevelser var hög. De som var nyanlända hade utsatts för fler svåra händelser under flykten och av omsorgspersoner än gruppen som levt längre i Sverige.

I Studie IV intervjuades krigsutsatta flyktingungdomar om deras mentala upplevelser och hur dessa varierade med graden av dissociation. Resultaten visade att de med mycket höga nivåer av dissociation hade kvalitativt annorlunda upplevelser. Exempel på dessa upplevelser är skrämmande kontrollförlust, upplevelse av frånkoppling, intensiva känslor och svårigheter att hantera känslorna, negativ syn på sig själv och sin kropp, samt en bestående nedstämdhet. Två dissociationstyper kunde urskiljas. En dimensionell typ med dissociativa upplevelser som ökar kontinuerligt i grad och besvär och en patologisk typ med upplevelser som nästan uteslutande beskrevs av de ungdomarna med mest och svårast dissociation.

Denna avhandling ökar vår kunskap om dissociation hos ungdomar genom att peka på sambandet mellan dissociation och faktorer såsom ekonomisk sårbarhet, migrationsbakgrund, anknytningsstil samt individens uppfattning om vilket som varit det värsta traumat som hen genomlevt. Avhandlingen bidrar också med kunskap om omfattningen och typen av dissociativa upplevelser hos krigstraumatiserade ungdomar. Med denna kunskap kan kliniker som möter krigstraumatiserade flyktingungdomar lättare upptäcka och utreda dissociativa symptom.

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Although the world is full of suffering, it is full also of the overcoming of it.
Helen Keller

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During this research project I have also worked and developed as a clinical psychologist specialized in psychological trauma and dissociation. This would not have been possible to do or combine without the amazing support from my mentor and boss Marie-Louise Lundberg. She has inspired and supported me all the way, and I am truly grateful to be her friend today. The same goes to my colleagues at the Teamet för krigs- och tortyrskadade (Treatment center for war- and torture victims). A special thanks to Kenjiro, Anna, Leonida, Lina, Andrea, and Malin – your support is invaluable. The end of this journey has also involved my second work place, Center of Knowledge Migration and Health, a big thank you to my boss Jenny and colleagues here as well, especially Mia, Ida, and Christoffer. I would also like to thank all the patients I have seen throughout these years, your courage and knowledge has been a guiding star.

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Sabina

2017-03-01

List of Studies

This dissertation includes the following studies:

I:
Gušić, S., Cardeña, E., Bengtsson, H., & Søndergaard, H. P. (2016). Types of trauma in adolescence and their relation to dissociation: A mixed-methods study. *Psychological Trauma: Theory, Research, Practice, and Policy, 8*(5), 568-576. doi:10.1037/tra0000099

II:
Gušić, S., Cardeña, E., Bengtsson, H., & Søndergaard, H. P. (2016). Adolescents' dissociative experiences: The moderating role of type of trauma and attachment style. *Journal of Child & Adolescent Trauma*, *9*, 341-351. doi:10.1007/s40653-016-0107-y

III:
Gušić, S., Cardeña, E., Bengtsson, H., & Søndergaard, H. P. (2017). *Dissociative experiences and trauma exposure among newly arrived and settled young war-refugees.* Manuscript submitted for publication.

IV:
Gušić, S., Malešević, A., Cardeña, E., Bengtsson, H., & Søndergaard, H. P. (2017). *"I feel like I do not exist" - A study of dissociative experiences among war-traumatized refugee youth.* Manuscript submitted for publication.

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Abbreviations

AAI: Adult Attachment Interview

A-DES: Adolescent Dissociative Experience Scale

C: Confidence in self and others

CRIES: Children's Revised Impact of Events Scale

DE: Dissociative experiences

DSM: Diagnostic and Statistical Manual of Mental Disorders

DwC: Discomfort with closeness

MM: Mixed methods

NfA: Need for approval

PTE: Potentially traumatic event

PTSD: Posttraumatic stress disorder

PwR: Preoccupation with relationships

RaS: Relationships as secondary

Why are Adolescent Trauma and Dissociation Important to Study?

The responsibility of our global society is to ensure that all children live safe lives free from any kind of maltreatment; and that they are offered support and encouragement to form their identity and develop according to their best ability (The United Nations, 1989, art. 15). Unfortunately, this is not the reality for far too many children and adolescents. In fact, every five minutes, somewhere in the world, a child dies as a result of violence. Further on, more than one third of all students in young adolescence are regularly bullied and 60% of all children in the world are exposed to physical punishment. These adversities may lead to physical, cognitive, and emotional impairment. Victimization of children and adolescents is too often normalized and too seldom acknowledged as a problem (United Nations Children's Fund, 2014). Investigating childhood and adolescence abuse and maltreatment, as well as their consequences, becomes therefore an important task for researchers and mental health clinicians.

This dissertation explores the type and prevalence of adolescent trauma-related dissociative experiences, as well as investigating possible moderators of dissociation. Besides being an understudied consequence of traumatic events, especially among war-traumatized youth, there are several other reasons why trauma-related dissociation is important to study. The presence of dissociative symptoms has been shown to predict long term posttraumatic stress disorder (PTSD) as well as general symptom severity leading to elevated suffering (Lanius, Brand, Vermetten, Frewen, & Spiegel, 2012; Murray, Ehlers, & Mayou, 2002). In addition, poor or limited response to conventional PTSD-treatments has been documented when comorbid dissociation is present, implying the need for higher awareness and better assessment of this condition (Bae, Kim, & Park, 2016; Jepsen; Langeland, Sexton, & Heir, 2014; Kleindienst et al., 2016; Terhune & Cardeña, 2015). A dissociative subtype of PTSD has been introduced in the Diagnostic and Statistical Manual of Mental Disorders (DSM)-V and scholars have especially prompted research investigating a wider variety of trauma types and individual variables that might lead to higher vulnerability to dissociative symptoms (Lanius et al., 2012). In sum, shedding light on the type and amount of dissociation among adolescents exposed to different types of potentially traumatic

events (PTEs) and investigating its moderators is an important task for trauma researchers, with this dissertation being a small contribution. The dissertation focuses on types of PTEs that have not been sufficiently included in previous research on dissociation in adolescents, such as war-experiences and emotional abuse. The studies also include groups of adolescents that are underrepresented in trauma research, such as migrant and refugee youth. Finally, the dissertation includes a mixed methods approach to enable a more versatile view of the studied subjects.

This comprehensive account starts off by presenting short definitions of main concepts, followed by a *Theoretical introduction* with a review of existing research, which ends with the presentation of the studies' aims and hypotheses. The *Methodological approach* section presents the 'who' (participants), 'what' (variables studied), and 'how' (procedure and measurements) of the studies, addressing relevant methodological issues. The *Research Findings* are presented in a summary and divided by topics and studies. The *Discussion* section summarizes the presented results and offers an in-depth discussion of the studied phenomena. It presents study limitations, as well as clinical and scientific implications of the research. The section and the review end with conclusions.

Introduction to the Main Concepts

Dissociation in a psychological context is defined as a disconnection in the usually integrated functions of consciousness, memory, identity, behavior, and/or perception (American Psychiatric Association, [APA], 2013). It can also be understood as a type of personality structure that affects how an individual experiences oneself, others, and the world (Van der Hart, Nijenhuis, & Steele, 2006). *Dissociative experiences (DE)* are the subjective experiences of this process and the ensuing lack of integration, for example the lack of *presentification* (it did happen, but not now), and *personification* (it happened to me, but now I am safe). DE can be disturbing and maladaptive and are as such often viewed as pathological symptoms of dissociation. A vast body of research has also confirmed their relation to trauma (Dalenberg et al., 2012). However, even if not the purpose of this dissertation, DE can sometimes be non-pathological and desirable, as in the case of successful automatic writing and absorption (Koutstaal, 1992).

Trauma refers to the experience of psychological distress after a horrifying and often unexpected event, and is therefore often understood and used as a merged concept of both the event(s) and the psychological response. These events are what we call *potentially traumatic events (PTEs)*, as they may or may not result in a traumatic response (Weathers & Keane, 2007). *Emotional trauma* is used to

specify the PTEs that are primarily emotional or relational events, such as a significant other's serious medical condition. *Emotional abuse* refers to experiences of for example insults, threats, degradation, and/or control that may or may not be intentional (Glaser, 2002).

Posttraumatic stress reactions include a wide range of both physiological and psychological reactions that may be present after a trauma. These reactions can also be viewed as symptoms, and if a sufficient number of them are reported the person may be diagnosed with Acute Stress Disorder (ASD) or posttraumatic stress disorder (PTSD), depending on the time passed since the traumatic event (APA, 2013).

Attachment has been proposed to be an important mediator of dissociation (Barach, 1991; Liotti, 1992). Attachment theory states that infant human beings form close emotional bonds to a caretaker for the purpose of survival and feelings of security. This primary attachment becomes an important part of the developing human being as this relational bond helps the infant to organize inner and outer experiences. The theory suggests that this primary attachment may have different patterns depending on the (un)caring environment of the infant, affecting later relational behavior (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969/1982).

Gender refers to attitudes and behaviors that are associated with a person's biological sex in a given culture. One's own sense of self as male, female, neither, or both is referred to as gender identity (American Psychological Association, [APA], 2012). Gender is often viewed as a binary variable (male/female) and confounded with biological sex. In the dissertation studies the participants reported their gender (identity), as these studies and many alike do not investigate actual biological sex. When analyzing the results, we rather investigate and discuss differences related to gender and not actual biological differences.

Culture is defined as belief systems and value orientations that influence everything from psychological processes of the individual to norms, practices, and social institutions, including academia (Fiske, Kitayama, Markus, & Nisbett, 1998). Cultural expressions are dynamic and fluid, and may be both universal and specific in time and space. All individuals are cultural beings and embody the worldviews that are transmitted in the environment they live in (Fiske et al., 1998). This dissertation includes researchers and participants that have different cultural experiences and realities, as well as assessments and psychological theories that were developed in certain cultural contexts.

1. Theoretical Introduction

This chapter offers a theoretical background to trauma-related dissociation in a developmental perspective. It starts with the main topic of this dissertation, dissociation in adolescence, and continues with an introduction to psychological trauma. Several subjects of interest are presented, such as emotional abuse, and war- and refugee experience, as well as a critical culture perspective on dissociation. The chapter concludes by presenting the dissertation's central aims.

1.1 Dissociation in Adolescence

From a semantic point of view, to *dissociate* means to sever a union, disjoin, disunite, or disaggregate. Dissociation, thereby, implies division, detachment, or separation. The intuitive understanding of the word implies, in its widest form, that something that is, or ought to be joined and connected is disconnected and divided. Dissociation in general, and trauma-related dissociation specifically, has predominantly been studied in adults with experience of childhood trauma (Carlson, Dalenberg, & McDade-Montez, 2012). However, many clinicians and researchers agree that there is a need to understand the developmental trajectory of dissociative disorders and their relation to traumatic experiences. Studies with children and adolescents post both a challenge and a possibility to do so. Definitions of dissociation have generally lacked developmental sensitivity and specificity, which is not surprising as this phenomenon is still understudied. Most current theoretical definitions of dissociation include similar processes with the focus on the fully developed adult (Silberg & Dallam, 2009). The different definitions emphasize *division*, *separation*, *loss of control,* and *failure to integrate.* One of the few scholars that has focused on dissociation during development is Frank Putnam (1997), proposing that children and adolescents are normatively more dissociated, as the integrative ability of the self is not fully developed until early adulthood. This means that when studying trauma-related dissociation in adolescents we need to contrast dissociative symptoms to the normative cognitive and emotional ability at that age, a not too easy task. In addition to this, the specific vulnerability to PTEs and the changing relational context (orienting from

caregiver to peers and romantic partners) are factors that may influence DE in adolescents.

1.1.1 The study of dissociation: A very short history

The historic concept of dissociation involves several different but related phenomena, studied in different contexts and by researchers approaching the field from a variety of perspectives. Adding to this are non-psychiatric descriptions of spirit-possessions, which may be considered to be dissociative experiences (Cardeña & Alvarado, 2011). By the end of the 18th century, the earliest non-religious Western descriptions of dissociation were made by the French animal magnetists (*animal magnetism* is an early term for hypnotism) such as Franz-Anton Mesmer (1734-1815), followed by the Marquis de Puységur (1751-1825). The field of dissociation, as we know it today, started in fact with hypnosis and not with trauma, even if hysteria (which in many cases was related to traumas) and treatment thereof (which would often include hypnosis) was soon to follow (Van der Hart & Dorahy, 2009). Other non-psychiatric studies that contributed to the development of dissociation theory refer to mediumship and spirituality, actualized during the 19th century (Cardeña & Alvarado, 2011).

One of the first documentations of a person with a probable dissociative disorder (at that time *hysteria*) is a comprehensive psychiatric record of an 11-year old French girl, Louise-Estelle L'Hardy, treated by French physician Charles-Hubert-Antoine Despine (1777–1852). This case presents a young girl that develops a somatoform paralysis and later other dissociative (hysterical) symptoms, after what seems to be a smaller fall. She is hospitalized and after initial failed treatment efforts, Despine hypothesizes that the girl is in fact suffering of hysteria and uses animal magnetism (hypnosis) to successfully treat her. What Despine seemed to do through hypnosis, as described by himself and later by others, was to create a strong alliance with Estelle allowing for her different parts of the personality to express themselves and finally integrate (McKeown & Fine, 2008). Thirty years after Despine's death Jean-Martin Charcot (1825-1893), a renowned neurologist of the Parisian hospital Salpêtrière, would make the scientific study of hypnosis more respectable. Another main clinician in the field of dissociation is Pierre Janet (1859-1947). His theoretical work and clinical practice at Le Havre Hospital contributed to the progress of the theory of hysteria into the theory of division of the personality (or consciousness, i.e., dissociation). Janet emphasized the integrative failure of the self in the presence of overwhelming emotions due to stressful experiences, a very similar conceptualization to contemporary theories on trauma-related dissociation (historical review in Van der Hart & Dorahy, 2009).

The contemporary study of trauma-related dissociation in children and adolescents (as well as adults) has its beginning in the 1980s first case-documentations of child dissociative identity disorder (Fagan & McMahon, 1984; Kluft, 1984). Shortly after, several additional case reports of traumatized children and adolescents with dissociative disorders were published (e.g., Bowman, Blix, & Coons, 1985; Braun, 1985; Jones, 1986). During the 1990s larger sample studies emerged, repeatedly concluding that children's and adolescents' dissociative expressions seem to differ from those of adults (Armstrong, Putnam, Carlson, Libero, & Smith, 1997; Hornstein & Putnam, 1992). Traumatized children and adolescents do not show fully developed altered dissociative personalities and they often manifest a wide variety of symptoms including hallucinations, trance states, self-destructive behavior, and identity fluctuations. During this period a multiple of retrospective and a few longitudinal studies confirmed the link between childhood trauma severity and dissociative disorders (e.g. Armstrong et al., 1997; Ogawa, Sroufe, Weinfield, Carlson, & Egeland, 1997). The first books on this subject were also published at this time, one of the most important being Frank Putnam's (1997) *Dissociation in Children and Adolescents: A Developmental Approach,* where he integrated research and theory on dissociation with developmental psychology. Since then, during the 2000s and 2010s, there has been an increase in studies on mediators and moderators of dissociative disorders as well as their etiology, with a specific focus on disorganized attachment.

1.2 Definitions and Theories of Dissociation

The theory of dissociation had its revival during the 1970s, mostly grounded in work on hypnosis (Hilgard, 1977). At this time an important shift from classical to neo-models of dissociation took place, which would later explain much of the confusion of the concept. Dissociation was mostly understood as simultaneous cognitive activities, and pathological dissociation as a breakdown of normal integrative capacity. Two other factors that played a role in the development of the new understanding of dissociation were the rise of clinical studies on Multiple Personality Disorder (MPD) and the inclusion of psychoform, but not somatoform, dissociation under DSM-IIIs Dissociative disorders, with its focus on symptoms and a phenomenological classification. Dissociation was conceptualized along a continuum from normal to pathological, where pathological dissociation was strongly linked to severe childhood traumatic experiences. This broad understanding of dissociation did produce important research findings; however, a negative consequence was the view that almost any kind of psychological breakdown of integrative functioning was dissociation (Van der Hart & Dorahy, 2009).

Definition of dissociation. In light of this, Cardeña (1994) reviewed how widely dissociation has been conceptualized by clinicians and researchers, describing three different broad categories: (1) Dissociation as non-integrated mental modules or systems. (2) Dissociation as an alteration in consciousness involving a disconnection from the self or the world. (3) Dissociation as a defense mechanism. He argues that some phenomena are not dissociation proper, including automatic behavior, divided attention, and implicit perception. Instead, dissociation encompasses mental stimuli or behaviors that should ordinarily be accessible but are not and cannot be by simply choosing to attend to them. The first category includes the conceptualization of dissociation as coexistence of separate mental systems (e.g., memories, identities, emotional states) that should be integrated but are not. For example, traumatic events that have caused fragmented experiences with a rudimentary self/ego, leading to an experience of different parts being active in the psyche. This definition has its roots in Janet's view of dissociation and has influenced the understanding of dissociative disorders as a failure of integration. Another conceptualization under the first category refers to an inconsistency between inner verbal report, and behavior or perception (e.g., conversion disorders such as a patient's report of not feeling a limb and its actual functionality). The second category involves the concepts of depersonalization and derealization, considered as dissociative experiences by most, but not all (Nijenhuis & Van der Hart, 2011). Depersonalization involves a person's qualitatively altered experience of self (e.g., feeling totally numb or not alive), while derealization is an experience (not a belief, as in delusion) of the surroundings as not quite real or altered in some way. The final category is the legacy of both Sigmund and Anna Freud's theories, and involves a purposeful (although not conscious) mechanism that leads to disavowing information to protect the self from pain and anxiety, often understood as some kind of repression and not sufficiently distinguished from it. In later work, Cardeña and Carlson (2011, p. 251) propose the definition of dissociation that is used in this dissertation

> An experienced loss of information or control over mental processes that, under normal circumstances, are available to conscious awareness, self-attribution, or control, in relation to the individual's age and cognitive development. Symptoms are characterized by (a) a loss of continuity in subjective experience with accompanying involuntary and unwanted intrusions into awareness and behavior (so-called positive dissociation); and/or (b) an inability to access information or control mental functions or behaviors, manifested as symptoms such as gaps in awareness, memory, or self-identification, that are normally amenable to such access/control (so-called negative dissociation); and/or (c) a sense of experiential disconnectedness that may include perceptual distortions about the self or the environment. Naturally, to qualify as a clinical condition, these symptoms should be associated with clinical distress or dysfunction because dissociative phenomena are not necessarily pathological (Cardeña, 1997; Dalenberg & Paulson 2009).

This definition includes both of the proposed separated processes of dissociation: detachment and compartmentalization (Holmes et al., 2005; based on Cardeña, 1994).

The trauma-dissociation link has been proposed several times through the history of the study of dissociation and recent research reviews have confirmed that view (Carlson, et al., 2012; Dalenberg et al., 2012), although other studies have also found evidence that the statistical association is not that big (Briere, 2006), suggesting that other important factors, besides trauma, may be at play. In sum, the current understanding of dissociation involves a symptom, structure, and process perspective, which is important to bear in mind. Dissociative symptoms can be understood as experienced manifestations of a dissociative process and/or personality structure (Nijenhuis, 2009). A phenomenological categorization of dissociative symptoms includes negative and positive symptoms, as well as psychoform and somatoform dissociative symptoms. The DSM-5 definition of dissociation mainly encompasses psychoform dissociation while somatoform dissociation refers to the symptoms that predominantly involve the body (Nijenhuis, 2009). Somatoform dissociation has not been as studied but is seen as a unique construct, highly associated with psychoform dissociation. For example, conversion disorders have been suggested to be better understood as a somatoform type of dissociative disorder (Brown, Cardeña, Nijenhuis, Şar, & Van der Hart, 2007).

1.2.1 A developmental context to theory of dissociation.

Developmental progress during childhood and adolescence takes place in psychological domains such as affect regulation, memory function, behavioral self-control, self-evaluation, and identity formation. During the same developmental period the individual becomes a more advanced and honed relational and social being. Dissociation has been suggested to be inevitably related to the development of the self with pathological dissociative processes both disrupting self-development as well as possibly being a result of the disturbed organization of the self (Carlson, Yates, & Sroufe, 2009; Putnam, 1994).

The development of the self is both a cognitive and a sociocultural construction (Harter, 2012). Self-development has been conceptualized as the individual's evolving theory about oneself (*self-theory*), which in turn is bound to cognitive development. As cognitive abilities emerge and develop, the self-theory that the child may organize and construct continuously changes and progresses. The social experiences constitute the valence and content of the self, starting off with relational experiences in the immediate caring environment and expanding to peers, teachers, and other adults. The child experiences ongoing different, positive

or negative, self-evaluations through social interactions with others, stemming from the internalized appraisals of how others are treating the self. Harter (2012) presents several important self-processes that undergo change during childhood and adolescence, important to mention in the context of dissociation. *Self-awareness* involves the process by which the I-self becomes aware of the Me-self, starting with the most basic bodily self-awareness in very early childhood continuing towards the first linguistic descriptions of oneself. The I-self also monitors the Me-agency, i.e., *self-agency*. Older toddlers can show this self-process by saying "Ariana can open the door," the I-self is aware of and monitors that the Me-self can now open the door. Older children manifest self-agency as they become agents over their own life-narrative. *Self-continuity* is the process by which the self stays the same although undergoing constant change, the I-self monitors the continuity of Me-selves. This process becomes especially noticeable when children start to project their self-experiences into the future. An additional important self-process described by Harter (2012) is *self-coherence*. This self-process becomes prominent when the child becomes the owner of his/her experiences and self-narrative, somewhere around 8-10 years of age. As the autobiographical memory and linguistic capacities develop, the child becomes the main owner of his/her life-story (unlike earlier when the caregivers or others' descriptions of the child played a greater part).

A major challenge to self-continuity and coherence during early (11-13 years) and middle adolescence (14-16) is the differentiation of the self. This is especially related to different social contexts as the teenager I-self can have shifting Me-self awarenesses with, for example, the caregiver (introvert and silent), friends (cheerful and outgoing), and teacher (respectful and shy). The higher cognitive functioning enables these different self-views in different relationships, but at the same time challenges the person's self-coherence. During this developmental period, as the relationship network expands, social awareness increases considerably (Allen, 2008). Mid-adolescence involves the search for and need of understanding and fusing the different, and somewhat confusingly contradictory, Me-selves. Related to this are the fluctuating self-evaluations during adolescence, often linked to what others think about oneself in different contexts. Lowered self-coherence and challenged self-continuity are thus markers of this period in self-development. By late adolescence (17-19 years) the integrating ability expands making it possible to form higher-order self-concepts that combine different higher-order Me-selves, such as describing oneself as ambivalent or referring to oneself as social, depending on mood and outer context. This self-process enables the late adolescent to reduce the number of contradictory self-experiences, which leads to a substantially higher self-coherence and continuity.

A developmental issue during adolescence, also highly relevant in the context of trauma-related dissociation, is self-regulation which includes affect, cognition and

behavior regulation. This involves experiencing, expressing, and modulating one's feelings and thoughts, adaptively using them to guide behavior, decision-making, and relations to others in different social contexts (Dahl, 2004). Poor self-regulation has frequently been found to relate to a wide range of negative outcomes such as substance abuse (Fillmore & Rush, 2002), obesity (Anzman-Frasca, Stifter, & Birch, 2012) and psychopathology (Beauchaine & McNulty, 2013). Self-regulating ability is a complex human process with a neurobiological base and epigenetic inheritance (Bridgett, Burt, Edwards, & Deater-Deckard, 2015). Regulation early in life is strongly dependent of the caregiver's capacity to regulate the infant, and with developmental progress comes self-modulated competence (Sroufe, 1996). Poor parental regulating ability has been linked to stressful reactions in small children, leading to self-regulatory difficulties in adolescence (Olson, Bates, Sandy, & Lanthier, 2000). In turn, adequate caregiver attunement to the infant's affective state has been shown to contribute to self-control development in toddlers (Feldman, Greenbaum, & Yirmiya, 1999). Adolescent research has suggested that the interaction between relational environments and self-regulation is bidirectional, with self-regulating ability influencing social relationships and vice versa (Zeman, Cassano, & Adrian, 2013).

In sum, the normative development of the self is both a cognitive and social process. As such it is vulnerable to different possibilities and challenges along the developmental trajectory. Differentiation and integration are two main features of the self-development process that depend on cognitive development and affect a person's self-theory. Differentiation allows for different self-evaluations across different contexts and situations while integration enables higher-order self-concepts to emerge. This process from differentiation towards integration, dependent of cognitive development, constitutes the structure and organization of the self, while self-appraisal and content derives from ongoing and developing social relationships (Harter, 2012; Sroufe, 1996). Self-development can thus be viewed as an ongoing organization of the self with diverse experiences leading to higher complexity and integration. In contrast, pathological dissociation can be understood as an alteration of this process, with repeated negative experiences and developmental progress leading to higher complexity but without the accompanying integration. Dissociative processes have been proposed to be normative during early development, as infants and young children lack high integrational capacity. However, exposure to prolonged abuse and neglect during childhood, and the need to defend the self from repeated trauma may lead to pervasive dissociative processes and experiences. This in turn leads to the development of a dissociated self-organization and pathological dissociative experiences related to mental-processes such as memory, affect-regulation, identity-formation, and behavioral control (Carlson, et al., 2009; Sroufe, 1996).

1.2.2 Theories on the etiology of dissociation.

A trauma-related theory of dissociation, with special emphasis on development is the Discrete Behavioral State Model presented by Putnam (1997). Being a conceptual model, it is based on the discrete behavioral states observed in infants during their first weeks of life, such as drowsy, fussy, cry, feeding, irregular and regular sleep, and alert-inactive (Wolff, 1987). After two to three months, an alert-active state is also observable. Initially there is a lack of movement and connections between these states of the infant. With neuronal pathway development, resulting from both innate biological growth and the mirroring relational environment of the infant, the number of behavioral states increase and become more complex, interconnected, and self-organizing. A normative development leads to what Putnam names "state-bridging metacognitive capacities" and an integrated sense of self, which enables the child to monitor and control behavior and react appropriately to differing environmental demands without losing a unified sense of self (see also Harter, 2012). However, if the infant or child experiences abuse and neglect two things happen according to Putnam (1997). The development of positive state-bridging capacities is disrupted and fear-conditioned behavioral states evolve. Without a favorable caregiving environment and in the face of traumatic experiences, the child does not achieve a normative and integrated development of the self. Trauma-related dissociation, in accordance with this model, involves trauma-related states and the lack of overbridging links between different states, leading to the child experiencing oneself and the world as fearful, incoherent and uncontrollable.

A theoretical model that is important to mention in this context, although differing on some important aspects, is the structural dissociation of the personality theory, presented by Van der Hart, Nijenhuis, and Steele (2006). This theory takes on its theoretical approach from the work of Janet, affective neuroscience, and Panksepp's (1998) descriptions of innate emotional systems. Dissociation is conceptualized as a trauma-rooted division of the personality along innate action-systems leading to two or more dissociated parts of the personality. These action-systems are similar to emotional systems and represent psychobiological motivational systems with evolutionary value. They include two major categories, a defensive system evoked by severe threat with subsystems of flight, freeze, and fight; and a category for daily life functions, such as exploration of the environment, energy control, reproduction, attachment to and care for offspring. The basic division of the personality in the presence of trauma oscillates between these two categories resulting in an apparently normal part (ANP) of the personality and an emotional part (EP) of the personality. When these parts are activated, due to separation of experience and information, they generate their own unique experience of the self and the world. ANP is guided by the daily functions

systems and the traumatic experience has not been partly or fully integrated in this part of the personality. EP is guided by the defensive system, more or less consisting of the unprocessed traumatic experiences. Depending on the number of both EPs and in some very severe cases, ANPs, dissociation spans from primary (PTSD) to secondary (complex PTSD or dissociative disorders) to tertiary (dissociative identity disorder) structural dissociation. Within this theoretical framework, dissociative symptoms, both positive and negative as well as psychoform and somatoform, are seen as manifestations of this separation.

Attachment theory and dissociation. The interest in attachment and the nature of the caregiving environment is recurrent within trauma and dissociation research. There are multiple reasons for this, an obvious one being that when the trauma is caused by the caregiver (e.g., different kinds of child maltreatment), especially repeatedly, it has a more severe impact on the individual's well-being (e.g., Cloitre, Garvert, Brewin, Bryant, & Maercker, 2013). As significant supportive relationships serve to promote a coherent development of the self (Harter, 2012), the question arises whether unsupportive and unresponsive caregivers, or directly abusive caregivers, enhance the risk for trauma-related dissociation. This theoretical approach builds on the assumption that trauma-related dissociation is a consequence of both adverse events and a predisposing or co-occurring relational unresponsiveness hindering adequate support and integration of the traumatic experiences into a coherent self-narrative. It is important to mention that this is not believed to be the only trauma-to-dissociation trajectory path but a combination that increases the risk of such psychopathology (Liotti, 1999).

Before continuing with the attachment-dissociation link, a short theoretical review of attachment theory and the contemporary understanding of it is warranted. Original attachment theory work by Bowlby (1969/1982) and several others after him (e.g., Ainsworth, et al., 1978) suggest that, in normative cases, human infants have a socio-biological need to form emotional bonds to the main caretaker, who in turn responds to the infant's need for care. Within attachment theory, this adult represents the infant's primary attachment figure. This emotional bond and a responsive caregiver are crucial for the infant's survival by offering proximity and care when in need. These early, repeating interactions, which co-occur with the child's ongoing development, lead to the shaping of internal working models (IWM) that, in turn, help the growing infant to form predictions of the social environment, the attachment pattern. In infancy an organized attachment stems from experiences that are predictable and can contribute to stable expectations of how one's behavior will be responded to by the attachment figure. Secure (organized) attachment is fostered by an interaction in which the infant regularly receives comfort and closeness when distressed. There are also two insecure (organized) attachment patterns, stemming from an insensitive or in other ways insufficient interaction. Avoidant insecure attachment results from a rejecting

caregiver, noticeable in infants who avoid the attachment figure and do not seek closeness with him/her when in distress. Resistant/ambivalent attachment results from an inconsistent and overwhelming caregiver. The infant experiences inconsistent interaction cues and acts both with dependent and rejecting behavior towards the attachment figure (Ainsworth et al., 1978). A fourth attachment pattern was proposed later as a consequence of studying maltreated children. Researchers were not able to classify several of these children with any of the organized attachment patterns and a disorganized attachment (DA) category was proposed (Main & Solomon, 1986). DA has been more frequently, but not exclusively, seen in children who are exposed to recurrent high levels of distress by the caregiver (at the same time caring and abusive). This leads to fragmented IWMs and inability to form an organized, predictable representation of the caring environment. However, IWMs are not rigid but rather dynamic and adaptive, and they may change if the relational environment is substantially changed. Moreover, during adolescence, they may be revised as they become more advanced and overarching, as a result of newly developed cognitive skills (Allen, 2008; Harter, 2012). Some attachment stability and continuity from infancy to adulthood has been documented (Fraley, 2002; Groh et al., 2014) but there is also growing evidence that attachment patterns are prone to change as a consequence of stressful experiences and alternations in the relational environment (Booth-LaForce et al., 2014). Attachment patterns presented by original infant research (Strange Situation; Ainsworth et al., 1978) have their parallels in adult attachment theory, but they are conceptualized somewhat differently, and vary along research and measurement tradition (developmental versus social/personality, discussed in more detail under the Methods section). Finally it is important to mention that the infant attachment pattern describes a set of behaviors within a relationship/dyad, however the adolescent and adult attachment is understood on a more intrapsychic level. Adolescent/adult attachment aims at describing the internalized relationship experiences, and how they are expressed in behaviors and views about oneself, others, and the world.

Infant DA has been proposed to contribute significantly to the development of dissociation in the aftermath of trauma later in life. One of the most recent theoretical frameworks was proposed by Liotti (1999), building on research by Main and Hesse (1990), and Barach (1991), and on Putnam's discrete behavioral states theory (1997). It proposes that the fragmented IWMs of the DA infant lead to irreconcilable representations of the self and others. This, in turn, involves a latent risk for dissociative processes following PTEs. Liotti (1999) draws attention to the resemblance between DA and dissociation, as they both are based in failure to integrate experiences and a coherent sense of self and others. If the DA individual is exposed to a PTE, s/he does not have sufficient ability to integrate the overwhelming events due to pre-existing patterns of fragmented and multiple

experiences of self and others (Liotti, 1999). In essence, the more disintegrated the child's inner experience is and the worse the trauma, the more likely it is to lead to severe dissociative disorders, dissociative identity disorder (DID) being the most extreme. In sum this model is best viewed as a vulnerability model with multiple pathways (organization/disorganization, trauma/no trauma; Liotti 1992), including the relational environment at the base of the development of dissociative disorders.

The connection between attachment and trauma-related dissociation has been confirmed by several adult studies using structural interviews and self-scoring scales. There are also a few well-designed longitudinal studies, based on the Minnesota longitudinal study (MLS) following at-risk families with newborns throughout childhood and adolescence, which have investigated the relation between infant DA and adolescent/early adulthood dissociation. The studies by Carlson (1998) and Ogawa et al. (1997) have linked infant DA to later dissociation. However a study of fifty-six low income young adults followed from infancy to age 19 (Dutra, Bureau, Holmes, Lyubchik, & Lyons-Ruth, 2009) did not find that DA predicted dissociation; instead the results provided strong evidence that mothers' lack of positive affect, affective flatness, and disrupted affective communication were significant predictors of adolescent dissociation. Likewise, another recent longitudinal study (Haltigan & Roisman, 2015) did not find a link between infant DA and later dissociation. However, a limitation of that study was the lack of a specific dissociation measurement.

Also cross-sectional studies (although few involving adolescents) show a link between DA or insecure attachment patterns, and dissociation. AAI-measured unresolved/disorganized attachment classification has been found to mediate the relation between childhood trauma and dissociative symptoms in adolescence (West, Adam, Spreng, & Rose, 2001), and ambivalent insecure attachment pattern in late adolescent women is associated with higher levels of dissociation (Calamari & Pini, 2003). In addition, a study of adolescent survivors of a school-shooting showed that those with a secure attachment demonstrated lower levels of PTSD and dissociative symptoms than those with insecure attachment (Turunen, Haravuori, Punamäki, Suomalainen, & Marttunen, 2014). In a Swedish context, avoidant and anxious attachment patterns among teens were more strongly linked to dissociation than was trauma exposure (Nilsson, Holmqvist, & Jonson, 2011).

Several non-clinical cross-sectional studies investigating both young boys as well as adults' retrospective accounts of childhood experiences, have found family context to contribute to dissociation, beyond trauma exposure. Exposure to negative parenting, such as lack of warmth, negative control, inconsistent discipline, and negative child-parent relationship, have all been linked to higher rates of dissociation (Maaranen et al., 2004: Mann & Sanders, 1994; Modestin, Lötscher, & Erni, 2002).

1.3 Adolescent Trauma

Psychological trauma is a reaction to a distressing event involving an overwhelming emotional and physical experience of not being able to cope with what is happening (being traumatized). It is not to be confused with only the actual event, but is rather the disturbing emotional, cognitive, and physical reaction to that event (Weathers & Keane, 2007). To underline this, the phrase potentially traumatizing event is often used in contemporary trauma literature (e.g., Costello, Erkanli, Fairbank, & Angold, 2002; Crusto et al., 2010). In this sense, it is the reaction of the person that determines if s/he has experienced a trauma, often depending on the individual's vulnerability and appraisal of the event as well as the context in which it is experienced (Weathers & Keane, 2007). This subjective appraisal becomes even more relevant when investigating trauma in children. From a child perspective, some events that are not appraised by adults as traumatic may be that to children as they do not have the same cognitive or emotional appraisal of threats and are more dependent of caring others (McDonald, Borntrager, & Rostad, 2014). In light of this, there is no consensus on a clear-cut definition of what type of events are to be seen as potentially traumatic; however a commonly used definition in mainstream trauma research is the one presented in DSM-5 under the criterion A of the PTSD diagnosis (APA, 2013). This definition includes exposure to actual and threatened death, serious injury, or sexual violence as events that are considered traumatic, and may be directly experienced, witnessed or heard about happening to a close other/family.

However, research has repeatedly demonstrated that there are other stressful events, such as emotional abuse, verbal harassment, or a caregiver's mental illness, that may be considered traumatic and lead to serious mental health consequences (McDonald et al., 2014). Additional effort has been made to differentiate between interpersonal PTEs caused by another person (such as assault, robbery, or rape) and non-interpersonal PTEs (Forbes et al., 2014). The former may also be classified regarding the closeness to the perpetrator, as abuse by significant others (for example incest) may lead to more adverse consequences. Betrayal trauma theory, proposed by Freyd (1996), suggests that traumas are experienced along two dimensions, fear and the experienced betrayal. In that sense high betrayal traumas (HBT), such as physical or sexual abuse by a caregiver whom one trusts and relies on, lead to greater psychological distress than low betrayal traumas (LBT), for example a robbery attempt by an unknown individual. Other perspectives on trauma include *insidious traumas,* involving cumulative degrading events experienced by individuals because of, for example, their race, gender, and/or, sexual identity. These events may not always be violent or explicit but their recurring and identity threatening nature may lead to psychological suffering (Root, 1992). The term *collective trauma* can be used to describe events that are

collectively experienced by a community or a whole society, affecting the psychological well-being on a group-level, such as genocide or a natural disaster. *Transgenerational trauma* (also intergenerational or historical) involves psychological impairment related to traumas transferred from a directly trauma-exposed generation to their offspring and future generations, in a family or community context. Research on survivors of genocide, such as the Holocaust, has showed that traumatic experiences can reach the second generation by mechanisms such as disturbed parent-child interaction, including disclosure or denial of trauma, and identification with parental psychological dysfunction (e.g., Bowers & Yehuda, 2016).

Adolescence is a sensitive period with an increased risk of exposure to specific adverse events. In addition, adolescence is characterized by changes in social roles and sensitivity to rejection (Marston, Hare, & Allen, 2010). Individuals at this age take more risks and seek new experiences, while they do not yet possess the same cognitive and affective maturity as adults. In fact, morbidity increases by 200% from childhood to adolescence, related to self-regulatory difficulties (Dahl, 2008). Prevalence rates of at least one lifetime PTE in Western youth range from approximately 50% to over 90% (Elklit, 2002; Landolt, Schnyder, Maier, Schoenbucher, & Mohler-Kuo, 2013; McLaughlin et al., 2013; Nilsson et al., 2011) depending on studied sample and factors such as household income, history of family mental illness, and minority background (McLaughlin et al., 2013; Turner, Finkelhor, & Ormrod, 2006). Studies have also examined exposure to multiple different kinds of PTEs (poly-victimization), showing that 30% of children and adolescents, increasing with age, report four or more different kinds of PTEs (Turner, Finkelhor, & Ormrod, 2010). Studies in developing countries yield higher prevalence rates of PTEs, thought to be linked to poorer socioeconomic conditions (Deeba & Rapee, 2015). Most frequently reported PTEs in Western-based studies, although somewhat differing between mentioned studies, are loss of family members and different type of accidents. Specific samples show a heightened prevalence of certain PTEs, for example bullying has been found to be more frequently experienced by ethnic minorities (Albdour & Krouse, 2014). Gender differences have also been reported regarding trauma type and exposure rate in adolescents. Boys have higher odds of reporting accidents and physical violence, while girls report more stalking, sexual assaults, and unexpected death of a loved one (McLaughlin et al., 2013).

1.3.1 Traumatization and post-traumatic stress

The psychological consequences of PTEs vary along many different factors and range from no or low levels of distress and fast recovery to serious psychological impairment and chronic disability (Bonanno, 2008). However, most PTEs do not

result in psychopathology. Experiencing stressful events and reacting with distress, fear, sorrow, and/or disappointment is a normal part of life, especially during adolescence. As reviewed earlier, prevalence rates of PTEs are high and it is more common to experience at least one PTE than not, but at the same time the majority of adolescents do not develop pathological reactions or need professional treatment (Bonanno, 2008; McLaughlin et al., 2013). This is important to remember now that we turn to reviewing adverse consequences of trauma.

The most common diagnosable reactions to PTEs are acute stress disorder and PTSD, both similar regarding symptoms. The former involves pathological distress levels during the first three days to one month after traumatic incident, while PTSD diagnosis can be met if the distress lasts for at least a month. Symptom descriptions include re-experiencing and intrusions, and avoidance of stimuli related to the event, negative cognitions and emotions, self-blame and hyperarousal resulting in sleep disturbance, anger outbursts, hypervigilance, and concentration difficulties (APA, 2013). Following DSM-IV criteria, ASD was found to be predictive of PTSD with approximately 80% of those diagnosed with ASD later receiving a PTSD diagnosis (Brewin, Andrews, Rose, & Kirk, 1999; Bryant & Harvey, 1998). Prevalence rates for PTSD vary among different adolescent populations and risk-factors. A national US sample study (McLaughlin et al., 2013) showed a 4.7% rate for lifetime PTSD, which is slightly higher than in other Western countries. The same study showed that the conditional probability of PTSD was higher for certain PTEs such as rape (39.3%), kidnapping (37.0%), sexual assault (31.3%), physical assault by a romantic partner (29.1%), and physical abuse by a caregiver (25.2%). Girls were more likely to develop the disorder than boys; however this finding is contradicted by other studies that did not find a difference in PTSD-prevalence between adolescent boys and girls (Copeland, Keeler, Angold, & Costello, 2007). There is also a dose-effect in the development of post-trauma psychopathology. Children and adolescents who experience multiple traumatic events and long-lasting periods of traumatic life conditions also show more mental health problems (Copeland et al., 2007). Apart from PTSD, chronic traumatization during development has also been proposed to lead to more severe consequences such as complex PTSD, which includes disturbances in identity and self-regulation, borderline personality disorder, and dissociative disorders (Van der Kolk, et al., 1996). Some scholars have also suggested a new diagnosis, *developmental trauma disorder*, to highlight the multifold difficulties that children and adolescents with exposure to prolonged adverse events during development, experience (Farina & Liotti, 2013; Van der Kolk, 2005). These difficulties include dysregulation in cognition, affect, relationships, and personality and involve significant suffering and inability to function.

1.3.2 Emotional abuse and bullying

The majority of child and adolescent trauma research has focused on physical and sexual abuse and their short- and long-term effects. It is only recently that emotional abuse has started to gain interest among scholars (e.g., Merritt & Snyder, 2014; Simmel, Merritt, Kim, & Kim, 2016). One reason may be that, for a long time, emotional abuse was seen as a part of sexual or physical abuse without recognizing it as a distinct form of victimization. As a consequence, both scientific and clinical investigations have failed to include these types of experiences when studying and helping children and adolescents. Another complicating issue has been to define emotional abuse, as it very well may include multiple and ongoing, but also unintentional, experiences of emotional maltreatment and neglect. A comprehensive definition was proposed by the Consultation on Child Abuse Prevention (World Health Organization [WHO], 1999, p. 15), which described emotional abuse as:

> the failure to provide a developmentally appropriate, supportive environment, including the availability of a primary attachment figure, so that the child can develop a stable and full range of emotional and social competencies commensurate with her or his personal potentials and in the context of the society in which the child dwells. There may also be acts towards the child that cause or have a high probability of causing harm to the child's health or physical, mental, spiritual, moral or social development. These acts must be reasonably within the control of the parent or person in a relationship of responsibility, trust or power. Acts include restriction of movement, patterns of belittling, denigrating, scapegoating, threatening, scaring, discriminating, ridiculing or other non-physical forms of hostile or rejecting treatment.

As the reader notices, this definition comprises both the socioemotional context, adverse acts toward the child, and the absence of emotional caretaking. However, it is important to remember that children and adolescents may have adverse experiences that only include one or a few of those (i.e., being never told that one is loved, emotional neglect, or being called demeaning names, emotional abuse). These different types of experiences have been acknowledged in Glaser's (2002) valuable conceptualization of emotional abuse and neglect, focusing on core aspects of these experiences and not on the specific events or solely the relation to the caregiver. Her definition includes emotional unavailability, unresponsiveness, and neglect; attributions and misattributions to the child; developmentally inappropriate or inconsistent interactions with the child; failure to recognize or acknowledge the child's individuality and psychological boundary; and failing to promote the child's social adaptation.

One important reason for focusing on emotional abuse refers to the needs of the developing child. Younger children have attachment needs, including emotional

care and safety, comfort, and affect regulation that are strongly linked to their survival (Bowlby, 1969/1982). In that sense, we have to utilize a child perspective when investigating PTEs in young people as what constitutes a trauma depends on self-development and emotional and cognitive autonomy (Enlow, Blood, & Egeland, 2013). A number of psychopathological consequences of childhood emotional abuse have been found, including depression, bipolar disorder, emotional instability, anxiety disorder, and delinquent conduct. Emotional abuse has also been linked to negative self-development as expressed in lower self-esteem and life-satisfaction, feelings of hopelessness, and relational problems (see the review by Iwaniec, Larkin, & Higgins, 2006) The prevalence of emotional abuse in children has been found to vary. A meta-analysis showed an estimated 36% prevalence in self-report studies and 0.3% in informant based studies. They conclude that self-report studies include more children that fall under the tip of the iceberg while also pointing to the possible overestimation in retrospective reporting (Stoltenborgh, Bakermans-Kranenburg, Alink, & Van Ijzendoorn, 2012). The same meta-analytic study found emotional abuse to be a universal phenomenon not significantly varying in prevalence between different continents and with no gender differences. In sum, emotional abuse is a universal problem experienced by young individuals leading to adverse and sometimes long-lasting psychological consequences.

Bullying. A somewhat related emotional adverse experience during childhood and adolescence is peer bullying, a rather complex phenomenon that previously was thought of as a "normal part" of childhood. However, as bullying has received more attention within psychological and educational research, it has become evident that bullying is a prevalent and significant problem among youth (Craig & Harel, 2004). Most scholars agree that bullying is a form of direct or indirect repeated aggression of verbal, psychological, or physical intentional acts, involving a power imbalance (reviewed by Mishna, 2012). As with emotional abuse, the indirect and psychological forms of bullying have received less attention than the more overt physical violence. These types of experiences include for example subtle verbal harassment, exclusion, scapegoating, and negative rumors about the person. An especially harmful factor is that these types of bullying are very often ignored by teachers (Brendtro, 2001). Numerous mental health consequences have been linked to different forms of bullying in children and adolescents (see the meta-analysis by Cook, Williams, Guerra, Kim, & Sadek, 2010). These include depression (Hill, Mellick, Temple, & Sharp, 2017) posttraumatic stress reactions (Nielsen, Tangen, Idsoe, Matthiesen, & Magerøy, 2015), and suicidal ideation (Holt, et al., 2015). In sum, bullying in general, and verbal harassment and psychological aggression among peers in specific, are harmful experiences that may seriously affect the developing individual's self-image and mental well-being (Arseneault, Bowes, & Shakoor, 2010).

1.3.3 War and armed conflict

Children and adolescents exposed to war or armed conflict experience a multitude of potentially traumatic events in an overall unsafe and often support-lacking environment, as the young person's entire social network is under stress. Children and adolescents have also been intentionally recruited into military groups that have subjected them to military battle and other military involvement (International Committee of the Red Cross, [ICRC], 2009). It is therefore important to not only recognize isolated war-related PTEs such as shootings or bombings, but also such events as family separation, long-lasting negative effects of war on familial emotional support, living with traumatized caregivers, lacking food, shelter and safety, and limited possibility to play and learn. All these experiences may have a dose-response effect in the development of psychopathology, and lead to potential negative effects on cognitive and emotional development (Narayan & Masten, 2012). Another aspect of war is the negative effect that prolonged armed conflicts have on a country's or region's social structure and socioeconomic conditions. During and in the aftermath of war there is a considerable risk for the rise of child labor, forced child marriage, physical and sexual abuse, domestic violence, and substance abuse among caregivers as well as children and adolescents (United Nations, 2007). Contemporary research on war-related mental health consequences includes PTSD and trauma-related anxiety disorders and depression, as well as other behavior problems (Dimitry, 2012; Schiff, 2006; Thabet, Tawahina, El Sarraj, & Vostanis, 2008). Recent prevalence rates of PTSD among war-afflicted youth come from countries in the Middle East and the Balkans, two regions with severe military conflicts during the last 20 years. In Bosnia 52% of the studied sample reported symptom levels indicating PTSD (Smith, Perrin, Yule, Hacam, & Stuvland, 2002) while different studies in the Middle East reported 30% to 50% prevalence rates of PTSD among children and adolescents (Baddoura & Merhi, 2015).

1.3.4 Migration and refugee experience

The most recent statistic on global forced displacement is a tragic record-high number of 65.3 million displaced persons. Over 33 million are children and adolescents below the age of 18. Put in another perspective, 24 people were forced to leave their homes every minute of every day during 2015 (United Nations High Commissioner for Refugees, [UNHCR], 2016). Reasons for this include long-(decades)-lasting conflicts in countries like Somalia and Afghanistan, new or reignited military conflicts as in Syria, South Sudan, and Yemen, and a worsening global disagreement that leaves the majority of refugees without solution and living in limbo (UNHCR, 2016).

Refugee experience can be divided into three phases: *premigration*, *migration,* and *postmigration*, all with specific challenges to the individual (Kirmayer et al., 2011). Premigration involves PTEs, separations, and disruptions in education and social life. During migration there is a risk for separation from the caregiver(s), exposure to difficult living conditions, and great uncertainty regarding the future. Finally, the postmigration phase involves the encounter with a new environment, stress related to seeking asylum, experiences of discrimination, sometimes difficulties with a new language and social system, and later acclimatization and re-construction of social networks. Even if the phases are the same for all refugee migrants, their duration and adversity varies, with some coping better with the changes and some experiencing severe disillusionment, disappointment, and distress. As mentioned when describing the nature of psychological trauma, there is a difference in the mental health consequences of single-event traumas or chronic traumatization during childhood and adolescence. Refugee adolescents are a group at risk for experiencing multiple PTEs and a long-lasting adverse life-situation. Research also shows that postmigration factors, such as good quality of reception and support, access to mental health and education, and absence of racism and prejudice give the best opportunities to favorable long-term outcomes (Fazel, Reed, Panter-Brick, & Stein, 2012).

1.4 Research on Trauma-Related Dissociation in Adolescents

The overall findings show that adolescence is a period with a higher prevalence of normative DE than adulthood (Putnam, 1997), and that traumatized youth report more dissociative symptoms (Brunner, Parzer, Schuld, & Resch, 2000; Kisiel & Lyons, 2001). During adolescence dissociative symptoms start to resemble more and more the symptom picture of adults (Putnam, Hornstein, & Peterson, 1996). As adolescence is also a developmental period for identity consolidation (Harter, 2012), dissociative identity states have been found to be more rigid at late adolescence (Putnam, 1997). In addition, depersonalization symptoms were found to be the most frequent of all dissociative symptoms in a study of delinquent adolescents (Carrion & Steiner, 2000). A complicating factor for assessing, diagnosing, and treating dissociative disorders in traumatized adolescents, is the prevalence of several other developmental challenges during this period. This may lead to more quick changes in relatedness to others, mistrust, conduct problems, and externalizing and/or self-destructive behavior (Silberg & Dallam, 2009). The most widely used self-rating scale when assessing dissociation in youth is the Adolescent - Dissociative Experiences Scale (A-DES; Armstrong et al., 1997;

Smith & Carlson, 1996). As presented in table 1, DE, as measured by the A-DES (mean scores range from zero to ten), vary among non-clinical populations in different parts of the world, possibly indicating different life-conditions and socioeconomic samples. A previous Swedish (Nilsson et al., 2011) study on the prevalence of dissociation among non-clinical adolescents showed, in comparison to other countries, rather low rates. Researchers of that study concluded however that the studied sample had rather good life conditions. Most of the studies using A-DES have not found gender differences in non-clinical samples (e.g. Farrington, Waller, Smerden, & Faupel, 2001; Soukup, Papežová, Kuběna, & Mikolajová, 2010; Zoroğlu, Şar, Tüzün, Tutkun, & Savaş, 2002).

Table 1.

Mean Scores on the Adolescent Dissociative Experiences Scale in Different Countries and Samples.

Study	Country	Group	N	Age	A-DES-mean
Shin, Jeong, and Chung (2009)	South Korea	Non-clinical	371	12-18	0.75
Nilsson and Svedin (2006)	Sweden	Non-clinical	400	13-19	0.84
Tolmunen et al. (2007)	Finland	Non-clinical	4019	13-18	0.88
Muris, Merckelbach, and Peeters (2003)	The Netherlands	Non-clinical	331	12-18	1.27
Gušić, Cardeña, Bengtsson, and Søndergaard (2016a)	Sweden	Non-clinical	239	13-19	1.68
Soukup et al. (2010)	Czech Republic	Non-clinical	653	12-21	2.02
Shin, Jeong, and Chung (2009)	South Korea	Traumatized youth	33	12-19	2.05
Zoroğlu et al. (2002)	Turkey	Anxiety disorders	31	13-17	2.13
Yoshizumi, Hamada, Kaida, Gotow, and Murase (2010)	Japan	Non-clinical	2272	11-18	2.21
Smith and Carlson (1996)	USA	Non-clinical	60	12-17	2.24
Zoroğlu et al. (2002)	Turkey	Mood disorders	31	13-17	2.35
Soukup et al. (2010)	Czech Republic	DD-patients	7	11-23	2.43
Zoroğlu et al. (2002)	Turkey	Non-clinical	201	13-17	2.43
Gušić, Cardeña, Bengtsson, and Søndergaard (2017a)	Sweden	Childhood war-exposed youth	35	11-18	2.5
Farrington et al. (2001)	UK	Non-clinical	768	11-16	2.66
Zoroğlu et al. (2002)	Turkey	ADHD	24	13-17	2.52
Soukup et al. (2010)	Czech Republic	Mixed disorders, inpatients	222	11-23	2.42–3.01
Gušić et al. (2017a)	Sweden	Newly arrived war-exposed refugees	42	13-21	3.1
Nilsson and Svedin (2006)	Sweden	Sexual abuse	20	13-18	3.28
Pullin, Webster, and Hanstock (2014)	Australia	Clinical, mixed disorders	71	12-18	3.37
Zoroğlu et al. (2002)	Turkey	PTSD	24	13-17	3.94
Zoroğlu et al. (2002)	Turkey	DD-patients	20	13-17	6.20

Dissociation in war-traumatized youth. Specific research on dissociative experiences among war-traumatized (refugee) youth is almost entirely lacking. To the author's knowledge there is only one study on DE in war-traumatized adolescents, although not refugees (Ghannam & Thabet, 2014). It evaluated 400 Palestinian youth in Gaza, 15 to 18 years of age, and showed that they had an increased risk of DE as a consequence of war. Dissociative symptoms were also found to have a negative impact on the studied adolescents' psychological resilience. Other studies that in some way mention dissociation together with war-trauma include a case presentation (Cagiada, Canidio, & Pennati, 1997), a study with an adult measurement of dissociation (Brennen et al., 2010), and one where an emotional numbness scale was used to measure dissociation (Kira, Lewandowski, Somers, Yoon, & Chiodo, 2012). In addition there is one study on peritraumatic dissociation among war-traumatized 10 to 13-year olds in Gaza, Palestine, showing that youth with high rates of DE during trauma did not benefit as much from a psychosocial school-based intervention as those with lower rates (Qouta, Palosaari, Diab, & Punamäki, 2012).

1.4.1 Culture, trauma-related dissociation, and psychopathology

Trauma-related dissociation has its roots in a Western-oriented understanding of psychopathology. Even if there are numerous studies in the realm of cross-cultural psychology that have investigated the prevalence of dissociation and its link to trauma among non-Western population, it is important to address the underlying assumptions of this research field. One assumption that dictates how we perform research is that culture (or the concept of ethnicity used in some studies) can be viewed as any other independent variable. This further assumes that there is a universal individualist psychology at the base. A differing sociocultural stance would be that the psychological mind and the concept of culture may in fact not be separable. Ellis and Stam (2015, p. 300) state that "mind and culture are mutually constitutive and as such cannot be studied separately from one another". What is the consequence of this position for our research field? It may be that we cannot study dissociative experiences in youth with refugee background using only Western-developed measurements, but need to include additional methodologies to try to investigate the subjective experiences of the participants.

The world today is globalized in a way never experienced before and the number of refugees is record-high. This means that different understandings of the mind and psychopathology are already meeting in the everyday practice. Already validated measures such as the A-DES are useful and needed, but we may at the same time adapt a critical standpoint when using them. Researchers studying dissociation in different cultural contexts have proposed that some DE may be part of normative self-experience depending on a socioculturally differing awareness of

the self. Examples include spiritual or religious experiences, such as "spirit possession" states (see Cardeña, 1997), but also more collectivistic self-constructions involving the experience of the self as a non-unitary inner entity. Some studies on dissociation in non-Western contexts have been carried out (reviewed in Martínez-Taboas, 2005) showing that trauma-related dissociation may be a valid concept but that there are some significant differences in study outcomes. In Puerto Rico, for example, sexual abuse was not found to be related to dissociative symptoms, but on the other side additional pathological dissociative experiences not described in US studies were observed, (Martínez-Taboas, 2005; Van Duijl, Cardeña & De Jong, 2005). A Turkish-based research group proposed that US-developed assessment tools are useful (Kundakçi, Şar, Kiziltan, Yargiç, & Tutkun, 2014; Zoroğlu, et al., 2002). They did however also show that emotional abuse seems to be more strongly related to dissociation than in US studies, and that dissociative disorders seem to be very prevalent among psychiatric emergency patients and in the general female population (Şar, Akyüz, & Doğan, 2007a; Şar et al., 2007b).

The differences found in these studies suggest that psychological consequences to PTEs, including dissociation, occur within a sociopsychological framework. Trauma is a relational and social process, and the way that other individuals and institutions respond to the needs of the traumatized person affects that person's recovery or the lack thereof. As the traumatic event is not experienced in a vacuum, but in a sociocultural sphere, some reactions to trauma can be unique to the individual's culture while others are more or less universal (Şar & Özturk, 2006).

1.5 Aims of the Dissertation

Several factors have inspired and influenced this dissertation. First, dissociative experiences among refugee youth in particular, are not a well-researched area. One reason is that this is a vulnerable group that is difficult to reach and recruit, especially as the nature of questions posed are sensitive and sometimes distressing. Nevertheless, this is a group that is often seen in clinical practice. Second, adolescence in general is an understudied and somewhat forgotten age period, while at the same time developmentally challenging. Third, few studies in the trauma and dissociation literature include diverse groups. We live in a globalized world with diverse socioeconomic conditions and cultural backgrounds present in one place, and there is ecological value in representing this in the studies we conduct. Fourth, the trauma field has predominantly been focused on physical and sexual traumatic events with research on more emotional traumas lagging behind.

Similarly, PTEs related to living in a military conflict area and resettlement have not been sufficiently investigated. Finally, the methods we use when studying these subjects have mostly been quantitative, or “variable-centered”. Although answering some questions and using large samples and advanced statistical relationships, there is a need to adapt further methods and scientific theories when studying phenomena that rely on subjective appraisal (e.g., what event is experienced as traumatic) and when we include groups from different sociocultural contexts (e.g., newly resettled refugee adolescents). A constructivist theoretical approach, often combined with qualitative method and “person-centered” research, may therefore be useful when interested in processes and the context of behaviors. The combination of quantitative and qualitative methods, or mixed methods research, can balance the pros and cons of both theoretical standpoints.

The dissertation's main purpose was to broaden our knowledge of trauma-related dissociation in adolescence by focusing on trauma types and correlates of dissociation in adolescents. The research mainly involved adolescents with migration background and refugee experience. Thus we investigated trauma types such as war- and refugee-related, predominantly emotional traumas, and adolescents' own appraisals of what is experienced as traumatic. Furthermore, the dissertation investigated the importance of attachment in interaction with specific traumas, and how this is related to dissociative experiences in youth.

2. Methodological Approach

2.1 Whom Do We Study?

Underrepresentation of specific groups, such as women of color, ethnic minorities or individuals with lower socioeconomic status, has been criticized as systematic. And when they have been included, they often serve as examples of deviations from the norm. Instead, by focusing on marginalized groups, researchers may yield contextualized knowledge on different subjects of interest (Weber & Parra-Medina, 2003). Cole (2009) proposes that researchers reflect over the actual group they study (who is represented, who is not) and seek to include neglected groups, developing measures from the perspective of the groups we study, being aware of the diversity within the group and declining to universalize the results. Within the scientific field of trauma and dissociation, studies on children and adolescents with migration background, and especially with war and refugee experience, are rare. In the only other Swedish study investigating DE in a non-clinical sample, the groups consisted predominantly of middle class youth without experiences of migration or other cultural contexts.

2.1.1 Participants

The participants in the different studies of this dissertation were predominantly adolescents with a migration background. *Migration (or immigrant) background* may refer to a person with his/her own experience of migration from one country to another, or a person born in the present country (in the dissertation's studies, Sweden) with one or both migrated parent(s). The migration background category may sometimes include only persons whose both parents immigrated, and sometime it refers to those with at least one immigrated parent. In this dissertation, migration background includes adolescents with own or at least one parent's migration experience to Sweden. Further on, one overall purpose of these studies was to include otherwise neglected groups, such as war-traumatized refugee youth. In addition, the first two studies aimed to include a much more diverse group of adolescents, more representative and ecologically valid for larger cities of Sweden. By including adolescents with experiences of migration and/or parental migration,

the aim was not to study them as a deviation from the norm, but to investigate important subjects related to trauma and dissociation in a group that is important and valid in itself.

Studies I and II included the same sample of 239 adolescents, ages 13 to 19, with 60% having own and/or parental migration background (corresponding well to the demographics of the city according to Statistics Sweden [2014]). Adolescents were recruited from schools in a big Swedish city. Study III encompassed two different refugee groups. One included 42 newly resettled refugee youth, ages 13-21 with recent experiences of war and fleeing, recruited via a treatment center for war and torture victims as well as home centers for unaccompanied youth. They were assessed before initiating any treatment and most of them wanted and were in need of further clinical assessment and treatment. The other group consisted of 35 youth with previous war experience but residing in Sweden for considerably longer time, ages 11-18, and recruited from normative Swedish schools. Study IV included 40 informants, the majority of them were the newly arrived from study III as well as a few others that only participated in the fourth study. All the participants of the four studies were asked if they perceived themselves as a girl, boy, other/does not want to state. Furthermore, participants were asked to appraise if they had experienced poverty or how they perceived their economic status while growing up, in relation to others around them. This was done to collect the participants' subjective and relative appraisals as the group is diverse, rather than trying to estimate some kind of objective socioeconomic status. Even if that may be an important way to conduct research, my choice was to investigate how adolescents experienced their life-conditions and how this experience related to posttraumatic symptomatology and dissociative experiences.

2.2 How Do We Study Trauma-Related Dissociation?

The use of self-report instruments has dominated the field of adolescent (and child) trauma and dissociation. There are several reasons for this, one being that they are less time-consuming and can be used in different environments. Another reason is that individuals may be more comfortable responding to questions of highly intimate nature (such as experiences of abuse or other maltreatment) using paper and pencil than talking to an unknown researcher or clinician (Nader, 2008). A third reason concerns the nature of dissociative experiences as highly internal, especially in older children and adolescents, and the difficulty to measure this by observation or parental interview.

Assessing PTE exposure. Numerous PTE-measurements, mostly self-reports, exist today. However, what is considered a PTE, especially in relation to PTSD-

criteria, has been frequently discussed (Weathers & Keane, 2007). There are also some notable limitations to existing inventories. Primarily emotional traumas, such as verbal bullying or emotional neglect, are not considered PTEs by all. Other stressors such as parental conflict or substance abuse by an older sibling are not included either in the majority of inventories or the DSM-definition, although they may be impactful for children and adolescents and involve mental health consequences (McDonald et al, 2014). Research also shows that cumulative stressors and multiple traumas increase mental health problems among children and youth (Cloitre et al., 2009; Hodges et al., 2013). In addition, questions about adverse events more likely to be experienced in non-Western countries or sociocultural contexts are almost entirely lacking as most trauma inventories have been developed in Western countries. One item on experiencing war or military conflict may be found in most of the scales, but further questions on military battle, torture, lack of food and shelter, kidnappings of close ones (all frequently experienced by youth in war) are lacking. Exceptions include the Childhood War Trauma Questionnaire (CWTQ; Macksoud, 1988) developed in Lebanon during the 1980s military conflict, and the Harvard Trauma Questionnaire developed for adults but used with older adolescents as well (Kleijn, Hovens, & Rodenburg, 2001). This poses a problem when assessing traumatic experiences in children and youth with migration and refugee background. As our world becomes more culturally diverse within national borders, a questionnaire or interview cannot include all the types of events that could be experienced as traumatic. However it is possible to acknowledge the limitations of the existing inventories and create more migrant-sensitive and adapted questionnaires that can be used by all. Including adding open-ended items that enable participants to add their own traumatic experiences, and to define for oneself what has been the most adverse experience.

This dissertation includes a newly constructed trauma inventory that was developed for this project in order to compensate for some of the limitations of other instruments just discussed. As the studied groups were adolescents with diverse sociocultural background there was a need to both include DSM-traumatic events and add items on specific war/refugee experiences and emotional traumas. The inventory also included space to comment and add one's descriptions of other events perceived as traumatic, as well as the choice to subjectively define the worst event or events in life. Information on other subjectively perceived stressors of interest for a diverse group were also included, such as experience of poverty, imprisonment, child labor, and known parental war experience. The challenge was to make the inventory inclusive and not too lengthy. The items were formulated to be understood by a migrant-population, resulting in an inventory with 28 items (Appendix 1, English version) including 16 general PTEs and 12 war/refugee related items. In addition, there were four items on perceived socioeconomic

conditions and parental war and migration experience, as well as a follow-up question for the traumatic events and an open-end question on the worst life experience.

Assessing dissociation in adolescence. Multiple self-report measurements for children and adolescents were created during 1990s and in the beginning of 2000s (for a review see Silberg and Dallam, 2009). No (semi-)structured clinical interviews have been developed for children and adolescents, but the Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D; Steinberg, 1994) has been administered to older adolescents (Steinberg & Steinberg, 1995). The few extant adolescent measurements, the Dissociation Questionnaire (Dis-Q; Vanderlinden, Van Dyck, Vertommen, & Vandereycken, 1992), the Adolescent Multidimensional Inventory for Dissociation (A-MID; Ruths, Silberg, Dell, & Jenkins, 2002) and the A-DES (Armstrong et al., 1997) were adapted from adult versions. The A-DES is the most widely used, both in research and clinical practice. It has been translated to multiple languages including Czech, Finnish, Japanese, Spanish, Swedish and Turkish (see Table 1). The scale consists of 30 descriptions of dissociative experiences and a rating scale from zero (never had that experience) to 10 (always have that experience). This procedure rests on the assumption that dissociative experiences in young people may better be understood along a continuum, as dissociation may be a part of normative development (Putnam, 1997). A mean score is calculated with scores above 3.7 indicating dissociative psychopathology, and above 6.2 a dissociative disorder (Zoroğlu et al., 2002). As the A-DES has been used in different cultural contexts and is the most widely used scale, it was chosen as the dissociation measure for the dissertation project. The choice was made to use it in Swedish with adolescents primarily speaking Swedish and use a professional interpreter familiar with the scale in an interview-form to assess newly resettled refugees.

2.2.1 Measuring attachment

A widely held and scientifically confirmed assumption is that semi-structured interviews with very precise transcriptions and systematic coding of spontaneous verbal narratives of early life and relationships may tap into adult representation of attachment patterns. The "gold standard" within the developmental psychology tradition and the most commonly used has been the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985). The transcripts are coded based on content and coherence, a procedure that yields five different attachment classifications or “current states of mind,” closely resembling Strange Situation infant attachment patterns: secure/autonomous, preoccupied, dismissing, unresolved/disorganized, and cannot classify. Particularly the unresolved classification, including narratives of abuse and/or loss characterized by disruption in reason and failure to self-

monitor (Hesse & Main, 2000), has been linked conceptually and empirically to infant disorganized attachment. In addition, several recent factor analysis studies of the AAI classifications have proposed that adult attachment may best be viewed as dimensional and continuous, rather than categorical (Fraley & Roisman, 2014; Roisman, Fraley, & Belsky, 2007). This research has also showed that unresolved and preoccupied states of mind load on the same factor (dimension) on the AAI.

In addition to interviews there are numerous self-report measurements that aim to measure individual differences in adult or adolescent attachment, stemming from a large body of research within the social/personality and clinical psychology fields. These often include different statements regarding oneself and/or others that the respondent is asked to reflect upon and respond to by indicating the amount of (dis)agreement. Self-report measures have been shown to be valid instruments of adolescent and adult attachment, and of individual differences related to the organization and functioning of the attachment system (Shaver & Mikulincer, 2002). Self-report adult attachment styles parallel attachment patterns in infants, and were described initially with the three terms "secure", "avoidant", and "anxious/ambivalent" in Hazan and Shaver's (1987) work on adult romantic attachment. Later on, Bartholomew (1990) suggested a model based on the view of the self and of others as positive or negative, resulting in a four-group attachment model: secure, two insecure avoidant styles (dismissing and fearful), and insecure-preoccupied. The four-group model has been widely accepted by researchers within the self-report adult attachment field, but scholars have also suggested that adult attachment styles may better be conceptualized as dimensions rather than exclusive categories. This has resulted in a body of research (e. g., Shaver & Mikulincer, 2002) showing that two underlying dimensions in self-report measures may describe the variety in attachments, anxiety (or model of self) and avoidance (or model of others). Although there is considerable consensus about these two dimensions, there is also additional proof that including more dimensions when measuring attachment in adolescents and adults may provide greater information (Fossati, Feeney, Maffei, & Borroni, 2014).

I wanted a measure that could be applicable to findings using the AAI, but yielding dimensional rather than categorical data, as well as including a specific scale on preoccupation, in addition to the overarching dimensions of avoidance and anxiety. I also wanted a questionnaire that would be useful with adolescents and did not rely on romantic relationships, as the diverse backgrounds of the participants implied very diverse experiences regarding romantic relationships. A scale that would only explore relationships to mother/father was also considered problematic because of the probability of adolescents with other main caregivers. One of the reasons why an instrument like the AAI was not used in this dissertation (besides being time-consuming for the size of the sample) is that many of the participants do not speak Swedish at home or did as children. Even if they

today primarily use Swedish most of the time, attachment interviews rely on very precise nuances of verbal material, which would not be fair or suitable to use with this diverse group. The best choice was the Attachment Style Questionnaire (ASQ; Feeney, Noller, & Hanrahan, 1994), a self-report 40-item questionnaire with a 6-point Likert scale. It has been used with adolescents and has acceptable reliability and validity (Feeney et al., 1994; Fossati, et al., 2003). It has also been translated and tested in Sweden (Tengström & Håkansson, 1997) and several other countries (Fossati et al., 2014). The ASQ has five scales: Preoccupation with relationships (PwR), Discomfort with closeness (DwC), Relationships as secondary (RaS), Need for approval (NfA) and Confidence in self and others (C). As ASQ has been developed "from the ground up", the ambition was to include the different adult attachment style conceptualizations into one measure. The DwC reflects Hazan and Shaver's (1987) avoidant attachment, the RaS reflects Bartholomew's (1990) dismissing attachment, the NfA captures Bartholomew's (1990) fearful and preoccupied groups, and finally the PwR involves Hazan and Shaver's (1987) original anxious/ambivalent attachment. The Confidence scale reflects a secure attachment style. Besides including multiple scales the ASQ measures the dimensions of attachment-related anxiety (high scores on PwR and NfA, and low scores on C) and attachment-related avoidance (high scores on DwC and RaS). High scores on C and low scores on the other insecure styles indicate attachment security (Fossati, et al., 2003; Karantzas, Feeney, & Wilkinson, 2010). Research on the ASQ has also showed that including the five subscales provides more distinct aspects of attachment, in addition to the broad anxiety and avoidance dimensions (Karantzas et al., 2010). In addition, a study using this measure showed that adolescents rating high on borderline personality indicators were preoccupied with relationships (high on anxiety) while experiencing high discomfort with closeness (high on avoidance), interpreted as an ambivalent strategy and possibly reflecting a more disorganized attachment pattern (Fossati et al., 2014). As this measure fulfilled the needs of the population studied and offered a dimensional approach with the possibility of indicating more ambivalent or unorganized patterns, it was chosen as the most adequate.

2.3 Methodological Issues

2.3.1 Mixed methods approach

Mixed method (MM) approaches have accelerated in use and interest within psychology (Povee & Roberts, 2015). By combining a hypothesis-oriented, often quantitative, methodology with an explorative, often qualitative one, the aim has

been to study relations between variables while also exploring the context and meaning of the construct of interest for the individuals involved in the study. This allows the researcher to understand how the studied variables are perceived and understood. The methodological approaches, which encompass different variations when combined, are used to complement each other, compensating for their respective limitations. Several different mixed methods designs exist. Sequential design involves studies where one strand of a study (e.g. quantitative) is followed by another one (qualitative). Parallel design involves two or more parallel simultaneous studies, one being quantitative and the other qualitative, later integrating the results and making interferences. Conversion design involves studies with advanced conversion methods (e.g., qualitative data are analyzed and converted to quantitative data and later statistically analyzed). A fully integrated model involves a design with combinations of the sequential, parallel, and conversion design models. One overall characteristic of MM is *methodological eclecticism*, selecting and synergizing the most appropriate methods for the research subject in focus. Challenges of using a MM approach include difficulties taking both an objectivist and a subjectivist perspective, acquiring multiple methodological skills (quantitative/statistical and qualitative/interpretative), very different research language traditions, differing views on quality standards, and the multiplicity of paradigms. However, by now these challenges have been frequently addressed and a growing body of literature on MM, and research studies using that approach, are present (Johnson & Grey, 2010; Tashakkori, Teddlie, & Sines, 2013). MM research rests on *paradigm pluralism*, without dismissing the variety of worldviews present among scientists. This has been embraced by some philosophical and theoretical stances more often associated with MM research, such as pragmatism and critical realism.

Given the fact that the research subject and the participants of this dissertation have diverse sociocultural contexts, a mixed method approach combining epistemological positions was chosen as the best approach. Therefore, a pragmatic stance, trying to combine the limitations and advantages of the different methodologies, is used in order to perform research that is of ecological value and as close to real world practice as possible. In study I a trauma inventory was designed to yield both quantitative and qualitative data. Here a conversion design was employed as these were categorized and thematized by two independent psychologists and thereafter converted to quantitative data to be used in further statistical analysis. In study IV a much broader mixed methods design was used, incorporating both quantitative data from questionnaires and qualitative narratives from interviews. This design is more fully integrated, as both a conversion between methods was used, and a parallel design with quantitative and qualitative data collected, analyzed, and integrated.

2.3.2 Semi-structured interviews

The method in study IV consists mainly of in-depth semi-structured interviews. This approach was chosen to combine both a theoretical pre-understanding of mental processes related to dissociation and an aim to explore this subject in a vulnerable group. Except for gaining information about specific topics, the in-depth interview is also a means to acquire conceptual knowledge based on the participants' meanings of their experiences. The purpose of the interview form is that "open, direct, verbal questions are used to elicit detailed narratives and stories" (DiCicco-Bloom & Crabtree, 2006, p. 317). The semi-structured interview consists of prechosen, theory-driven, and open-ended questions. Possible follow-up questions may be formulated as well but the interviewer chooses which one to focus on depending on the interview session and the informant. As such it is a suitable method to use with refugee youth. In the context of study IV, there was a need to explore specific areas related to dissociative experiences, and at the same time convey respect regarding the difficult situation that many of the newly resettled experienced. Many of them were restless and sensitive to certain topics; some were also unable to commit to more than one session as they did not know much of their near future. A semi-structured interview gave an adequate combination of core questions, flexibility, control, and time-optimization. By using voice recordings and later transcriptions it was also easier for the researcher to monitor the participants' reactions and be attentive to their needs during the interview.

Content analysis. The qualitative analysis procedure was guided by thematical content analysis (Braun & Clarke, 2006). There are a number of ways to conduct content analysis of transcribed narratives but they all have some joint key points. The attention lies on the content and the context of the content. Content analysis may be defined as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (Hsieh & Shannon, 2005, p. 1278). Initially there is a need to get familiar with the data by reading and rereading the material. The second step is to create codes or categories based on the data. This often leads to a good amount of codes as the purpose is to differentiate and cover all possible meaning parts. This process may look different depending on how much pre-theory there is to the research question, as codes can be guided by interview questions and answers or only the participant driven content. Thereafter starts the process of thematization, which serves to extract and create overarching themes based on the content of the codes or categories, and the research question. The final step is to create a comprehensive record of the process and presentation of the themes and their implications. The use of co-coders is not frequently found in qualitative research, as it is time-consuming. However, to strengthen the analysis

and increase the validity of the results, this research project used two psychologists that worked independently and analyzed all interviews into codes and themes as well as coded narratives into quantitative data when feasible. Codes, themes, and quantitative data had a satisfactory inter-rater agreement, > 80% were coded and quantified similarly. Differences were discussed and agreed upon.

2.3.3 Statistical analyses

The quantitative analyses of this research project have included correlation- and regression analyses to measure association between variables, and t-tests and ANOVAs to investigate differences across groups; $\chi 2$ test were used for proportions, and Fisher's exact test when the number of cases were too small for a $\chi 2$ test. In study I and II, missing data were determined to be random with < 5% cases having missing responses on single items. When performing regression analyses, those cases were list-wise deleted. No transformations were done. The moderation analyses performed sought to investigate under what circumstances the relation between trauma and dissociation changed. PROCESS macro, model one and three, for SPSS (Hayes, 2013) was used to perform these analyses, especially when investigating moderating moderation (three-way interaction). This macro runs a series of ordinary least squares (OLS) regression analyses with variable(s) of interest and their centered product terms to investigate interaction. A 95% confidence interval was used for obtaining conditional effects. Regions of significance were established by the Johnson-Neyman (JN) technique (Hayes & Rockwood, 2016). IBM SPSS version 21 was used with $p < .05$, two-tailed as the significance criterion.

2.3.4 Culture and language

Two main different approaches exist when introducing culture in psychology research. One involves the use of Western developed instruments that are translated and used with samples consisting of what one has defined as an ethnic/culture/national group (e.g., validating the A-DES among Japanese youth). The other is applied by researchers that are interested in culture per se (i.e., looking at the sociocultural meaning of phenomena), often involving more qualitative approaches based in social constructivism (Ellis & Stam, 2015). Research in areas where a majority has a primary or second-generation migration background poses challenges, but cannot be ignored as this is the reality of clinicians and adolescents seeking mental health support. In this dissertation some approaches were used to try to overcome some of the mentioned factors. The mixed-method methodology aimed at combining pros and cons of the respective

paradigm. It enabled both the study of larger samples and inclusion of measurements that can be compared to other studies, but also focus on subjective meaning of the participants. The use of a trauma inventory that was created for the studied group was also a step to get closer to the reality of the migration/refugee group. By using subjective and relative rates of childhood poverty and socioeconomic status, it was possible to compare diverse groups along their own experience and appraisal, and not to try to estimate socioeconomic status by Western produced items (i.e., parental education, annual income, etc.).

Another issue that seldom receives attention in research is that of translation or interpretation, and the role of the translator and/or interpreter. The theory on translation within qualitative transcultural and translingual research is mostly based on a social constructivist position and states that the person performing the act of translation in not just an adjunct or instrument in the process, but one of the key figures. Besides being at least bilingual, the interpreter also bears a cultural competence and can be described as a culture broker, and is someone that may mediate knowledge, attitudes, and beliefs in an integrated form from one culture/language to another (Temple & Young, 2004). The researcher is responsible for being aware of how s/he represents and speaks about the participants that in the social context may be viewed as "the other".

The procedure of studies III and IV followed recommendations for strengthening interpreter competence, however this is not always enough (Ingvarsdotter, Johnsdotter, & Östman, 2012) as specific research contexts require specific solutions regarding interpretation. The other studies were conducted with measurements in Swedish as all the other participants were either born in Sweden or spent all or the majority of their school years in Swedish-speaking schools and primarily spoke Swedish. Some factors concerning the group in need of interpretation are important to mention. First, that group consisted of a convenience sample recruited when in contact with a war/refugee treatment center (prior to any treatment) or while residing in care homes for unaccompanied refugee minors. As the refugee situation intensified during 2013-2015, there was no possibility to foresee which languages would be used. In addition, a majority of the refugee youth came from countries without a working educational system (e.g., Afghanistan and Somalia) and many of them were illiterate or not-sufficiently literate. In order to keep the recruited group as close to the actual adolescent refugee community in the south of Sweden, and not to exclude individuals on basis of education (which would exclude a good part of the adolescents) the choice was made to use interpreters in the process. Second, as there was the possibility to use health care interpreters with several years of experience in interpreting for traumatized refugee youth, this approach was considered more reliable. In most cases, the same interpreter was used for the same language, if there was no practical reason not to (such as a private relationship between the interpreter and

the participant or sickness leave). All the interpreters had personal/native and professional knowledge of the language of the participant. Third, the author of this dissertation who conducted all the interviews is herself multilingual (Bosnian/Swedish/English) and has experience of interpreting and experiencing Swedish language from an outside perspective, as well as 10 years of practice working with interpreters and refugee youth. This made it possible to engage interpreters that had worked several years with the trauma therapists at the war and torture treatment center, and had been hired because of their competency. This does not imply that the actual interpretation can be validated, but does to some extent ensure that interpretation is used in an optimal way. Fourth, before the actual interview, the interpreters were instructed by the researcher about the measurements used and the need to interpret as close to the informant's expressions as possible. They were also instructed to pay attention to possible misunderstandings and acknowledge them. After the interview and the scoring the interpreters were asked to comment if they thought that there was something that needed to be clarified. Last, this approach allowed for the interpretation process to happen as close to the participant as possible. When in doubt the participant/interpreter/researcher could ask to clarify and a mutual understanding could be built.

2.3.5 Trauma and the refugee experience

When conducting research with refugees, the trauma model has often been utilized. This model implies a psychiatric approach with the emphasis on assessment of trauma-related psychiatric disorders. However, the use of psychiatric disorders as conceptualizations for psychological consequences of (war/refugee) trauma has been criticized from at least two main perspectives. The first involves a critique of the pathologization of survival reactions to oppressive environments. This critique emphasizes the problem with diagnosing PTSD and individualizing sociopolitical oppression (Papadopoulos, 2007). The second perspective stresses that we may miss cultural variations in the expression of reactions and distress if we only conceptualize it through Western mainstream screening measures (Schweitzer & Steel, 2008). A mixed-method approach has therefore been suggested (Weine, Durrani, & Polutnik, 2014) to be useful when conducting mental health research with refugees in order to overcome some of these limitations. By combining prior theory and hypothesis testing and exploration of new problems and phenomena the focus is on creating knowledge based on synergies. Careful examination of the scientific perspectives and methods also allows for better investigation of a complex multi-level experience such as trauma, war, and migration. The approach of this dissertation is that suffering as a consequence of oppression, war, and migration is individual, cultural, and

sociopolitical. If we do not acknowledge the individual mental health needs of individuals with refugee experiences, we allow the suffering to continue. However, it is possible to attend to the individual suffering within a mental health care context while at the same time utilizing both individual and sociopolitical understandings and interventions (Papadopoulos, 2007; Weine et al., 2014).

Research with vulnerable groups. A final matter that needs to be highlighted is the everyday reality of the participants who have experienced trauma in general and war and migration specifically, and the ethical challenge it poses on research. An accumulating body of refugee studies, in multiple scientific areas, has actualized a recapitulation of the ethical concept of "do no harm" (Jacobsen & Landau, 2003). Issues concerning consent, autonomy, and trust are central to this issue. The research needs to look beyond written consent and acknowledge the complex situation of the participant. This involves both paying attention to the vulnerable position of a person without a residency permit, often limited legal rights and possibly at the mercy of others, as well as acknowledging that person's self-autonomy. The issue of trust is also complicated by the fact that many individuals exposed to trauma have had their physical and psychological integrity violated, and the researcher needs to be very well-informed on the situation of the participant and the power relations between the participant and the researcher, to prevent further violation, suffering, and feelings of exploitation. Recent practice guidelines (Hugman, Pittaway, & Bartolomei, 2011) have therefore suggested that researchers need to go beyond existing ethical principles, proposing that research with vulnerable groups needs to be more reciprocally relational, participatory, and have the aim to provide immediate reciprocal benefits for this exposed group.

This dissertation project handled these issues in various ways. During pilot interviews the refugee youth was asked to give feedback. All the participants had the research project described verbally by the responsible researcher, who was the same person to make all the assessments. The researcher used an as hierarchy-free language as possible with emphasis on stating that the participants were the knowledge bearers. They were informed about the study on multiple occasions always free to take back their consent. Post-assessment, all participants, in all the studies, were offered (and most of them accepted) to discuss the subjects studied and the possibility to gain more knowledge about trauma, dissociation, and posttraumatic stress. This resulted sometimes in participants concluding that they may have friends or parents that suffer from trauma, receiving information and help on where to turn for support. All the interested staff in care homes and centers received free of charge education on trauma and dissociation. This was clarified to the refugee youth, making it possible for them to speak about their problems with the staff. Some were referred to mental health services as they stated that they suffer from the reactions discussed during the interview and wanted help. The interviewees were also informed that the researcher could help them express their

needs to personnel working with them, after they had confided to the researcher; some of them used that opportunity. To build these kinds of relationships with the participants and those working with them took time and resources, but at the same time it created instant benefits and a trustworthy interview situation that hopefully is a more valid account of participants' experiences. Finally, the regional ethical review board in Lund approved this dissertation project.

3. Research Findings

3.1 Overview of the Results

First, the dissertation provides prevalence data on DE in a socioeconomically diverse adolescent group with a high proportion of migration-background, which is typical of bigger cities in Sweden, as well as in two different groups of war-exposed refugee youth. It shows that self-reported economical vulnerability and parental war-experiences are related to higher dissociation rates. Second, emotional abuse, specifically bullying by school peers, was found to be more strongly related to DE than psychical abuse. In addition, subjectively appraised primarily emotional worst lifetime traumas, for example bullying, separation, or living with a severely sick family member, moderated the relation between overall PTE exposure and DE in girls. Third, self-reported attachment, specifically seemingly contradictory attachment styles such as preoccupation with relationships (indicating anxiety) and discomfort with closeness (indicating avoidance) related more strongly to DE than PTE exposure alone. Furthermore, insecure anxious attachment styles enhanced the relation between overall PTE exposure and DE, and interactions between insecure attachment styles and specific traumas, such as bullying, yielded the strongest relation between trauma exposure and DE. Fourth, high rates of PTEs, PTSD-reactions, and DE were found among refugee youth. Finally, difficulties with emotional intensity, distorted body-image and loss of body control, experiences of detachment from the present, high reports of depressive mood, and experiencing the surroundings as unreal, strange, and persecutory were associated with severe dissociation indicating pathology in newly resettled refugee youth.

3.1.1 Study I: Dissociative experiences and the moderating role of emotional trauma

This study explored the prevalence of DE and PTEs in a non-clinical adolescent group with a high proportion of migration-background and socioeconomically representative of bigger cities in Sweden. The study also looked at specific types of PTEs, as well as adolescents' subjectively appraised worse lifetime traumas,

and their relation to DE. The hypotheses were: (a) PTEs would correlate positively with measures of posttraumatic stress and DE, and (b) these two would correlate positively with each other; (c) having experienced emotional and/or family related abuse would be more related to dissociation than physical abuse; (d) the lifetime worst traumas, categorized as primarily of emotional nature (i.e., not primarily physical) would amplify the relation between PTEs and DE.

A non-clinical group of 239 adolescents (111 girls, 126 boys, and 2 other/does not want to state gender identity), mean age 15.9 years, with 60% having own or parental migration background was assessed for trauma exposure, PTSD-symptoms and dissociative experiences. The great majority (92%) reported some kind of PTE and 51% reported life-time poly-victimization (four or more PTEs). On average the adolescents in this study reported between 3 and 4 lifetime PTEs. Boys reported more witnessing and experiencing of physical violence and accidents, and girls more emotional abuse and bullying in school settings. Witnessing threats and hearing about a close one's horrific experience were the most commonly reported PTE in the whole group. Boys reported more PTEs but girls reported more DE and PTSD-symptoms. The A-DES mean for the whole group was 1.68 (SD = 1.47), significantly higher ($p < .0001$) than in the previous Swedish study by Nilsson and Svedin (2006; N = 400, M = 0.84, SD = 1.05). Those adolescents that reported having parents with war experiences also reported more PTEs and higher rates of DE. Experience of childhood poverty was also related to more DE. Not surprisingly, even when controlling for all correlated variables, dissociation, trauma exposure, and PTSD-symptoms correlated positively with each other.

Emotional abuse by others, in 85% of the cases described as bullying by school peers, was the only significant predictor of DE, controlling for gender, age, parental war-experience, self-reported poverty, overall PTE exposure, and PTSD-symptoms. The other three types of traumas, physical abuse by family or others, and emotional abuse by family, were not predictive of DE. Those reporting emotional abuse by others, mostly bullying and harassment by school peers, had the highest rates of DE. The descriptions of the worst life-time experience were categorized into seven categories: interpersonal PTEs within the family, (1) primarily physical or (2) emotional act(s); interpersonal PTEs by nonfamily, (3) primarily physical or (4) emotional act(s); noninterpersonal PTEs, (5) primarily physical or (6) emotional act(s); and (7) no worst PTE. They were further dummy coded: (a) any of the three primarily emotional PTEs themes versus no worst PTE; (b) emotional versus any of the three primarily physical PTEs; and (c) physical versus no worst PTE. The results of the interaction analysis showed that adolescent girls reporting a primarily emotional worst lifetime trauma had a stronger relation between overall PTE exposure and DE than girls reporting a

primarily physical or no worst PTE. Boys did not show this pattern. Age, parental war experience, self-reported poverty, and PTSD-symptoms were controlled for.

In sum, non-clinical adolescents residing in one of the larger and more socioeconomically diverse Swedish cities had higher rates of dissociation than found in a previous study in Sweden (Nilsson & Svedin, 2006). Girls reported more dissociative experiences and less trauma exposure than boys. Higher rates of dissociation were found among second generation war refugee adolescents and those with the experience of subjective and relative childhood poverty. Emotional abuse by others (non-family), mostly bullying by school peers, was more related to dissociation than physical abuse. In addition, adolescent girls reporting primarily emotional worst lifetime trauma showed a stronger relation between total PTE exposure and dissociation.

3.1.2 Study II: Dissociative experiences, self-reported attachment, and PTE type

Study II added to the findings of the first one by investigating the importance of self-reported attachment for DE in the same group of adolescents, as well as looking at the interaction between attachment and exposure to certain types of PTEs, and this interaction's relation to DE. The hypotheses were: (a) insecure attachment styles would predict DE after controlling for PTE exposure; (b) insecure attachment styles would amplify the relation between PTEs and DE; (c) secure attachment style would dampen the relation between PTEs and DE; (d) experience of family-related physical and emotional abuse, verbal harassment, and bullying by a non-relative, and sexual abuse would have the strongest predictive value of all PTEs on DE; and (e) highly DE-related PTEs and high rates on insecure attachment styles would be additive in the prediction of DE, while high rates on the secure attachment style would dampen the relation.

First, this study found that higher ratings on two seemingly opposing attachment style scales *Discomfort with closeness* (measuring attachment avoidance) and *Preoccupation with relationships* (measuring attachment anxiety) predicted DE (15% of the explained variance) more than PTE exposure (7% of the explained variance). The analysis controlled for gender, age, childhood poverty experience, SES, parental war experience, and PTSD-symptoms. Second, adolescents with high scores on the insecure anxious attachment scale *Need for approval* had the strongest positive relation between PTE exposure and DE. This moderating effect was only found with the *Need for approval* scale, however *Preoccupation with relationships*, a scale indicating insecure anxious attachment, was an additional significant moderator if the dominant *Need for approval* variable was removed from the analysis. Control variables were same as above. High ratings on the

secure attachment style did not dampen the relation between PTE exposure and DE. Third, adolescents reporting high *Discomfort with closeness* and emotional abuse (mostly bullying by school peers) had a positive relation between total PTE exposure and DE. Surprisingly, this positive relation between PTE exposure and DE was not found in bullied adolescents low on *Discomfort with closeness*, but the relation appeared in non-bullied youth low on this scale. The same pattern, although only marginally significant, was found with the *Preoccupation with relationships* rates. However, those with high rates on the scales and experience of bullying had the highest DE-rates.

Altogether, self-reported insecure attachment patterns were a stronger predictor than PTEs and an anxious attachment pattern amplified the relation between PTE exposure and dissociative experiences. Moreover, bullied adolescents, reporting higher rates of insecure attachment, exhibited the strongest relation between overall PTE exposure and DE.

3.1.3 Study III: Dissociative experiences and PTEs in war-exposed refugee youth

Study III included two different groups of war-exposed refugee youth and investigated the prevalence of general and war/refugee-related PTEs, DE, and PTSD-symptoms in these groups. The two groups were newly arrived refugee adolescents residing in Sweden for one year on average and settled adolescents who experienced war early in life and had been living in Sweden for seven years on average. By including two different groups we could explore long-term consequences of war in refugee youth just arriving or have immigrated to Sweden for some years ago. The hypothesis was: Individuals with higher reports of total and war/refugee related PTEs would score higher on measures of PTSD and dissociation.

The participants were 42 newly arrived refugee adolescents, mean age 16.1, and 35 previously resettled pupils, mean age 14.8. In both groups, all participants had reported experiencing PTEs, with newly arrived reporting a mean of approximately 15 PTEs and settled pupils a mean of approximately 9 PTEs. The most frequent PTEs among the newly arrived were witnessing and experiencing physical violence, and separation from caregiver. Among the settled pupils, loss of caregiver, experience of bombings and shootings, and witnessing threats were the most frequent PTEs. Most (71%) newly arrived scored above the cut-off for indication of PTSD, while 34% of the settled pupils did the same. The mean score on A-DES was 3.1 (SD = 1.9) for the newly arrived and 2.5 (SD = 1.9) for the settled pupils. By another perspective, 36% of the newly arrived scored above the proposed cut-off for dissociative psychopathology (≥ 3.7 on A-DES), and a fourth

(23%) of the settled pupils. Among both groups of war-exposed refugee youth there was no relation between gender and dissociation.

Among the settled pupils, higher PTE exposure was related to higher rates of DE, with those reporting poverty also rating higher on PTE exposure and DE. Among the newly arrived, adolescents with experience of child labor reported more PTEs. In the same group, contrary to our expectations, there was no relation between PTE exposure, PTSD-symptoms, and DE; however those with more PTSD-symptoms reported more DE. Possible explanations include a ceiling effect of PTE exposure and/or the heterogeneity of the group. Follow-up analyses were done to explore this result. The analyses showed that a subgroup of mostly (five out of six) Afghan girls reported high rates of DE but lowest rates (however in absolute numbers still high) of PTE exposure. The opposite was found for mostly Somali girls (four out of six, the two others were boys that expressed that they did not want to disclose all PTEs). Excluding these cases we found a strong positive relation between PTEs and DE ($r = .60$, $p = .003$). The same analyses showed that the Afghan girls had higher DE-rates than other girls, who were mostly Somali. The opposite seemed to hold for PTE exposure as there was a near-significant difference with Afghan girls reporting fewer PTEs than the other girls. When investigating their descriptions of worst lifetime experiences, we found that Afghan girls reported more physical abuse by a caregiver or close relative than Somali girls. These results are exploratory and based on very small samples, but some cautious speculations concerning the trauma-context are discussed to suggest future research.

In sum, the study presents the first results on DE prevalence among two different groups of war-exposed refugee youth. War-exposed youth reported many PTEs with between one-fourth and one-third of participants scoring above cut-off for severe dissociation. The analysis indicated that differences in PTE exposure and DE, as well as the relation between these two factors, were related to gender and the context of trauma.

3.1.4 Study IV: Exploring dissociation among war-traumatized refugee youth

The final study included an in-depth exploration of mental experiences related to dissociation in the group of newly resettled war-exposed refugee youth. The majority were the same participants as in the newly arrived group in study III. We used semi-structured interviews and qualitative thematical content analysis together with quantitative data collection of DE-rates as measured by A-DES. The purpose was to explore the type and extent of dissociation in war-traumatized refugee adolescents and its relation to traumatic events, as well as investigating the

relation between the quantitative measure of DE and subjective descriptions of dissociative mental processes. No directional hypotheses were formulated because this was primarily an exploratory study.

Interviews were analyzed qualitatively by two psychologists with a focus on overarching themes of mental experiences across adolescents classified as low (< 3.7 on A-DES, n = 24), medium (3.7-6.2, n = 11), and high (> 6.2, n = 5) on DE. Newly resettled refugee youth described a variety of mental experiences related to dissociation, corresponding to A-DES items and suggesting its usefulness in this group. Most descriptions of mental experiences related to dissociation differed between those low and those high on DE. High dissociators reported more emotional intensity, fear, self-loathing, disconnectedness from the here-and-now, and experiences of the surroundings as unreal, strange, and persecutory. Additionally, high dissociators distinguished themselves from those low and medium by describing persistent sadness and loss of joy, distorted body-image and loss of body control. Problems with memory, time perception, and thought control were related to detachment in the high-dissociation group. Paranormal experiences and a self-experience as consisting of multiple separated parts or other non-normative self-perceptions were prevalent in all three groups. However, besides increasing in frequency among medium and high dissociators, these types of experiences were described as more negative, adverse and frightening. Some of the low dissociators could in fact describe both paranormal and multiple selves experiences as helpful and supportive. Narratives of less positive relationships to parents and more parental-related abuse and neglect were reported by the adolescents with medium, and especially high, A-DES score. In addition, the high dissociators reported very few or no current peer relationships and a predominantly negative world-view. High dissociators were predominantly girls, reporting detachment and vast loss of control along with negative experiences and oppression within the family and community.

In sum, high dissociators reported qualitatively different experiences including very frightening loss of control, detachment from the self and the environment and a pervading depressive mood. Some experiences such as paranormal and experiences of multiple selves were prevalent among all three groups. However those scoring low on A-DES described these types of experiences as less negative and sometimes even beneficial. The qualitative analysis also reflected two types of dissociation, a dimensional one and a separate pathological type. These two seemed to incorporate somewhat different experiences.

4. Discussion

This section begins with a summary of the dissertation's main findings, and continues with a discussion of the results' congruence and/or incongruence with prior research. Thereafter, clinical implications are highlighted and discussed, followed by suggestions for future research. The limitations of this dissertation are acknowledged and the section ends with conclusions.

4.1 Summary of the Main Findings

The overall prevalence results extend our knowledge about the rates of dissociative experiences in under-investigated groups. In Sweden, there has been a lack of research in this area, except for the important contribution of Doris Nilsson (2007) and her colleagues. Globally, there is a lack of studies investigating dissociation rates in war-exposed refugee adolescents, also a prevalent and vulnerable group in Sweden. We found that adolescents residing in one of the larger and more socioeconomically diverse Swedish cities, 60% having migration background, had higher rates of dissociation than found in the previous study in Sweden (Nilsson & Svedin, 2006). Higher rates of dissociation were found among second generation war refugee adolescents and those with the experience of subjective and relative childhood poverty. Girls reported more DE and less trauma exposure than boys.

Type of reported PTE, attachment style, and gender, as well as their interaction, were shown to affect the relation between total PTE exposure and dissociation. Emotional abuse described as bullying by school peers related more strongly to dissociation than physical abuse. Moreover, adolescent girls appraising primarily emotional events as their worst lifetime experience showed a stronger relation between total PTE exposure and DE. In addition, compared to PTE exposure alone, anxious and/or avoidant attachment styles may be an even more important factor for dissociation, especially in interaction with certain types of PTEs. Youth reporting high attachment anxiety had the strongest relation between total PTE exposure and DE. Moreover, adolescents reporting high attachment avoidance or

anxiety, and peer emotional abuse, had a stronger association between PTE exposure and DE.

This dissertation also included two groups of war-exposed refugee youth, presenting the first results on DE rates in such a group. War-exposed adolescents reported many PTEs and the mean rates of DE among newly arrived war-exposed refugee youth are comparable with Swedish youth reporting sexual abuse (Nilsson & Svedin, 2006). The exploration of mental processes related to dissociation among newly resettled refugee youth shows that dissociation is a source of suffering among war-traumatized youth and an important treatment target of its own.

4.2 General Discussion

4.2.1 Dissociative experiences and PTEs in adolescents

A likely explanation for the higher rates of DE among the non-clinical group of adolescents in study I, compared to previous Swedish investigations (Nilsson & Svedin, 2006), is a higher socioeconomic diversity and migration background. Living in a bigger city may also lead to more exposure to violence. The newly arrived war-refugee group had DE rates similar to those of Turkish adolescents with PTSD (Zoroğlu et al., 2002). DE-rates were somewhat lower among the settled adolescents, in line with normative groups in the UK and Japan (Farrington et al., 2001; Yoshizumi, et al., 2010) and mood-disorder diagnosed adolescents (Soukup et al., 2010). However, 23% of these youngsters scored above the cut-off for dissociative pathology, a reason for concern.

Being exposed to certain PTEs is a normal part of an adolescent's life and PTE exposure among the adolescents in study I is similar to those found in previous research (Gušić et al., 2016a; McLaughlin et al., 2013), with economical vulnerability related to higher rates of PTEs (Deeba & Rapee, 2015). However, high numbers of PTEs were reported by war-exposed refugee youth (newly arrived adolescents reported on average 15 PTEs during their life). Among those war-exposed early in life and settled in Sweden, self-appraised poverty was related to more PTEs and trauma-related mental health problems. Among the newly arrived, previous child labor was related to more PTE exposure, but there was no positive relation between poverty and DE; instead, higher DE rates were related to higher subjective SES. A plausible reason for the latter, unexpected association may be that the wealthier members of the group had better formal education and therefore might have been better at understanding the A-DES items and rating them higher.

4.2.2 Dissociation and the importance of trauma type

The findings of this dissertation, as well as some recent studies, suggest that emotional abuse such as bullying are understudied as correlates and possible causes of mental health problems. Emotional abuse or other primarily emotional or relational traumatic experiences may be experienced as equally or more stressful and/or threatening than physical abuse, especially by younger developing individuals. If these experiences are long-lasting and experienced in important social and relational contexts, they may cause social pain and challenge social integrity (MacDonald & Leary, 2005). Emotional abuse, specifically peer-bullying in schools, has been linked more strongly to DE than physical abuse or other types of non-interpersonal traumas (Gušić et al., 2016a). Furthermore, childhood emotional abuse was the strongest predictor of dissociation among different types of childhood maltreatment including sexual abuse (Haferkamp. Bebermeier, Möllering, & Neuner, 2015). The link between bullying and dissociation was also found in another study with adolescent boys (Penning, Bhagwanjee, & Govender, 2010). In addition, Dutra and colleagues (2009) found that the only adverse experience in early life predictive of adolescent dissociation was the severity of verbal abuse by a caregiver, underlining the importance of investigating non-physical traumas.

In the current research, the primarily emotional worst traumas in girls (but not boys), including experiences of loss, separation, bullying, and others, was associated with higher DE, controlling for overall PTE exposure. A reason for why this was found in girls but not boys may be that relational issues and caring are more central in the socialization of girls (Rose & Rudolph, 2006). Similarly, recently arrived youth reporting the highest DE rates described their worst life-time experiences in terms of oppression and familial abuse, and were in most cases girls. A few other studies have emphasized this link between dissociation and emotional/relational abuse. A Turkish study with adult conversion patients found that emotional abuse was the only childhood trauma type that predicted dissociation (Şar, Akyüz, Doğan, & Öztürk, 2009). Another study with a community sample of Turkish women found that “dissociative depression” was related to negative social control (Şar, Akyüz, Öztürk, & Alioğlu, 2013). In light of these findings, there is a need to explore this spectrum of experiences further. Humans are a highly social and relational species. Therefore, social threats may play a much more crucial role in the development of self-related psychological impairment such as dissociation than previously thought. Along these lines, there is some evidence that many mental health problems relate to emotional abuse and bullying, for example, depression and paranoid ideation (Dias, Sales, Hessen, & Kleber, 2015), anxiety disorders (Raparia, et al., 2016), PTSD (de Albuquerque & de Albuquerque Williams, 2015), and suicidal attempts (Kodish et al., 2016).

4.2.3 Dissociation and attachment style

In line with a few other cross-sectional studies (Briere, 2006; Nilsson et al., 2011; Van Ijzendoorn & Schuengel, 1996), this dissertation shows that both anxious and avoidant attachment styles predict dissociative experiences beyond PTE exposure and PTSD-symptoms. In addition, high attachment anxiety scores were associated with a stronger relation between overall PTE exposure and DE. One reason for this may be that experiences conducive to such attachment styles may undermine the ability to adaptively appraise and regulate stressful experiences (Harter, 2012; Putnam; 1997; Schore, 2001). Moreover, high attachment anxiety may be related to specific sentinel schema scripts that lead to more vigilant responses and stress-related pathology as attachment style has an impact on self-regulation in face of threat (Ein-Dor, Mikulincer, & Shaver, 2011; Mikulincer & Shaver, 2007). In addition, adolescents reporting high attachment anxiety may not be able to use social relationships to cope with adverse traumas, leading to less adaptive emotional regulatory responses and dissociation (Powers, Cross, Fani, & Bradley, 2015). This is consistent with the finding that highly dissociative newly arrived adolescents described their caregiving environments as more oppressive and abusive, and reported very few current relationships (Gušić, Malešević, Cardeña, Bengtsson, & Søndergaard, 2017b). The relation between dissociation, negative evaluations of the self and close relationships, and affect dysregulation was also found in a recent study with Italian adults (Schimmenti, 2016).

Half of the adolescents in study I, the great majority of them born in Sweden, reported having parents with experiences of war, and such reports were associated with elevated rates of DE (Gušić et al., 2016a). Compared to age-matched general populations in western resettlement countries, adult refugees have a ten times greater likelihood of having PTSD (Fazel, Wheeler, & Danesh, 2005). With this in mind, it is possible that some of the parents of the adolescents in study I struggled with war and migration-related mental health problems, with a negative impact on the caregiving environment of their children. Parental war-traumatization and disconnected parental behavior has been linked to children's insecure and disorganized attachment (Van Ee, Kleber, Jongmans, Mooren, & Out, 2016). Furthermore, parental emotional unresponsiveness may lead to problems with regulating emotions and developing dissociative symptoms in the face of later trauma (Dutra et al., 2009). In addition, the post-migration phase involves several severe socioeconomic obstacles. Refugee parents and their Sweden-born children are at risk for economic struggles, which have been linked to household chaos, with the consequent unpredictability and lack of structure at home. Higher household chaos and poverty in early childhood has been related to lower ability in children to identify and regulate their emotions (Raver, Blair, & Garret-Peters, 2015), while difficulties recognizing and regulating emotions relate to dissociation

(Powers et al., 2015). It is important to be aware of both individual and sociopolitical causes of mental health issues, as well as their interaction. Although psychological suffering is individual, it is equally important to acknowledge that sociopolitical factors affect the potential of refugees to rehabilitate and cope with war-related stress post-resettlement (Davidson, Murray, & Schweitzer, 2008).

The potential protective effect of secure attachment in the face of trauma was demonstrated in a Finnish study following school shooting victims (Turunen et al., 2014). Those with a secure attachment style had the most favorable recovery path and lowest rates of dissociation. However, the present study (Gušić, Cardeña, Bengtsson, & Søndergaard, 2016b) did not find a specific dampening effect of secure attachment on the relation between PTEs and dissociation. A reason may be that the Finnish study looked at one specific and single traumatic event closer in time, and that the general level of traumatization in the dissertation sample may have been higher. Interestingly, however, we found that PTEs did not relate to DE in adolescents who did not report an insecure attachment style. Low rates of negative appraisals of oneself and others might therefore be a protective factor against developing dissociative symptoms in the presence of trauma. The difference in the results between the Finnish and the present study poses the question whether it is the presence of positive appraisals (i.e., secure attachment) that protects against trauma-related dissociation, or rather the absence of negative appraisals (or both).

Finally, a contribution of this dissertation is the finding that, adolescents with an anxious or avoidant attachment style who had also experienced emotional abuse by peers described as bullying, demonstrated the strongest relation between overall trauma exposure and DE. Because of its exploratory nature and the smaller number of participants when analyzing subgroups, this finding needs to be further investigated and replicated. It does however suggest that the relation between trauma and dissociation during development may be complex and that we need to look at multiple factors to investigate the trauma-dissociation pathway. This thesis proposes that experiences of certain traumas such as bullying may be especially threatening and stressful to individuals with negative appraisals of others and self, possibly rooted in early life experiences with caregivers. The results indicate that insecure inner working models of self and others involving both high anxiety and avoidance, additional exposure to bullying (possibly appraising negative social experiences as more stressful), leads to the highest rates of DE.

4.2.4 Exploring dissociation in war-exposed youth

> I am sitting here, but I have those voices, it is always like that. Sometimes I become totally crazy, I do not understand what they want, what they say, I cannot understand. All those events, everything that has happened, they are talking in my brain. And it is a very difficult feeling. Sometimes I pass the station where I should get off, the bus I mean, thoughts come that make me forget, where I am. I cannot hear them clearly, there is so much in the brain.

The quote above reflects the struggle of living with the memory of horrible experiences, while at the same time illustrating different dissociative phenomena such as intrusive trauma-related inner voices and loss of control over mental processes, awareness, and behavior (cf. Cardeña & Carlson, 2011). Highly dissociative war-exposed youth described experiencing the surroundings as unreal, strange, and persecutory. They also reported distorted body-image and loss of body control, high emotional intensity and loss of control over the source and regulation of emotions, persistent fear with no way of coping with it, and persistent sadness and lack of joy. This further suggests that emotional dysregulation may be one important aspect of dissociation (Powers et al., 2015), with either experience of intolerable fear and other negative emotions leading to dysregulation, or the other way around, an underlying difficulty to regulate and thus more experience of intolerable emotional states. Similar differences between non-clinical adults with low, moderate, and severe dissociation were found in an Italian quantitative study, showing that high dissociators experienced more affect dysregulation and problems with mentalized affectivity (Schimmenti, 2016). Poor self-regulation has also been linked to relational environments (Zeman et al., 2013), in line with the finding that those with severe dissociation and narratives of poor control over emotions, thoughts, and behavior, also described poor or lacking relationships with caregivers and peers.

Some experiences described by high dissociators were also described by those scoring low on A-DES. These experiences include different kinds of paranormal experiences such as ostensible premonitory dreams or experiencing a guiding presence, and a self-experience of multiple separated parts or other atypical self-perceptions. Yet the accounts differed in extent and negative appraisal. In fact, low dissociators described some of the paranormal experiences and multiple-self perceptions as positive and helpful. This may indicate a greater openness to these experiences in their original cultures, as well as a more porous and relational theory of the self, and thus should not be viewed as intrinsically pathological (Cardeña, Lynn, & Krippner, in press). However, experiencing the above as frightening and leading to severe loss of control may be more indicative of trauma-related dissociation. Loss of control may also be especially prominent in adolescence, an important period in the development of self-agency (Harter,

2012). Severe dissociation in study IV was related to narratives indicating low self-awareness, self-continuity, and self-coherence, suggesting the adverse impact of trauma-related dissociation on self-development. Related to this, a recent study (Chiu, Chang, & Hui, 2017) investigating non-clinical adults found a less integrated and more differentiated self-concept in those scoring high on DE, unrelated to childhood trauma. These results imply the need to investigate the development and structure of self-concept as a potential factor for dissociation. In contrast, just experiencing trauma as "supernatural" or describing childhood as being a puzzle with missing pieces due to missed childhood opportunities did not relate to A-DES ratings, underlining the importance of contextualizing dissociation within other psychological processes (Gušić et al., 2017a; Gušić et al., 2017b).

4.3 Practice Implications

This dissertation has several practice implications in different settings where professionals encounter traumatized youth in general and war-refugee youth in particular.

One of the first implications relates to what type of stressful experiences adolescents find disturbing as well as what type of traumas and life-conditions seem to be related to elevated rates of DE. The second one relates to the importance of understanding how an adolescent´s view of oneself and others contributes to trauma-related dissociation. A third implication involves working with war-traumatized refugee youth, as there are a number of signs that indicate the need to assess and treat trauma-related dissociation. There are a number of settings where adolescents seek support and help and where higher awareness of the types of traumas that youth find disturbing is needed. The most common include child and adolescent health providers such as counselors and school nurses, and social and medical youth counseling centers. It is also important to remember that adolescents do not live divided lives and it is not unusual that the first person a young individual talks to is not a mental health professional but a teacher, sports leader, or another trusted adult. It is therefore important to generally raise awareness that:

- Emotional and relational traumas in youth are at least as important to ask about and acknowledge as physical and sexual ones. Clinicians should more thoroughly ask about emotional and relational traumas in general, and bullying and harassment in particular, when assessing trauma experiences and mental health problems as well as planning treatment.

- Indirect emotional and relational experiences such as a significant other's stressful life experiences or living in conflicted households may be related to mental health problems such as trauma-related dissociation.
- Bullying and emotional abuse such as verbal harassment by peers in school and the community is an adverse experience that may be related to trauma-related dissociation.
- Utilizing a trauma-inventory such as the one presented in this dissertation, including specific items on different war-related experiences as well as experiences related to life-conditions in war-torn countries (including forced marriages and child labor), is necessary to fully assess and understand the experiences of adolescent war-refugees. Clinicians should be aware that Western-based inventories do not always encompass experiences of refugee children and adolescents and that new measures, even not fully validated, may be needed (Gadeberg & Norredam, 2016).
- School professionals need to be aware of the mental health problems of experiencing bullying and harassment by peers, addressing it in an early stage and working proactively to eliminate it.
- Experiences of poverty may be a significant factor related to the mental health problems in the face of trauma. Clinicians need to be aware of that and incorporate this knowledge when assessing and planning treatment. For example, it might be necessary to include closer work with social services or other institutions with the aim of providing a more economically safe environment for rehabilitation and recovery. Therapy and treatment cannot be provided in a socioeconomic vacuum. This includes awareness of parental experiences of migration, war, and stressful experiences that affect the young person in treatment.
- Research indicates that clinicians planning treatment with traumatized adolescents could benefit from using attachment questionnaires or other inventories focusing on self- and other-experiences. This may facilitate treatment planning and enable the clinician to also focus on adverse relational experiences instead of only PTEs, as the former may be more related to dissociative symptoms.
- There are some specific psychological experiences reported by medium to high-dissociative war-traumatized adolescents. Clinicians and other professionals working with this group should be aware and assess these forms of dissociation. These include emotional regulation problems, somatization, high emotional intensity, negative and frightening self-experiences or paranormal experiences, detachment, and severe loss of control over inner mental processes.

4.4 Future Research Directions and Implications

As the aims and results of this dissertation include several understudied areas, a number of research studies can be suggested. Roughly, two different future research lines can be further developed. The first includes trying to replicate and confirm the results by using more specific measures and designs. These include studies incorporating scales with diverse emotional traumas and emotional abuse types, to further investigate the impact of these experiences on trauma-related dissociation. It would also be useful to utilize the current trauma inventory with the specific war-refugee items and further develop and validate it, possibly translating it to different languages. It would be beneficial to expand the sample sizes to confirm and investigate two- and three-way interactions, to avoid results based on too small sample sizes. As some of the findings in this thesis and prior research indicate that disruptive emotional regulation are related to dissociation, it would be useful to specifically and thoroughly study this link. Another suggestion is to use more bottom-up mixed-methods designs to further investigate what type of events and dissociative experiences children and adolescents actually appraise as disturbing. These types of studies would also benefit from efforts to include different types of youth groups, with different socio-economic backgrounds and life-conditions.

This leads to the second future research line, to design studies that look at some new factors associated with findings in this dissertation. For example, it is possible that the appraisal and consequences of PTEs depend on the context in which the event is experienced, and this factor would be important to study further in order to develop better and more sensitive assessments as well as treatment interventions. Another extensive research need is to look at specific treatment implications of these findings and test different interventions. I have several research suggestions in this area:

- Investigate whether more integrated intervention approaches (for example treating parental migration-related stress, adolescent traumatization, and providing socioeconomical support) lead to better treatment outcomes.
- Investigate if trauma-exposure based treatments work with primarily emotional and relation traumas without physical acts and explore other models for treating this type of traumatization.
- By using research designs investigating dissociative experiences from the narratives of different groups of traumatized youth, develop and test new types of developmentally sensitive dissociation measures.

- Finally, there is a need to include all mentioned suggestions and plan similar research with younger children, even more under-studied in this context than adolescents.

There are also some scientific implications important to mention that go beyond the specific research area and topic. These include work with multilingual participants with different sociocultural experiences as well as the choice to mix methodologies. One of the ambitions with this research project was to try to incorporate previous knowledge (even if socioculturally context-bound), achieve higher ecological value and stay close to the participants' subjective experiences while at the same time not disregarding the significance of academic theory building and hypothesis testing. This was done by using a mixed methodology and reflecting upon the meaning of language and culture in psychological research. A recommendation for researchers, especially those working with vulnerable groups, is to further try to question conventional non-mixing methods, in order to go beyond their many assumptions. This may be especially important in our globalized society where different world-views mix and meet, in every-day life as well as in clinical and academic practice.

4.5 Research Limitations

This section addresses a number of research limitations, some reflections and a few strengths. Specific study limitations are presented in the articles.

First and foremost, all the studies have a cross-sectional retrospective design, so the results cannot be interpreted as inferring causation. It was also not possible to state how many of the participants would have met the criteria for PTSD or a dissociative disorder. A third limitation is that the newly developed trauma inventory had not been previously used or validated. However, it was developed and tested by clinicians working with migrant and refugee adolescents, and it was based upon existing trauma questionnaires but developed to include more items relevant to current war/refugee situation as well as several questions on life-conditions and subjective descriptions of stressful events. A retrospective reflection is that it would have been useful to add even more items regarding different emotional abuse experiences. A fourth issue concerns the attachment measurement used and the fact that it does not measure actual infant attachment, but the accumulated inner working models of relationships during development. Fifth, the choice not to translate measurements was based on both practical and ethical reasons, and discussed under the methods section. With this in mind, it is important to highlight that this procedure may have contributed to misunderstandings or underreporting of the items. An additional concern is the

reliance on self-reports, which may lead to a common methods bias, and stronger correlations between measured variables than what actually is the case. The use of mixed methodology could be seen as a problem, as it might be perceived as utilizing conflicting scientific world-views. The choice to approach this subject in such a way however was grounded in the complex situation of needing to incorporate scientifically studied and developed constructs (dissociation and trauma) in one particular context (Western psychology and psychiatry), with individuals experiencing and understanding the self and the world from many different sociocultural contexts.

There are also some strengths to the conducted research. The use of a newly developed trauma inventory made it possible to include items that are of ecological value to professionals working with refugees, for example specific questions about PTEs during refugee journey. It was also possible to formulate it in such a way that it is more suitable for a group of adolescents with varying backgrounds. A second strength is the use of mixed methodology providing a possibility to combine different world-views and sociocultural contexts. It made it possible to generate some pragmatically usable suggestions to professionals working in practices that cannot divide objective from subjective, and Western-based theory from suffering individuals with multiple sociocultural understandings of the world. Hopefully, although not in a perfect or unproblematic way, this approach enables those most concerned – traumatized adolescents, war-refugee youth, and clinicians - to be able to recognize themselves and make use of these research findings.

4.6 Conclusions

This dissertation project has contributed to the field of adolescent trauma-related dissociation by expanding our knowledge on the prevalence of dissociative experiences in more socioeconomically diverse youth in Sweden, including adolescents with migration background and war-refugee experience. Adolescent trauma-related dissociation has been shown to be linked with emotional abuse, specifically peer-bullying. Further on, this project showed that dissociation may be linked to a complex interaction of insecure attachment patterns and experiences of emotional abuse, emphasizing the link between emotional adverse experiences, inner working models of the self and others, and adolescent dissociation. The project includes a marginalized group in research, and presents data on PTE exposure and dissociative experiences in refugee youth. Finally, by qualitatively and quantitatively investigating war-traumatized adolescents' experiences of mental processes linked to trauma-related dissociation, this dissertation offers

clinicians descriptions of experiences that are indicative of trauma-related dissociation in refugee youth possibly in need of treatment. These descriptions include frequent and predominantly frightening and/or demeaning experiences of multiple selves, frightening lapses in self-monitoring, and detachment from the self and the environment. Future research may benefit from using more specific measures of emotional traumas to further explore their possible adverse impact on children and adolescents, as well as investigating larger groups of war-refugee children and youth to expand our knowledge about trauma and dissociation, and to generate and test specific interventions for this vulnerable group.

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Appendix I

TRAUMA INVENTORY: War/Refugee and General PTEs

Question		Mark your answer					Please, comment in this part
1a	While growing up, did you and your family suffer from poverty?	YES			NO		
1b	As a child, did you need to work in order to support for your family?	YES			NO		***If YES, how old were you when you started to work?*** _____
1c	While growing up, how poor or rich was your family in comparison with others around you (like your neighbors or friends)?	Very Poor	Poor	Medium	Rich	Very Rich	
2a	Have your parents experienced war or organized violence?	YES	NO		DO NOT KNOW		***If YES, in which country?*** _____
2b	Have you experienced war or organized violence (for example guerilla group conflicts, militia etc.) during your life?	YES			NO		
If NO on question 2b GO straight to question 13 on the next page. If YES continue with question 3.							
3	In which country or countries have you experienced war/organized violence (write the names of the country/countries)?						
4	Did you arrive to Sweden because of the war/organized violence?	YES			NO		
5	Did you arrive to Sweden alone (without caregivers)?	YES			NO		
6	During your refugee journey to Sweden, have you ever been exposed to any of the following:	a) Unwanted sexual act	YES	NO			***How long was your journey to Sweden? (Approximately)*** _____
		b) Physical violence	YES	NO			
		c) Threat	YES	NO			
		d) Forced labor	YES	NO			
		e) Captivity	YES	NO			
7	Did you have to move or change schools because of war or disturbances, **before** you arrived in Sweden?	YES			NO		
8	Did you have to separate from your mother and/or father and/or other important person that took care of you because of war or disturbances?	YES			NO		
9a	Have you lost (by death or disappearance) anyone close to you, in war or disturbances?	YES			NO		***Who?***
10	Have you, yourself, experienced military battle, like bombings, shootings and/or explosions?	YES			NO		
11	Have you, yourself, participated in the military battle in any way?	YES			NO		
12	Have you been homeless or without food, clothes, or shelter because of the war?	YES			NO		

The following questions are about events that could have happened anywhere and anytime in your life.					
13	Have you ever witnessed someone being:	Threatened	YES	NO	***Under which circumstances?***
		Physically abused	YES	NO	
		Sexually abused	YES	NO	
		Tortured	YES	NO	
		Killed	YES	NO	
14	Have you heard about someone close to you (like a parent, sibling, or a close relative or friend) experiencing something horrible?	YES	NO		***What?***
15a	Have you been exposed to physical violence?	YES	NO		***Where and by who?***
15b	***If YES**, have you any serious physical injuries because of the violence?*	YES	NO		***Which?***
16	Have you been imprisoned, arrested or captured?	YES	NO		***Where and for how long?***
17	Have you seriously hurt or killed someone?	YES	NO		
18	Have you been forced to a sexual act of any kind?	YES	NO		***By who?***
19a	Have you been hit or beaten by persons that were in care of you (like your parents, older siblings, or relatives)?	YES	NO		***By who?***
19b	***If YES**, how often did this happen?*	Seldom / Some-times	Often	Every day	
19c	***If YES** did you get wounds or injuries on the body after being hit or beaten?*	YES	NO		
20	Have persons that were in care of you (like your parents, older siblings, or relatives) told mean things and/or spoken badly about you?	YES	NO		
21	Have others exposed you to bullying or other types of emotional abuse and harassment?	YES	NO		***By who and where?***
22	Have you experienced any kind of natural disaster (like flood, drought, famine or earthquake)?	YES	NO		***What type of disaster?***
23	Have you experienced any kind of accident (like car or train accident, fire or accident in your home)?	YES	NO		***What type of accident?***
24	Have you experienced any other terrible event(s) that we have not asked about?	YES	NO		***What?***
25	Of all the terrible events that you have experienced, *which one is the absolute worst?*				
26	If you have experienced anything difficult, have you received any kind of support (like counselor, psychologist, priest or imam)?	YES	NO		***What type?***
27	Do you have any other comments?				

Study I

Study 1:

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Types of Trauma in Adolescence and Their Relation to Dissociation: A Mixed-Methods Study

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Objective: To study adolescent traumatization and the impact of various types of trauma on dissociative experiences in a sample of 239 Swedish youngsters, 13 to 20 years of age, with diverse socioeconomic and migration backgrounds. We also evaluated whether the type of worst lifetime trauma was associated with higher rates of dissociation. ***Method:*** Quantitative and qualitative data on posttraumatic stress, dissociative experiences, and potentially traumatic events (PTEs), including participants' written descriptions of their worst lifetime trauma. ***Results:*** Most (92%) of the participants had been exposed to at least 1 PTE and 51% to 4 or more, during their life. Number of PTEs correlated with symptoms of posttraumatic stress and dissociation. There were higher rates of dissociation among economically vulnerable and second-generation war refugee participants. Emotional abuse by others (mostly peers) was the only significant predictor of dissociation when controlling for gender, age, total PTEs, posttraumatic stress, and poverty. Moderation analyses showed that lifetime worst traumas categorized as primarily emotional moderated and amplified the relation between total PTEs and dissociation, but only among girls. ***Conclusions:*** Our findings indicate that traumatization is very common among adolescents, with greater prevalence of dissociation among vulnerable groups, and that emotional traumas are linked to higher rates of dissociation, especially among girls. Researchers, clinicians, and school personnel need to focus more on immigrant status and low SES as vulnerability factors, and address the consequences of emotional abuse, including bullying, among adolescents.

Keywords: adolescence, bullying, dissociation, emotional abuse, trauma

Research on adolescent victimization has only recently started to move from studying specific traumatic events, such as sexual or physical abuse, to investigating poly victimization in youth, including different types of adversities and stressors (Turner, Finkelhor, & Ormrod, 2006). Broadening the understanding of what constitutes child and adolescent victimization may provide additional insights into trauma and stress-related mental health problems in youth. This paper evaluates the prevalence of different types of self-reported victimization, subjective worst life-event appraisals, and potential socioeconomical stressors, as well as their relation to dissociative experiences (DE).

Trauma in Adolescence

Risk of exposure to potentially traumatic events (PTEs) has been shown to peak in adolescence, with approximately two thirds of U.S. teens having been exposed to at least one PTE (McLaughlin et al., 2013). Lifetime poly victimization of four or more different kinds of PTEs during life increases with age and has been reported by one third of children and adolescents aged 2 to 17 in the United States (Turner, Finkelhor, & Ormrod, 2010). Most frequent PTEs include witnessing community violence, separation or loss of a family member, and accidents. In Sweden, Nilsson, Holmqvist, and Jonson (2011) studied 462 adolescents and showed that 84% had experienced at least one interpersonal PTE and 99% at least one noninterpersonal PTE. The most frequently experienced noninterpersonal PTEs were accidents and hospitalization, whereas witnessing violence against nonfamily members and personal experience of threat were the most common interpersonal PTEs. Another Swedish study with a normative sample but using a different trauma questionnaire, with fewer items and not specifically designed to assess PTE exposure, found a 15% prevalence of PTEs (Nilsson & Svedin, 2006). This suggests that the questions used affect the results. Researchers have pointed to the lack of child and adolescence sensitive trauma evaluations, with the two main critiques being: (a) clinicians and researchers fail to incorporate important stressful childhood events such as experience of separation from caregiver, caregiver's mental illness, or verbal and emotional abuse and neglect, and (b) development sensitive phrasings and open-ended questions that allow children and adolescents to make their own appraisals of trauma may increase the answer rates and should be used more frequently (McDonald, Borntrager, & Rostad, 2014).

Factors linked to PTE exposure include gender, ethnicity, and socioeconomic status (SES). Adolescent girls report more close interpersonal traumas and PTE exposure among loved ones,

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whereas boys report more accidents and physical assaults. Structural disadvantages, like minority status or low-income households, have been linked to higher rates of victimization among youth, and some types of PTEs, such as bullying, are more frequently experienced by ethnic minorities (Albdour & Krouse, 2014; McLaughlin et al., 2013; Turner, Finkelhor, & Ormrod, 2006). Researchers need therefore to be aware of how sample selection and life-conditions affect victimization prevalence rates and self-reported mental health.

Because adolescents are in a developmental period that involves many challenges and changes, those who have experienced traumas may develop mental health problems (McLaughlin et al., 2013). Posttraumatic disorders include Acute Stress Disorder (ASD), Posttraumatic Stress Disorder (PTSD), as well as, arguably, the Dissociative Disorders (DD; American Psychiatric Association [APA], 2013; Cardeña & Carlson, 2011). Dozens of studies have confirmed the relation between trauma and dissociation (Carlson, Dalenberg, & McDade-Montez, 2012), and a dissociative subtype of PTSD was introduced into the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed. [*DSM–5*]; APA, 2013).

Dissociation in Adolescence

Although research on dissociation among children and adolescents has increased in recent years (reviewed by Silberg & Dallam, 2009), it is still scant compared with the literature on adult dissociation. One possible cause is the lack of knowledge of how to understand and define dissociation among children and youth. A definition that attempts to incorporate cognitive development was proposed by Cardeña and Carlson (2011, p. 251): "An experienced loss of information or control over mental processes that, under normal circumstances, are available to conscious awareness, self-attribution, or control, *in relation to the individual's age and cognitive development*" (emphasis added). The *DSM–5* (APA, 2013) concludes that diagnosing DD in children and adolescents is problematic because of their difficulty in understanding questions relating to dissociation, and to differentiating pathology from normal child and adolescent behavior. Young children for example do not have the same sense of autonomy, time, and continuity in behavior and identity as adults. It is only with developmental progress that dissociative expressions become more adult-like (Putnam, 1991). For example, dissociative identity states may become more prominent in adolescence as identity development becomes more solidified. Furthermore, problem behaviors, mood and eating disorders, self-mutilation with possible suicidal attempts, and substance abuse make it difficult to properly detect and assess DD (Silberg & Dallam, 2009).

There have been some prevalence studies on dissociative experiences (DE) with adolescent samples from different cultural contexts, with studies of traumatized adolescents reporting higher rates. The lowest prevalence of DE in nonclinical samples came from the Scandinavian countries whereas higher rates were found in Turkey and U.K., with no significant differences between genders (e.g., Farrington, Waller, Smerden, & Faupel, 2001; Nilsson & Svedin, 2006; Zoroglu, Sar, Tuzun, Tutkun, & Savas, 2002). The researchers of the Swedish study concluded that the studied sample was drawn from a relatively stable middle class population and should be complemented with a more diverse sample.

Dissociative Experiences and the Nature of Trauma

Physical and sexual abuse has predominated in the study of posttraumatic stress and dissociative symptomatology. Recent research has started to expand the study of trauma to also include primarily emotional traumas including emotional abuse and neglect because emotional or psychological suffering is a core aspect of any kind of childhood maltreatment (Goldsmith & Freyd, 2005). It is also likely the most underreported form of abuse in clinical settings (Gracia, 1995). Studies have confirmed that emotional abuse and neglect correlate with dissociative symptomatology, sometimes even more than physical and sexual abuse (e.g., Haferkamp, Bebermeier, Möllering, & Neuner, 2015; Martin, Cromer, DePrince, & Freyd, 2013). One explanation for this comes from our knowledge about the developmental needs of children beyond physical safety, such as attachment needs involving caring, emotional safety, and validation (Bowlby, 1969/1982). For small children, emotional neglect and abuse can be seen as a threat to life considering that attachment needs are inseparably entangled with physical survival needs. In fact, some current research proposes that pathological dissociation may result from this early attachment trauma, which may interact with other traumatic events (Schore, 2009). Thus, what is perceived as traumatic may differ depending on factors such as emotional and cognitive development and autonomy (Enlow, Blood, & Egeland, 2013). Research further shows, that, as compared with single and disaster-type traumas, poly- and interpersonal victimization lead to higher rates of multiple types of psychopathology across all ages (e.g., Alisic et al., 2014; Hetzel-Riggin, & Roby, 2013). For instance, Nilsson, Gustafsson, Larsson, and Svedin (2010) found that interpersonal and cumulative traumas were more strongly related to posttraumatic and dissociative symptomatology among adolescents than noninterpersonal traumas. Furthermore, betrayal trauma theory, introduced by Freyd (1996), postulates that not only interpersonal trauma in general but level of closeness and the fact that the perpetrator may be someone the victim relies on, as in cases of abuse by a caregiver (i.e., high-betrayal trauma; HBT), leads to higher psychological distress. A recent study shows that HBT exposed individuals are more prone to dissociation and shame than victimization by those the person does not rely on (Platt & Freyd, 2015).

Study Rationale and Hypotheses

This study evaluates the prevalence of different types of traumas and dissociation in a gender, migration, and SES diverse adolescent group. We hypothesized, that PTEs would correlate positively with measures of posttraumatic stress and DE, and that these two would correlate positively with each other. Age, gender, SES, and migration background were explored as potential factors related to PTE exposure, posttraumatic stress, and DE without formulating directional hypotheses. Further, we expected that having experienced emotional and/or family related abuse would be related to higher dissociation rates than physical abuse. In addition, we qualitatively analyzed adolescents' descriptions of their lifetime worst trauma to obtain ecologically valid information and remain as close as possible to their subjective appraisal of a traumatic event. Finally, we predicted that lifetime worst traumas categorized as primarily of emotional nature (i.e., not primarily physical) would amplify the relation between PTEs and DE.

Method

Participants and Procedure

A sample of 240 adolescents, aged 13 to 20, was recruited from two secondary and two upper secondary socioeconomically diverse schools. Only one upper secondary student refused to participate, resulting in a final sample size of 239 adolescents. Students aged 15 and above gave their own written consent and underaged students obtained consents from their legal guardians. Students below 15 years were divided into groups of five or six so they could have more assistance during data collection, and the rest filled out the questionnaires in groups of no more than 25 students. The procedure took between 40 and 60 min, and students received a cinema ticket besides researcher contact information in case of questions or need for referral regarding traumatic stress problems. Three participants contacted the researcher and were referred further. The first author, a licensed clinical trauma psychologist, interacted with the participants. The regional ethical board had approved the study.

Measures

Demographics. This questionnaire included items regarding age, gender, place of birth, migration history, parental background, living accommodation, and place of residence.

Trauma Inventory. Because of our interest in assessing not only general traumatic experiences but also war/refuge specific traumas (because of the city's immigrant population), a new trauma inventory was developed. The general part of the inventory includes 17 yes or no questions based on frequently encountered PTEs in previous research (Table 1 includes all the items, for a copy of the questionnaire contact the first author) as well as an open-ended question instructing participants to describe their lifetime worst trauma. Clinical psychologists working with immigrant populations in Sweden formulated the questions with the objective of making them concrete and understandable (e.g., "Have you been forced to engage in a sexual act?" instead of "Have you been exposed to sexual abuse or rape"). This was done to avoid abstract phrasings and words like "rape," which may lead to underreporting of PTEs. The worst trauma question was asked last: "Of all those terrible events that you have experienced, which is absolutely the worst one?" The inventory also contained questions on the source of interpersonal PTEs (e.g., parent, sibling, other), perceived SES in relation to neighbors and classmates, child poverty experience, and knowledge regarding parental war experiences. Total score on the trauma inventory is the sum of positive (*Yes*) answers and can range from zero to 17. The war/refuge subscale was not used in this study because only five persons answered positively to experiencing war and further quantitative analyses were meaningless. When using the concept of emotional abuse in this paper we refer to nonphysical experiences of harassment and humiliation by a caregiver (parent or other) and to bullying and harassment in school or the community by persons known to the victim, such as peers or neighbors.

Children's Revised Impact of Events Scale (CRIES). This scale is a version of the Impact of Events Scale (IES; Horowitz, Wilner, & Alvarez, 1979) adapted for children and youth measuring occurrence and frequency of PTSD symptoms. In this study a recommended 8-item version was used (Perrin, Meiser-Stedman, & Smith, 2005) with questions on reexperiencing and avoidant symptoms (Yule, 1997). Scoring is self-administered on a 4 point scale (0 = *never*, 1 = *rarely*, 3 = *sometimes*, and 5 = *often*) and the total score is the sum of the answers. The cut-off score indicating pathological levels of posttraumatic stress is 17 or above

Table 1
Prevalence Rates (%) of PTEs

Trauma Inventory items	Total (N = 239)	Girls (n = 111)	Boys (n = 126)	Other (n = 2)
Witnessing				
Threats	66.4	59.1	73.0*	50.0
Physical abuse	42.9	28.2	55.6*	50.0
Sexual abuse	.0	.0	.0	.0
Torture	2.5	.0	4.8*	.0
Killings	3.4	1.8	4.0	50.0
Hearing about				
A significant other's PTE	66.8	70.0	64.3	50.0
Direct experience of				
Physical abuse	32.5	17.3	45.6*	50.0
Physical abuse by caregiver	12.2	13.6	11.2	.0
Unwanted sexual experience	2.5	3.6	1.6	.0
Captivity	6.3	1.8	9.5*	50.0
Seriously hurting or killing someone	4.2	1.8	6.3	.0
Emotional abuse or bullying by other	34.2	44.5*	25.6	.0
Verbal or emotional abuse by caregiver	16.9	20.9	13.6	.0
Natural disaster	10.1	10.9	8.7	50.0
Accident of any kind	27.8	21.1	32.5*	100.0
War-zone	2.1	1.8	2.4	.0
Other PTE not previously asked	35.2	39.1	32.3	.0
No experience of PTE	8.4	11.7	5.6	.0

Note. PTEs = Potentially traumatic events. Marked significant differences are between boys and girls.
* $p < .05$.

(Perrin et al., 2005). The CRIES-8 has shown to be a reliable and valid screening measure for children and youth (e.g., Verlinden et al., 2014). In our study $\alpha = .85$.

Adolescent Dissociative Experiences Scale (A-DES). This is an adolescent version (Armstrong, Putnam, Carlson, Libero, & Smith, 1997) of the Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986). It consists of 30 items describing dissociative experiences and is self-evaluated on a 0 (*never occurring*) to 10 (*always occurring*) scale. Studies have found the internal consistency to be high, with Spearman-Brown split-half coefficients ranging from .90 to .94, test–retest reliability between .77 and .91, and Cronbach's alpha from .92 to .94 (e.g., Farrington et al., 2001; Smith & Carlson, 1996). In this study $\alpha = .94$.

Analyses

Pearson's r was used for correlation analyses, t test for mean differences between two groups, and χ^2 for categorical variables. To analyze differences between groups while controlling for variables of interest and evaluate predictors of dissociation, multiple regression was used. Mean centering of interaction variables was used to reduce multicollinearity (Aiken & West, 1991). For moderation analysis, Hayes (2013) PROCESS macro, models one and three were used. This macro runs a series of OLS regressions with variable(s) of interest and their centered product terms. A 95% confidence interval was used for obtaining conditional effects. Simple slopes were obtained with Johnson-Neyman procedure for establishing regions of significance (Aiken & West, 1991). No transformations were needed. IBM SPSS version 21 was used with $p < .05$, two-tailed.

Results

Demographic Characteristics

The mean age of the participants was 15.9 ($SD = 1.6$ years, range = 13–20). They could report their gender as "girl," "boy," or "other/does not want to state," which resulted in 111 (46%) girls, 126 (53%) boys, and 2 (1%) other/does not want to state; 205 (86%) participants had been born in Sweden and the remainder came from other European and non-European countries. Immigrants (17 girls and 17 boys) had a mean age of 7.0 ($SD = 4.1$) at arrival and had lived a mean of 8.7 years in Sweden ($SD = 4.4$). Parental immigration (at least one parent had immigrated to Sweden) had occurred for 140 (59%) participants, corresponding to the demographics of the city where the study was conducted (60% of citizens under age of 24 have at least one parent who immigrated; Statistics Sweden, 2014).

Trauma Exposure

The prevalence of different PTEs is presented in Table 1. Only approximately 8% of the participants did not report any PTE, whereas 41% reported between one and three. Lifetime polyvictimization, defined here as four or more PTEs, was reported by 51% of the sample. Only one participant had experienced 10 or more PTEs. Boys reported significantly more PTEs than girls, and they had also been more exposed to witnessing and experiencing physical violence and accidents, whereas girls reported more emotional abuse and bullying outside the family, mostly by peers in school (85% of the cases). Older participants and those with parents who had experienced war reported more PTEs. Descriptive statistics as well as correlation analyses are presented in Table 2.

Descriptions of the worst traumas were qualitatively analyzed by creating descriptive categories. This resulted in 31 categories in which all answers could be categorized (see Table 3). In the next step, seven general themes were created by abstracting lower level categories into higher-level themes. The worst trauma themes included Interpersonal PTEs within the family, (a) primarily physical or (b) emotional act(s); Interpersonal PTEs by nonfamily, (c) primarily physical or (d) emotional act(s); Noninterpersonal PTEs, (e) primarily physical or (f) emotional act(s); and (g) No worst PTE. We differentiated between primarily physical or emotional acts even though of course physical abuse also has an emotional component. The worst traumas that involved any physical acts, such as being beaten up or being seriously ill, were categorized as primarily physical and distinguished from those traumas that were primarily emotional, such as being verbally harassed, witnessing

Table 2
Means, SD, and Zero-Order Correlations

Variable	1	2	3	4	5	6	7	8	9
1. Gender	—								
2. Age	.09	—							
3. Parental migration	.04	−.02	—						
4. Parental war exp.	.08	−.01	.53***	—					
5. Self-reported poverty	.11	−.07	.14*	.17**	—				
6. Subjective SES	−.01	−.07	−.08	−.08	−.28***	—			
7. Total sum of PTEs	.12#	.17**	.13#	.21***	.11	.05	—		
8. CRIES-8	−.34***	.07	−.07	.04	.12	−.18**	.28***	—	
9. A-DES	−.27***	−.08	.07	.13*	.16*	−.10	.34***	.46***	—
M (*SD*) Total (*N* = 237)	.53 (.50)	15.95 (1.65)	.59 (.49)	.49 (.50)	.04 (.20)	3.24 (.57)	3.65 (2.23)	11.29 (9.80)	1.68 (1.47)
M (*SD*) Girls (*N* = 111)	—	15.81 (1.58)	.57 (.50)	.44 (.50)	.02 (.13)	3.25 (.49)	3.35 (2.24)	14.92 (10.76)*	2.11 (1.78)*
M (*SD*) Boys (*N* = 126)	—	16.10 (1.69)	.61 (.49)	.52 (.50)	.06 (.25)	3.23 (.63)	3.90 (2.16)*	8.27 (7.69)	1.31 (1.00)

Note. Gender: Girls = 0, Boys = 1. Parental migration, Parental war exp., Self-reported poverty: No = 0, Yes = 1. Subjective SES: Very poor = 1, Poor = 2, Average = 3, Rich = 4, Very rich = 5. Exp = experience; SES = Socioeconomic status; CRIES-8 = Children's Revised Impact of Events Scale–8; A-DES = Adolescent Dissociative Experiences Scale; PTE = Potentially Traumatic Event.
$p = .06$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3
Qualitative Categorization

Themes	Categories
Primarily physical experiences	
Interpersonal experience in relation to family members	Sexual abuse involving physical acts by close family member or relative
	Physical abuse by a close family member or relative
Interpersonal experience not in relation to family members	Sexual abuse involving physical acts by other person than family member
	Experiencing violence or serious threats in the school or close community
	War-zone exposure
	Physical adverse experience not otherwise classified
Experiences that have not been mainly interpersonal	Injury/ Illness/ Medical intervention
	Accident
	Natural disaster
Primarily emotional experiences	
Interpersonal experience in relation to family members	Psychological or emotional neglect or abuse by a close family member or relative
	Experiencing domestic violence between caregivers and/ or siblings
	Experiencing domestic conflict between caregivers and/ or siblings
	Parental separation or divorce
	A family members' physical or mental illness
	Awareness of physical/ emotional/ sexual abuse towards a close family member
	Awareness of other adverse experience of a close family member
	Separation from close family member
	Loss of a close family member
Interpersonal experience not in relation to family members	Bullying or psychological abuse in school or close community
	Witnessing violence, serious threats or suffering in the school or close community
	Witnessing psychological abuse in the school or close community
	Relational or emotional or psychological adverse experience not otherwise classified
	A close others' experience of sexual abuse
	A close others' experience of violence/physical abuse
	Loss of a relative (by death)
	Loss of a close other (by death)
Experiences that have not been mainly interpersonal	Psychological or mental condition
No worst event noted	Does not want to state/Does not know/Nothing/Missing

community violence, or hearing about a dear one's sexual abuse. Even though we asked for one single worst trauma in respondents' lives, 10 participants reported multiple worst traumas and seven of those belonged to more than one theme. Only three participants stated sexual abuse as their worst lifetime experience, describing it as a physical act (e.g., involving contact), and thus it was categorized as primarily physical. At each stage, three researchers and licensed psychologists rated 20% of the content independently with satisfactory interrater correlation (>80%).

Dissociation, Posttraumatic Stress, and PTEs Exposure

As presented in Table 2, adolescent girls reported more DE and posttraumatic stress symptoms than boys. Participants, who reported having parents with experiences of war and own experience of childhood poverty, also reported higher rates of DE. A partial correlation analysis, controlling for gender, age, parental war experience, childhood poverty experience, and SES, was performed between the A-DES, CRIES-8, and total experienced PTEs. A-DES correlated moderately with total PTEs ($r = .40$) and with CRIES-8 ($r = .38$). Total PTEs also correlated with CRIES-8 ($r = .34$).

Trauma Type and Dissociative Symptoms

We investigated the relation between trauma type and dissociation with two different approaches: first by evaluating the answers on specific questionnaire items and second by statistically analyzing the qualitatively categorized worst PTEs in life.

To test whether having experienced emotional- and/or family-related abuse related to higher dissociation rates than physical abuse by family and nonfamily, we used the following items presented in Table 1: experiences of emotional and verbal abuse by family (40 yes replies, 17%), physical abuse by family (29 yes replies, 12%), emotional abuse and harassment by other (81 yes replies, 34%), mostly (85%) by peers in school, and physical abuse by other (77 yes replies, 33%). The regression analysis presented in Table 4, with A-DES as the dependent variable, gave a significant model with 34% (adjusted $R^2 = .341$) of the variance explained $F(10, 215) = 12.632$, $p < .0001$. Gender, age, total PTEs score, and CRIES-8 were significant covariates, whereas self-reported poverty was marginal ($p = .050$). Covariates were chosen on the basis of the results from the correlation analysis. The physical abuse variables were not significant predictors. Emotional abuse by family members was a significant predictor but not when controlling for total PTEs. The only significant predictor after controlling for PTEs was emotional abuse by others, indicating that those reporting emotional abuse by others, predominantly bullying and harassment by school peers, reported higher A-DES ($n = 81$, $M = 2.5$, $SD = 1.77$) than those without ($n = 156$, $M = 1.25$, $SD = 1.05$), equal variances not assumed, $t(110) = -5.67$, $p < .001$.

To investigate whether type of worst life-time PTE moderated the relation between total experienced PTEs and DE, we created

Table 4
Multiple Regression Analysis Predicting Dissociative Experiences

Variable	*B*	*SE B*	β
Gender	−.49	.19	−.17*
Age	−.12	.05	−.13*
Parental war experience	.19	.17	.07
Self-reported poverty	.80	.41	.11#
Sum score of general PTEs	.13	.06	.19*
CRIES-8	.04	.01	.25**
Physical abuse by family member	.06	.31	.01
Emotional abuse by family member	.41	.27	.10
Physical abuse by non-family member	−.11	.22	−.04
Emotional abuse by non-family member	.48	.21	.15*

Note. PTEs = Potentially Traumatic Events; CRIES = Children's Revised Impact of Events Scale.
$p = .05$. * $p < .05$. ** $p < .01$.

three dummy coded variables: (a) any of the three primarily emotional PTEs themes versus no worst PTE; (b) emotional versus any of the three primarily physical PTEs; and (c) physical versus no worst PTE. Categorization into these three groups of themes is presented in Table 3. Three 3-way interaction analyses were tested between total PTEs score, one of the worst PTE dummy variables, and gender. Age, parental war experience, self-reported poverty, and posttraumatic stress symptoms were used as covariates. Worst PTE group and gender were significant moderators between total experienced PTEs and dissociation both when comparing emotional to no worst PTE (B [95% CI] = −.57 [−.96 to −.18], SE = .20, $t = -2.90$, $p < .005$; Figure 1a), and emotional to physical abuse (B [95% CI] = −.84 [−1.37 to −.32], SE = .26, $t = -3.20$, $p < .005$; Figure 1b). The results showed that in adolescent girls, but not boys, stating a primarily emotional PTE as the worst life experience moderated and amplified the relation between total PTEs score and dissociation more than primarily physical PTE and no worst PTE. There was no three-way interaction in the final analysis when comparing physical and no worst PTE (B [95% CI] = .25 [−.20 to .70], SE = .23, t = 1.10, p = .28; Figure 1c).

Discussion

We evaluated PTE exposure, posttraumatic stress reactions, and dissociative experiences in a diverse multiethnic adolescent sample of a large Swedish city. Our results confirm the positive correlation between number of experienced PTEs and PTSD and dissociative symptomatology, supporting the first hypothesis. Furthermore, the results replicate numerous findings in gender differences, with higher self-ratings on PTE exposure by boys and higher posttraumatic stress in girls. In contrast to some studies, we found that girls reported more DE than boys. Also, primarily emotional traumas such as bullying among adolescent girls were more strongly linked to dissociation than physical ones.

Half of the participants reported lifetime poly victimization, that is, four or more PTEs. This is a high figure but in line with previous research including samples with more diverse life-conditions (Finkelhor, Ormrod, & Turner, 2009). More PTEs related to parental immigration and even more so to parental war experience. Older age, as in previous research (Finkelhor et al., 2009), related to more PTEs. Adolescents with more PTEs reported both more traumatic stress and dissociative symptoms, with higher prevalence rates among girls.

There was also a difference in how other life stressors related to posttraumatic stress symptomatology and dissociation. Posttraumatic stress symptoms were not related to any other demographic factor except lower self-reported SES, whereas higher rates of DE related to parental war experience and own experiences of child-

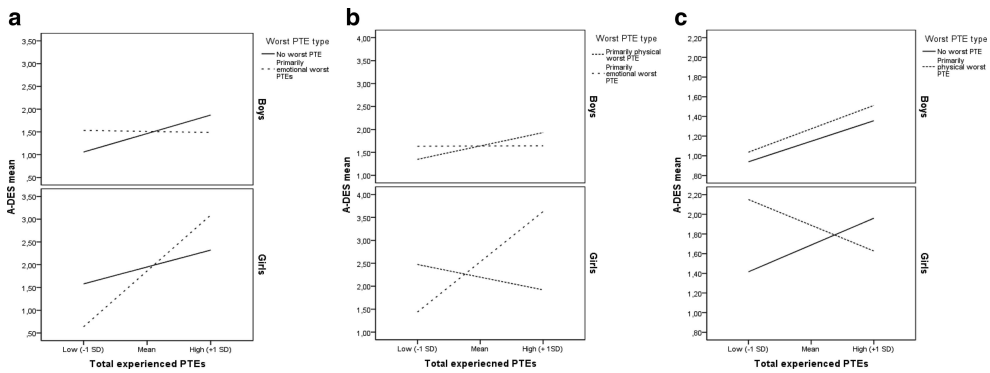

Figure 1. a–c. Interaction effect between type of worst lifetime PTE and total experienced PTEs on dissociative experiences, divided by gender. The simple regression equations and simple slope tests are as follows: (a) No worst PTE, $\hat{y} = 1.71 + (0.17)$Xc, Girls; $t = 1.30$, $p = .20$, Boys; $t = .18$, $p < .01$; Emotional, $\hat{y} = 1.69 + (0.27)$Xc, Girls; $t = 4.96$, $p < .0001$, Boys; $t = -.10$, $p = .92$. (b) Physical PTE, $\hat{y} = 1.92 + (3.93\text{E-}3)$Xc, Girls; $t = -.70$, $p = .49$, Boys; $t = 1.25$, $p = .21$; Emotional: $\hat{y} = 2.09 + (0.28)$Xc, Girls; $t = 4.84$, $p < .0001$, Boys; $t = 0.02$, $p = .98$. (c) No worst PTE, $\hat{y} = 1.42 + (0.11)$Xc, Girls; $t = .93$, $p = .36$, Boys; $t = 1.92$, $p = .06$; Physical, $\hat{y} = 1.58 + (5.39\text{E-}3)$Xc, Girls; $t = -.72$, $p = .47$, Boys; $t = 1.06$, $p = .29$.

hood poverty. Besides previous research indicating that children and adolescents from low-income households are at greater risk for experiencing multiple PTEs, and as a result, more mental health problems, there are a few longitudinal studies linking trauma-related dissociation to parental unresponsiveness and verbal abuse (e.g., Dutra, Bureau, Holmes, Lyubchik, & Lyons-Ruth, 2009). Parental war experience, and thus greater risk of traumatization in parents, may imply difficulties in responding to the child's needs whereas familial poverty, also a probable consequence of war and exile, may lead to more intrafamilial stress. These demographic factors could be related to DE in adolescents through the mechanisms discussed by Dutra and colleagues (2009).

An important finding was that reporting emotional abuse and bullying, mostly by peers in school, related to higher rates of DE even when controlling for age, gender, PTSD symptoms, and overall PTE exposure. This partly confirmed our hypothesis, although family-related emotional abuse was not related to more DE, which we had also hypothesized. One possible reason may be that our sample did not include individuals with attachment trauma or that our questions did not cover this issue. The reported family-related emotional abuse in our sample might instead be related to events during puberty, which may be easier for youth to report. There is nonetheless evidence that family related maltreatment, parental depression, and negative parenting behavior are related to adolescent experience of bullying (Beran & Violato, 2004; Lereya, Samara, & Wolke, 2013), indicating the need to develop more rigorous methods of investigating the relation between attachment trauma and bullying. However, our results are in line with a recent study showing that childhood bullying experience has similar and sometimes worse long-term mental health consequences in young adults than being maltreated (Lereya, Copeland, Costello, & Wolke, 2015). A possible explanation for this finding is that adolescence is an important transitional period in which caregiver attachment functions are shifted to peers, so peer approval may become more significant (Allen, 2008). Furthermore, a recent neuroimaging study of adolescents showed that reactivity to peer rejection increases with pubertal maturity in brain regions related to the identification of social stimuli and generation of affective states (Silk et al., 2014). A related finding in our study was that the primarily emotional worst PTEs in adolescent girls amplified the relation between overall PTE exposure and DE more than did primarily physical and no worst PTE. These results indicate that not only emotional abuse such as bullying but also primarily emotional lifetime worst traumas are more strongly linked to DE than primarily physical ones, even if we compare groups of adolescent girls with equally high PTE exposure. This is to our knowledge the first study with adolescents to show such results, supporting recent research with traumatized adult women and emotional abuse exposure (Haferkamp et al., 2015).

An explanation for why these results were only found in girls might be that women and men perceive stressful events differently (Caballo & Cardeña, 1997) and/or the former are affected differently by them (Bangasser & Valentino, 2014). Previous studies have found higher acute (Cardeña & Carlson, 2011) and long-term (Zona & Milan, 2011) rates of DE among females exposed to traumatic events compared with males, but no differences in normative samples (Farrington et al., 2001). Research on adults has shown no gender differences among nonclinical samples and somewhat inconsistent findings in clinical samples (e.g., Spitzer et al., 2003). Boys in our study, in line with Bevans, Bradshaw, and Waasdorp (2013), reported more primarily physical PTEs, such as accidents and physical violence, and therefore may have had a greater probability to appraise them as the worst PTE. This is supported by the peer-socialization theory and expectations on masculinity behavior (Rose & Rudolph, 2006). Boys may be expected to engage in dangerous behavior more often while at the same time not be socially encouraged to express the emotional consequences. The opposite may be true for adolescent girls. Another possible explanation for reported gender differences in PTE exposure and DE is gender role-expectation and learned feminine and masculine self-reporting behavior, with girls more prone to disclose negative emotional experiences including psychopathology whereas boys may report more external behaviors and events (e.g., Zona & Milan, 2011, found more DE among girls than boys but no differences in other types of posttraumatic reactions). Similar findings have been presented in adult depression research with men reporting fewer symptoms than women (Sigmon et al., 2005).

Several limitations of this study need to be acknowledged. First, this is a cross-sectional self-report study and no causal conclusions can be inferred. No attempts were made to diagnose participants with PTSD or a DD. Even if the sample size is sufficient for the statistical analyses used, there were limitations when analyzing subgroups and interaction effects. This might be an explanation for the different results with girls and boys. In our study, very few reported sexual abuse, thus we cannot evaluate how this type of abuse would relate to dissociation and compare it to experiences of physical and emotional abuse. Furthermore, we used a PTE questionnaire that had not been previously tested, although it showed construct validity and reliability. The inventory has a qualitative part specifically developed for this project and by developing our own inventory it was possible to state the questions in such a way that the population from which the sample has been recruited was familiar with the formulations, and well-established measures of PTSD symptoms (CRIES-8) and DE (A-DES) provided convergent validity for the PTE questionnaire.

Despite these limitations, our findings have important scientific, social, and clinical implications. First, the study demonstrates that more socioeconomically vulnerable adolescents with parents with migration and war experiences are at greater risk for experiencing more PTEs and reporting more dissociation. In societies with second-generation immigrants and children of war refugees, this should be acknowledged and addressed, both in schools and mental health services, to enable equivalent life opportunities. The second implication has to do with the importance of primarily emotional traumas for DE. This should be considered when screening for adverse life experiences in clinical settings, social work, and future research. Inventories that encompass specific questions on primarily emotional events are needed. The same applies to preventive work in preschools and schools, as a considerable part of the participants who experienced emotional abuse (especially girls) had this experience in school settings. Future research should attempt to include more diverse samples and age groups as well as specify the nature of trauma. A third implication has to do with gender, because an interaction effect was only found among girls. Future research on trauma might explain these differences by incorporating perspectives from gender studies. Gender socialization theory could be used to explore findings within trauma re-

search. The theoretical framework of how girls and boys are differently socialized can expand our knowledge and research designs.

In conclusion, our results contribute to the adolescent trauma research by presenting prevalence data on dissociative experiences in a diverse SES sample and finding greater dissociation among economical vulnerable and second-generation war refugee participants than a study in Sweden with a wealthier sample (Nilsson & Svedin, 2006). We also found that emotional abuse and bullying were more related to DE than physical abuse. Furthermore, subjective appraisals of worst lifetime PTE categorized as primarily emotional amplified the relation between PTE and DE among girls. Researchers and clinicians should attend to the magnitude and nature of emotional abuse and bullying among adolescents.

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ORIGINAL ARTICLE

Adolescents' Dissociative Experiences: the Moderating Role of Type of Trauma and Attachment Style

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Abstract This cross-sectional study evaluated the self-reported attachment style of 239 Swedish adolescents (ages 13 to 20) and investigated the relation between dissociation, attachment, and potentially traumatic events (PTEs). We had hypothesized that specific PTEs, including family-related emotional and physical abuse, sexual abuse, and emotional abuse by non-relatives such as bullying, would interact with insecure attachment styles leading to higher levels of dissociation. Results show that insecure attachment styles predicted dissociative experiences (DE) independently of PTE exposure. Dissociative experiences related more strongly to PTE exposure when the adolescent had an anxious attachment style. Our results also suggest that higher rates of DE are related to an interaction between insecure attachment styles and the experience of verbal harassment and bullying, mainly by peers in school. We conclude that the relation between trauma and dissociation is complex, with both type of trauma and attachment style interacting with dissociative phenomena.

Keywords Trauma · Dissociation · Attachment · Adolescence · Emotional abuse · Bullying

Attachment has been proposed to be an influential predictor of dissociation. Theoretical developments (e.g., Liotti 1999) and longitudinal research in this field (e.g., Sroufe et al. 2005) have confirmed that attachment patterns and very early life experiences play an important and possibly crucial role in the development of pathological dissociation. Our study evaluated self-reported attachment in an adolescent sample and investigated the relation between dissociation, attachment, and specific traumas.

Adolescent Dissociation

Dissociation has been shown to be prevalent across a variety of adolescent clinical populations (e.g., Carrion and Steiner 2000; Zoroglu et al. 2002). When conceptualized as a mental disorder, it is defined in the DSM-5 (The Diagnostic and Statistical Manual of Mental Disorders; American Psychiatric Association [APA], 2013, p. 291) as "a disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior," involving a wide range of developmental sensitive human abilities. Humans do not have the cognitive capacity to create a coherent self-structure until late adolescence, and it is through integration processes that higher-order self-concepts of oneself as a whole person with differing context-bound abilities develop (Harter 1999). With this in mind, dissociation must be developmentally contextualized, as proposed by Cardeña and Carlson (2011, p. 251) in their definition: "An experienced loss of information or control over mental processes . . . *in relation to the individual's age and cognitive development* (emphasis added)".

Trauma-Related Dissociation and Attachment

Trauma-related dissociation is a complex consequence of potentially traumatizing events (PTEs) with different trajectories from event to pathology (e.g., Pérez et al. 2016). Several

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researchers have proposed that attachment is an essential factor in its development (Liotti 1999; Putnam 1997). Attachment theory proposes that we form close emotional bonds for the purpose of survival, with early interaction between caregiver and the infant shaping such a bond. This interaction leads to the development of internal working models that shape the infant's prediction of the social environment (Bowlby 1973), and later during adolescence become overarching models that predict behavior (Allen 2008). These mental representations may result in an organized secure or insecure attachment, implying that the child experiences a stable action pattern when in distress and the response pattern from the caregiver is predictable. Secure attachment reflects a child and caregiver relationship in which children, when distressed, seek proximity and receive comfort and closeness until they feel safe (Ainsworth et al. 1978). Insecure attachment results from an insensitive or rejecting caregiver, leading to avoidant attachment (physically and emotionally avoiding the attachment figure, the child does not seek contact when in distress); or an inconsistent and overwhelming caregiver may give rise to anxious-ambivalent attachment (the child shows both dependent and rejecting behavior towards the attachment figure; Ainsworth et al. 1978).

In addition, researchers studying early-life maltreatment have identified a disorganized attachment pattern (DA; Main and Solomon 1986). Building upon research by Main and Hesse on DA (1990) and Putnam's discrete behavioral states theory (1997), Liotti (1999) developed a theoretical framework linking the basic processes of infant DA to pathological dissociation in adult life through later experiences of traumas. The DA pattern stems from the child's interaction with a primary caregiver who should provide relief from distress, but is, at the same time, the source of that distress, culminating in the development of fragmented internal working models. The latter subsume contradictory and irreconcilable representations of the self and of the attachment figure that cannot be integrated. When the child later in life is confronted with potentially traumatic experiences and the attachment system is activated, s/he is more likely to develop dissociative symptomatology due to fragmented and multiple experiences of self and others (Liotti 1999).

Assessing Attachment

The gold standard of attachment assessment involves the coding of spontaneous verbal narratives of early life and relationship experiences. The Adult Attachment Interview (AAI; George et al. 1985) is the most common assessment tool for this purpose. The interpretation of AAI transcripts was originally divided into attachment categories, but recent research has proposed a dimensional approach (Roisman et al. 2007). The Unresolved/disorganized attachment pattern (U/d) in the AAI has been linked to infant disorganized attachment and to later psychopathology. This pattern involves AAI narratives of abuse and/or loss that show signs of coherence disruption in either reasoning or discourse, as well as lapses in monitoring (Hesse and Main 2000). As an alternative, there are self-report questionnaires on attachment with both categorical and dimensional result outcomes, the Attachment Style Questionnaire used in this study (ASQ; Feeney et al. 1994) being one of them.

The Study of Attachment and Dissociation

Cross-sectional and longitudinal research studies on adults have confirmed the idea of DA and avoidant attachment patterns as a vulnerability factor for the development of dissociative disorders (DD; Sroufe et al. 2005). A few studies on adolescent samples confirm this link, with evidence that the unresolved attachment pattern predicts and mediates DD (West et al. 2001) and that late adolescent women with insecure attachment patterns, especially ambivalent, have higher rates of dissociation (Calamari and Pini 2003). A study with school-shooting survivors showed that securely attached adolescents had lower rates of PTSD and dissociation symptoms than those with insecure attachment styles (Turunen et al. 2014). Nevertheless, it is still unclear why some individuals exposed to traumatic events develop DD while others do not (Cardeña and Carlson 2011; Van IJzendoorn, and Schuengel 1996). Briere (2006) presented evidence that the statistical association between trauma and dissociation is quite small, although a later and more comprehensive review found a robust relation between those variables (Dalenberg et al. 2012). Nilsson et al. (2011) found that adolescents' self-reported avoidant and anxious attachments related more strongly to dissociative symptoms than trauma history. A few recent studies have investigated other types of trauma, showing that emotional abuse and neglect may be even more strongly linked to dissociative symptomatology than physical and sexual abuse (Dutra et al. 2009; Haferkamp et al. 2015). Thus, both attachment and emotional abuse seem to be relevant variables in dissociation research.

Study Rationale and Hypotheses

This study's overarching purpose was to investigate the relation between self-reported attachment, dissociative experiences (DE), and potentially traumatic events (PTEs) in a culturally and ethnically diverse adolescent sample. The study examines the importance of attachment on DE and how PTEs might interact with attachment and moderate the relation between total trauma exposure and DE. We hypothesized the following:

1a. Insecure attachment styles will predict DE after controlling for PTE.
1b. Insecure attachment styles will amplify the relation between PTE exposure and DE.
1c. Secure attachment style will dampen the relation between PTE exposure and DE.
2a. Experience of family-related physical and emotional abuse, verbal harassment and bullying by a non-relative, and sexual abuse will have the strongest predictive value of all PTEs on DE.
2b. Highly DE-related PTEs and high rates on insecure attachment styles will be additive in the prediction of DE, while high rates on the secure attachment style will dampen the relation.

Method

Participants and Procedure

We recruited a sample of 240 adolescents from two elementary (ages 13 to 15) and two upper secondary (ages 16 to 20) schools in a large Swedish multicultural city, chosen because they are representative of the city's socioeconomic and cultural diversity. Data collection was done during one visit to each class by the first author, a licensed clinical psychologist with an immigrant background. Students had the opportunity to ask her questions during the assessment and contact her afterwards if distressed. In case of reports of current or very recent abuse our policy was to contact the participant and encourage further help, and make a report to social services if the participant was a minor. Two participants were referred to treatment, but there was no need to contact social services. Written consent was collected prior to assessment including consent of the legal guardian for students under the age of 15. All but one student consented to participate, resulting in a final sample of 239 adolescents. The regional ethics board approved the study.

Measures

Demographic Information Questions regarding age, gender, migration history, parental background, and residence were solicited.

Trauma Inventory[1] A questionnaire of experienced PTEs was created for this project in order to cover both general PTEs and specific experiences of war (Gušić et al. 2016) because extant questionnaires do not include both with sufficient detail. Clinical psychologists formulated the questions so that they would be understood by a Swedish culturally and ethnically diverse adolescent population. In addition to PTE items, there were also questions on knowledge about parental exposure to war, childhood poverty experience, and subjectively perceived relative socioeconomic status (SES). The latter was assessed by asking how the participants had experienced their economic status (1 = *Very poor*, 2 = *Poor*, 3 = *Medium*, 4 = *Rich,* and 5 = *Very rich*) in relation to others around them, such as neighbors and classmates, while growing up. We analyzed only the general part of the inventory as only five persons answered that they had experienced war. The general part of the trauma inventory includes questions about 17 different PTEs. These are direct experience of: physical abuse outside the family, captivity, harming or killing someone else, sexual abuse, physical abuse by a family member, emotional abuse by a family member, verbal harassment or bullying outside the family, natural disaster, accident, war, and other trauma not previously mentioned (with the option to describe what kind of trauma). They also include witnessing: threats, physical abuse, sexual abuse, killings and torture, and hearing about a significant other's horrible experience. Scoring was done by indicating yes or no to each PTE and the total score ranged from 0 to 17.

Children Revised Impact of Events Scale (CRIES) This 8 items self-report scale (Yule 1997) measures posttraumatic re-experiencing and avoidance reactions in children and adolescents and is based on the Impact of Events Scale (IES) by Horowitz et al. (1979). It is reliable and recommended for screening purposes (Stallard et al. 1999). Scoring is done on a 4-point scale (0 = *Never*, 1 = *Rarely*, 3 = *Sometimes*, and 5 = *Often*) with a score of 17 serving as a cut-off for posttraumatic stress pathology (Perrin et al. 2005). Cronbach's alpha was .85 in the current study.

Adolescent Dissociative Experiences Scale (A-DES) Developed by Armstrong et al. (1997), this frequently used scale consists of 30 different descriptions of dissociative experiences. Scoring is self-administered by rating how often (0 = *Never* to 10 = *Always*) one experiences different DE. A mean score is calculated, with a score of 3.7 and above serving as an indication of a possible dissociative disorder (Armstrong et al. 1997). Internal consistency of the A-DES is high (Farrington et al. 2001; Smith and Carlson 1996). In this study Cronbach's alpha was .94.

Attachment Style Questionnaire (ASQ) Attachment was evaluated by a 40-item questionnaire, self-scored on a six-point scale (1 = *Totally Disagree* to 6 = *Strongly Agree*). The ASQ (Feeney et al. 1994) measures five dimensions of attachment: Confidence in Self and Others (8 items), reflecting secure attachment; Discomfort with Closeness (10 items) and

[1] The questionnaire in Swedish and English can be obtained from the first author.

Relationships as Secondary (7 items), reflecting avoidant and dismissing attachment; and Need for Approval (7 items) and Preoccupation with Relationships (8 items), reflecting preoccupied and anxious attachment. The ASQ has been used with adolescents and adults, and has acceptable reliability and validity (Feeney et al. 1994; Fossati et al. 2014). Its translation into Swedish has adequate psychometric properties, Cronbach's alpha ranging from .71 to .84 (Axfors 2014; Tengström and Håkansson 1997). Even if the AAI is the gold standard of attachment assessment, it has limitations when conducting research among adolescents with immigration background. As many of the adolescents in the current study do not speak Swedish at home or did as children, attachment assessment cannot rely on nuances of verbal material. Therefore, the ASQ was chosen because it evaluates current views of oneself and one's relationships, and has a dimensional approach, allowing for high scoring on seemingly contradictory scales. An advantage of the ASQ is that it has a scale that measures preoccupation with relationships, as both the preoccupied and the unresolved state of mind have been shown to belong to a joint dimension in the AAI (Roisman et al. 2007; Whipple et al. 2011). The ASQ has been previously used with adolescents, both in Sweden (Tengström and Håkansson 1997) and internationally (Fossati et al. 2014). In our study, alphas = .80 for the whole scale and .67 to .80 for the subscales.

Analyses

Pearson correlation coefficients were used to measure the relation between variables. For mean differences between groups, *t*-tests were used, and $\chi 2$ for categorical variable differences. Multiple regressions (hierarchical, with the enter method) were used to assess significant predictors of criterion variables. Interaction variables were centered prior to analysis and no multicollinearity was present. A SPSS macro, PROCESS model 3 (Hayes 2013) was used for the three-way analyses; it involves running multiple OLS regressions with mean centered variables. Conditional effects were obtained within a 95 % confidence interval. Regions of significance and simple slopes for the interaction analyses were obtained through the Johnson-Neyman procedure. No transformations or nonparametric statistics were necessary because the data were sufficiently normal. IBM SPSS version 21 was used with $p < .05$, two-tailed as the significance criterion.

Results

Demographic Characteristics

Mean age of the participants was 15.9 ($SD = 1.6$ years, range = 13–20). Out of the 239 participants, 111 (46 %) stated their gender as "girl" (mean age 15.8; $SD = 1.6$), 126 (53 %) as "boy" (mean age 16.1; SD = 1.7), and 2 (1 %) as other/does not want to state (mean age 14; SD = 0). Of the total sample, 34 (14 %, 17 girls and 17 boys) had immigrated to Sweden during their lifetime, with mean arrival age of 7.0 ($SD = 4.1$). Substantially more (140 participants, 59 %) had at least one immigrated parent, matching the population of the city, in which 60 % of citizens under age of 24 have at least one immigrant parent (Statistics Sweden 2014).

Self-Reported PTE Exposure, Dissociation, Posttraumatic Stress, and Attachment Style

Prevalence rates of all the different PTE items are presented in a related study (Gušić et al. 2016). Descriptive statistics of all measured variables of interest are presented in Table 1, while correlations are presented in Table 2. Older adolescents and those with war exposed parents reported more PTEs. Adolescents reporting poverty during childhood and parental war exposure had higher rates of DE; those with lower relative SES reported more posttraumatic stress symptomology. There were significant differences between girls and boys for all main measures, with girls reporting more DE and posttraumatic stress reactions and boys reporting higher overall PTE exposure. Ratings on the secure attachment scale (Confidence in Self and Others) did not differ between girls and boys, but girls reported higher levels on all insecure attachment scales except "Relationships as Secondary." Older participants reported higher preoccupation with relationships, while those with lower relative SES reported higher discomfort with closeness, preoccupation with relationships and lower confidence in self and others. Reported PTEs, dissociation, and posttraumatic stress correlated with each other, confirming that the trauma inventory is a valid measure of PTEs.

Attachment Style and Dissociation

A hierarchical multiple regression was performed predicting A-DES score while controlling for its correlates: gender, age, childhood poverty experience, SES, parental war experience, and posttraumatic stress symptoms (CRIES-8 score) in the first step. To examine the unique predictor value of trauma and attachment scores, total PTEs scores were entered into the second step, and all five ASQ subscales in the third. In the final step the interaction variables between total PTEs score and each of the attachment styles were entered. A highly significant final model (Table 3) emerged, F (17, 207) = 13.97, $p < .0001$, explaining 50 % of the variance (Adjusted $R^2 = .496$). Only two ASQ subscales, "Discomfort with Closeness" (DwC) and "Preoccupation with Relationships" (PwR), predicted A-DES. Gender, age, poverty, and CRIES-8 score were the only significant control variables. Total PTEs score added 7 % of the explained variance (R^2

Table 1 Descriptive Statistics

Variable	Total $N = 237$ $M(SD)$	Girls $N = 111$ $M(SD)$	Boys $N = 126$ $M(SD)$
PTEs total score	3.65 (2.23)	3.35 (2.24)	3.90 (2.16)*
Children's Revised Impact of Events Scale-8	11.29 (9.80)	14.92 (10.76)*	8.27 (7.69)
Adolescent Dissociative Experiences Scale	1.68 (1.47)	2.11 (1.78)*	1.31 (1.00)
ASQ Discomfort with Closeness	3.45 (.89)	3.62 (.92)*	3.32 (.82)
ASQ Relationships as Secondary	2.74 (.86)	2.61 (.88)	2.84 (.83)*
ASQ Confidence in Self and Others	4.46 (.89)	4.40 (.87)	4.52 (.90)
ASQ Need for Approval	3.25 (1.00)	3.56 (1.00)*	2.98 (.92)
ASQ Preoccupation with Relationships	3.28 (.99)	3.59 (.98)*	3.04 (.93)

PTE Potentially traumatic events. *ASQ* Attachment Style Questionnaire

* $p < .05$

change = .072, $p < .001$) whereas the attachment subscales added 15 % (R^2 change = .147, $p < .001$), showing that the mental representations of self and others categorized as discomfort with closeness and preoccupation with relationships had a stronger relation to dissociative experiences than trauma exposure.

The Moderating Role of Attachment Style The five interaction variables entered in the last step of the regression added 5 % (R^2 change = .053, $p < .001$) of variance with only the ASQ scale "Need for Approval" (NfA) being a significant moderator between total PTE exposure and A-DES score (see Table 3). "Preoccupation with Relationships" was the only additional significant moderator if the first dominant interaction variable was removed from the analysis, $B = .081$, $SE\ B = .041$, $\beta = .124$, $p < .05$, as these two ASQ scales correlated strongly with each other ($r = .67$). Figure 1 illustrates the impact of attachment position on the NfA scale (low on scale < −1 SD from mean, mean on scale ±1 SD, and high on scale > +1 SD from mean) on the relation between PTEs total score and A-DES mean score. PTE exposure correlated with DE among adolescents high on Need for Approval (NfA; $n = 44$), $B = .572$, $SE\ B = .119$, $r = .595$, $t(42) = 4.799$, $p < .001$, and those with mean scores on NfA ($n = 154$), $B = .124$, $SE\ B = .040$, $r = .245$, $t(152) = 3.117$, $p < .005$. The relation was significantly stronger, $t(194) = 3.57$, $p < .001$, among adolescents with high NfA scores. Participants low in NfA ($n = 40$) exhibited no relation, $B = .114$, $SE\ B = .060$, $r = .293$,

Table 2 Correlation matrix

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Gender	-												
2. Age	.09	-											
3. Childhood poverty	.11	−.07	–										
4. Subjective SES	−.01	−.07	−.28**	–									
5. Parental war exp.	.08	−.01	.17**	−.08	–								
6. Migration exp.	−.03	−.07	.09	.02	.20**	–							
7. PTEs total score	.12#	.17**	.11	.05	.21**	.10	–						
8. CRIES-8	−.34**	.07	.12#	−.18**	.04	.03	.28**	–					
9. A-DES	−.27**	−.08	.17*	−.10	.13*	.07	.34**	.46**	–				
10. ASQ - DwC	−.17**	.12	.09	−.14*	.05	.12#	.16*	.33**	.49**	–			
11. ASQ - RaS	.14*	.03	.07	−.07	.07	.06	.17**	.10	.28**	.49**	–		
12. ASQ - C	.07	−.06	−.07	.17**	.00	−.11	−.10	−.25**	−.27**	−.54**	−.28**	–	
13. ASQ - NfA	−.29**	.01	.03	−.10	−.08	−.06	−.00	.36**	.42**	.48**	.28**	−.35**	–
14. ASQ - PwR	−.28**	.17**	.08	−.15*	−.06	.02	.18**	.40**	.51**	.52**	.22**	−.34**	.67**

Gender: Girls = 0, Boys = 1. Childhood poverty, Parental war exp., Migration exp.: No = 0, Yes = 1. Subjective SES: Very poor = 1, Poor = 2, Average = 3, Rich = 4, Very rich = 5. *Exp* experience, *SES* Socioeconomic status, *PTE* Potentially Traumatic Event, *CRIES* Children's Revised Impact of Events Scale, *A-DES* Adolescent Dissociative Experiences Scale, *ASQ* Attachment Style Questionnaire, *DwC* Discomfort with Closeness, *RaS* Relationships as Secondary, *C* Confidence in Self and Others, *NfA* Need for Approval, *PwR* Preoccupation with Relationships

# $p < .08$. * $p < .05$. ** $p < .01$

Table 3 Hierarchical multiple regression predicting dissociative experiences, final model

Variable	*B*	*SE B*	β
Gender (Girls/Boys)	−.327	.162	−.114*
Age	−.154	.044	−.176**
Parental war experience	.193	.143	.068
Childhood poverty	.847	.380	.116*
Subjective socioeconomic status	−.011	.134	−.004
Children's revised impact of events scale – 8	.023	.008	.155**
PTEs total score	.165	.037	.256**
ASQ Discomfort with Closeness	.407	.116	.245**
ASQ Relationships as Secondary	.120	.096	.071
ASQ Confidence in Self and Others	.117	.095	.073
ASQ Need of Approval	.078	.100	.054
ASQ Preoccupation with Relationships	.274	.104	.187**
PTEs x ASQ Discomfort with Closeness	−.050	.050	−.068
PTEs x ASQ Relationships as Secondary	−.010	.045	−.012
PTEs x ASQ Confidence in Self and Others	.004	.042	.006
PTEs x ASQ Need for Approval	.181	.043	.295**
PTEs x ASQ Preoccupation with Relationships	−.033	.047	−.050

PTEs Potentially Traumatic Events. *ASQ* Attachment Style Questionnaire
* $p<.05$. ** $p<.01$

$t(38)=1.896$, $p=.066$. In other words, the relation between dissociative experiences and higher PTE exposure depended on having moderate to high NfA.

Attachment Style, Trauma Type, and Dissociative Experiences

We then performed a regression analysis to evaluate the predictive value of the 17 PTE items on DE, to later test the interactions between the significant predictors of DE and the attachment scales. We controlled for gender, age, childhood poverty experience, SES, parental war experience, and CRIES-8. This analysis yielded a significant model, F (22, 196) = 6.081, $p<.0001$, explaining 34 % of the variance (Adjusted $R^2=.339$). Three PTEs were significant predictors of DE: sexual abuse ("*Have you been forced to engage in a sexual act*?"), β = .15, $t(196)=2.59$, $p=.01$, verbal harassment and bullying (in 85 % of cases by school peers; "*Have others exposed you to bullying or emotional abuse and harassment, not including your family?*"), β = .20, $t(196)=3.08$, $p<.005$, and witnessing of killings ("*Have you ever seen someone get killed?*"), β = .16, $t(196)=2.58$, $p=.05$. Further interaction analyses of sexual abuse ($n=6$, 3 %) and witnessing of killings ($n=8$, 3.4 %) was excluded due to low *n*. Verbal harassment and bullying, mostly by school peers (85 %), was reported by 81 participants (34 %), with girls (44.5 %) reporting significantly more of this type of PTE than boys (25.6 %), χ^2 (2, $N=237$) = 10.38, $p<.01$.

Next, we evaluated three-way interactions between experiencing verbal harassment and bullying, five attachment scales (Discomfort with Closeness, Relationships as Secondary, Confidence in Self and Others, Need of Approval and Preoccupation with Relationships), and their

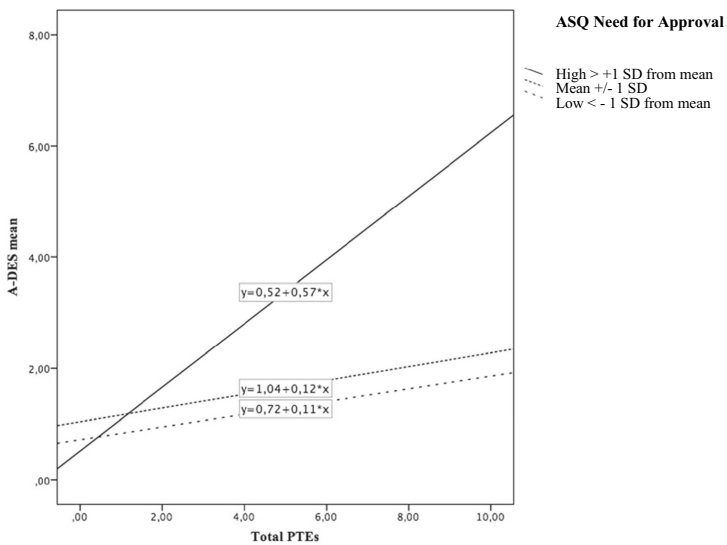

Fig. 1 The Relation Between Dissociation and PTE Exposure Moderated by Need for Approval Score. The linear relation between Adolescent-Dissociative Experiences Scale (A-DES) and total Potentially Traumatic Events (PTEs) categorized by high, mean, and low scores on the Attachment Style Questionnaire (ASQ) scale Need for Approval

impact on the relation between total PTE exposure and DE. We controlled for gender, age, childhood poverty experience, SES, parental war experience, and CRIES-8, as well as the four attachment scales not being tested to keep the regression model similar to the one testing two-way interactions.

Having experienced verbal harassment and bullying interacted with the attachment style "Discomfort with Closeness" (DwC) and moderated the relation between number of experienced PTEs and DE (Fig. 2a), B [95 % CI] = .20 [.02 to .38], SE = .09, $t(206) = 2.19$, $p = .03$; simple regression equations, low on DwC: $\hat{y} = 1.44 + (0.13)X_c$, mean: $\hat{y} = 1.66 + (0.12)X_c$, and high: $\hat{y} = 1.88 + (0.12)X_c$. Age, CRIES-8 and "Preoccupation with Relationships" were significant covariates ($p < .05$). For adolescents with high scores on DwC who had experienced verbal harassment and bullying, PTEs correlated with DE, $b = .22$, $SE = .08$, $t(206) = 2.70$, $p < .01$, while for those without experiences of verbal harassment and bullying, it did not, $b = .02$, $SE = .09$, $t(206) = .22$, $p = .82$. Participants with low rates on DwC with reported verbal harassment and bullying experience did not show a relation between experienced PTEs and DE, $b = .06$, $SE = .11$, $t(206) = .53$, $p = .60$, whereas for those who also had low rates on DwC but no harassment and bullying, PTEs correlated with DE, $b = .20$, $SE = .06$, $t(206) = 3.59$, $p < .001$. In other words, for adolescents high on discomfort with closeness, trauma exposure and dissociative experiences were related only if they also reported experiencing peer emotional abuse. Trauma exposure and dissociative experiences were not related in adolescents low on discomfort with closeness reporting peer emotional abuse, and related significantly in those with no experience of peer emotional abuse.

There was also a marginal three-way interaction between experience of verbal harassment and bullying, the scale "Preoccupation with Relationships" (PwR), and PTEs (Fig. 2b), B [95 % CI] = .19 [−.02 to .40], SE = .11, $t(206) = 1.80$, $p = .07$; simple regression equations, low on PwR: $\hat{y} = 1.43 + (0.03)X_c$, mean: $\hat{y} = 1.66 + (0.10)X_c$, and high: $\hat{y} = 1.90 + (0.17)X_c$, so the following analyses should be considered only suggestive and require confirmation. For adolescents with experience of verbal harassment and bullying and high scores on the PwR, PTEs correlated with DE, $b = .27$, $SE = .09$, $t(206) = 3.00$, $p < .01$, while for those with high PwR scores but without experience of verbal harassment and bullying, PTEs did not correlate with DE, $b = .08$, $SE = .09$, $t(206) = .89$, $p = .38$. Adolescents with low ratings on this attachment scale and no experience of verbal harassment and bullying showed also a positive relation between total PTEs and DE, $b = .12$, $SE = .05$, $t(206) = 2.35$, $p < .05$, while those who had experienced harassment/bullying did not, $b = -.07$, $SE = .17$, $t(206) = -.39$, $p = .69$. Age, CRIES-8 and "Discomfort with Closeness" were significant covariates ($p < .05$). In sum, high ratings on DwC and PwR, indicating insecure attachment, together with the experience of verbal harassment and bullying, enhanced the relation between PTE exposure and DE. We also performed the same two regression analyses separately for boys and girls, to evaluate potential gender differences. The first analysis resulted in a significant model for girls, F (20, 83) = 4.187, $p < .001$, explaining 38 % of the variance (Adjusted $R^2 = .382$), and for boys, F (21, 93) = 3.294, $p < .001$, explaining 30 % of the variance (Adjusted $R^2 = .297$). Verbal harassment and bullying, in both girls, $\beta = .20$, $t(83) = 2.09$, $p = .04$, and boys, $\beta = .21$, $t(93) = 2.12$, $p = .04$, was a significant predictor of DE. PTEs that additionally predicted DE in girls were: sexual abuse, $\beta = .21$, $t(83) = 2.45$, $p = .02$, having been in captivity, $\beta = .18$, $t(83) = 2.11$, $p = .04$, and witnessing of killings $\beta = .21$, $t(83) = 2.59$, $p = .02$. In boys, witnessing of threats also predicted DE, $\beta = .23$, $t(93) = 2.13$, $p = .04$. There were no other three-way interactions when testing verbal harassment and bullying in boys and girls, and witnessing of threats in boys. The other PTEs were reported by fewer than 10 participants and not further analyzed.

Discussion

The results show that self-reported insecure attachment, characterized by preoccupation with relationships and discomfort with closeness, was a stronger predictor of dissociative experiences than trauma exposure. Moreover, a high need for approval (indicating an anxious attachment style) moderated and enhanced the relation between trauma and dissociative experiences. Finally, mental representations of self and other that imply insecure attachment interacted with specific traumas (e.g., peer emotional abuse) to enhance the relation between trauma exposure and dissociative experiences.

Self-Reported Attachment Style and Trauma-Related Dissociation

Dissociation, posttraumatic stress symptoms, and PTE exposure related to higher rates on most or all of the scales of insecure attachment. Experiencing oneself as poor during childhood was related to lower scores on the secure attachment scale and higher on the insecure scales. As anticipated in hypothesis 1a, high scores on "Discomfort with Closeness," indicating avoidance, and "Preoccupation with Relationships, " indicating relationship anxiety, predicted higher scores on DE even when controlling for covariates (number of PTEs, posttraumatic stress symptoms, age, gender, childhood poverty experience, relative SES, and parental war experience).

Although the ASQ does not include a specific scale for disorganized attachment, there is evidence from studies on the AAI that attachment preoccupation may be related to disorganization (Roisman et al. 2007; Whipple et al. 2011). With this in mind and because previous research has linked

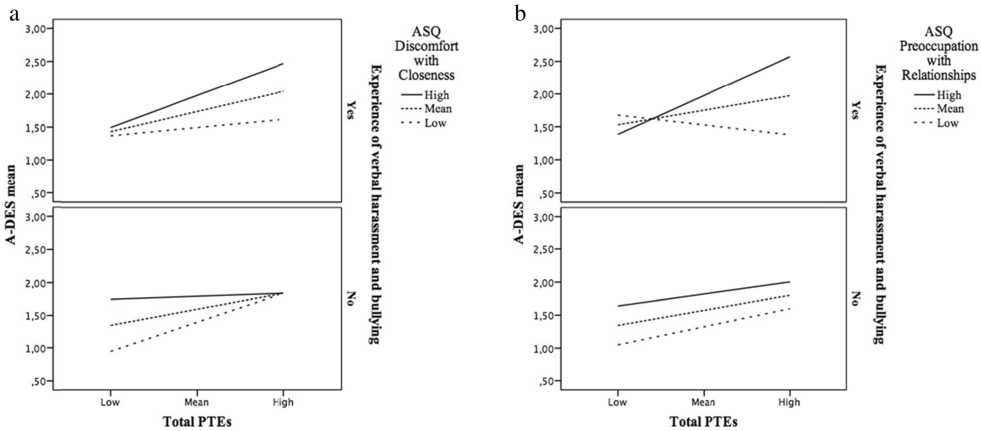

Fig. 2 **a**–**b**. Three-way Interaction Between Trauma Exposure, Peer Emotional Abuse, and Insecure Attachment. Simple slopes plots for the two analyses of three-way interactions between two insecure attachment scales measured by Attachment Style Questionnaire (ASQ), report of verbal harassment and bullying mostly in school and total experienced Potentially Traumatic Events (PTEs) on the Adolescent-Dissociative Experiences Scale (A-DES) mean score

dissociative processes in the aftermath of trauma to infant disorganization (Liotti 1999), the ASQ preoccupation scale is a plausible proxy for more disorganized attachment patterns. Research with the ASQ on adolescents scoring high on a borderline personality disorder inventory showed that they are preoccupied with relationships and with a great need for approval, while experiencing high discomfort with closeness, which may indicate an ambivalent strategy for dealing with relationships, possibly reflecting a more disorganized attachment as well (Fossati et al. 2014). Nevertheless, our data cannot evaluate if high scores on these two scales indicate that disorganized attachment in infancy, or an ambivalent attachment pattern in adolescence, are linked to trauma-related dissociation.

Our findings extend previous work showing that insecure attachment mediates trauma-related dissociation (Calamari and Pini 2003; West et al. 2001); whereas attachment style accounted for 15 % of the unique variance in DE, trauma exposure accounted only for 7 %, in line with van Ijzendoorn and Schuengel (1996) and Briere (2006) results. Thus, adolescents' inner models of self and others may be a more important factor to the development of dissociation than traumatic experiences.

Interestingly, when examining the moderating role of attachment style, high ratings on need for approval amplified the relation between total PTEs and DE in line with hypothesis 1b. The "Preoccupation with Relationships" scale was a moderator if "Need for Approval" was removed from the analysis, suggesting that they both tap into anxious attachment. This interaction accounted for an additional 5 % of variance in DE. As proposed by Mikulincer and Shaver (2007), individuals with high attachment anxiety may deal with threat-related information through specific sentinel schema-scripts leading to vigilant responses, potential stress-related pathology (Ein-Dor et al. 2011), and possibly dissociation in the presence of trauma.

Even though secure attachment has been suggested as a protective factor in the face of trauma exposure (Nilsson et al. 2011; Turunen et al. 2014), our study did not find a dampening effect of the "Confidence in self and others" scores on the relation between PTEs and DE (hypothesis 1c). However, those with low self-ratings on anxious and preoccupied attachment scales (which may indicate more secure attachment patterns) did not exhibit a relation between trauma and DE, in line with the results of Nilsson et al. (2011).

The Nature of Trauma, Self-Reported Attachment, and Trauma-Related Dissociation

The results partially support hypotheses 2a and 2b. Only reports of school-related verbal harassment and bullying interacted with the attachment scales measuring discomfort with closeness and preoccupation with relationships, yielding a stronger positive relation between number of experienced PTEs and DE. These results indicate that trauma-related dissociation may have a complex genesis, involving an alternating interaction between type of trauma and attachment style. A possible interpretation is that early negative emotional experiences lead to a more negative appraisal of inter-peer relationships, leading to negative and ambivalent views of oneself and others in adolescence. Prior research has shown that experiencing bullying is predicted by insecure attachment

style (Kokkinos 2013). Bullying and verbal harassment may reinforce those early experiences resulting in more severe effects of traumatic incidents and higher rates of dissociation.

Contrary to our expectations, we did not find a similar pattern regarding the experience of physical and emotional abuse within the family. There are several plausible reasons for this, one being that PTE items may have included milder events that might not be properly defined as abuse. This could have led to over-reporting of family-related abuse. It could also be that participants were more willing to acknowledge abuse by others than by one's own family.

Finally, trauma exposure and posttraumatic stress symptom differences between boys and girls in our study are in line with previous research with boys reporting more PTEs but girls reporting more PTSD-symptoms (Tolin and Foa 2008). Dissociative experiences rates were higher in girls than boys, in line with studies on more diverse samples (Zona and Milan 2011), although other studies have reported no differences (Farrington et al. 2001). Gender was a significant covariate in our moderation analysis, but when doing follow-up analyses with girls and boys separately, we did not find significant interactions. One reason may be the low statistical power when dividing the sample. Another possible explanation is that the interaction between emotional peer abuse and self-reported insecure attachment may be independent of gender, even if girls as a group report more emotional peer abuse and higher rates of anxious and ambivalent attachment styles.

Girls in our study reported more bullying and harassment and may therefore also perceive their relationship to self and others as more insecure. Rose and Rudolph (2006) proposed that girls are socialized to highly value dyadic friendships and are more prone to define themselves in terms of relationships. Reported differences in attachment self-ratings may also reflect a real distinction as studies show that gender differences in reported attachment start to emerge in late childhood and early adolescence as the peer network expands (Rose and Rudolph 2006). Previous studies have also shown that adolescent girls experience greater exposure to peer stress, accounting for some gender differences in anxiety and depression (Rudolph 2002). On the other hand, studies on biological markers for psychopathology have proposed that hormonal and neural sensitivity changes during puberty result in higher sensitivity for negative stimuli, resulting in more internalizing symptoms among girls and lower sensitivity and more externalizing symptoms among boys (Martel 2013; Yuan et al. 2014).

Limitations, Implications and Suggestions for Future Research

First and foremost, this is a cross-sectional study and no causal inferences can be made. Second, low rates of reported sexual abuse among our participants meant that we could not specifically analyze how that type of abuse would relate to dissociation and attachment. This low prevalence could accurately reflect the true condition of this sample, or indicate that when interviewed by a stranger, and with potential legal consequences, many were unwilling to reveal at least some of their private and traumatic experiences. Nonetheless, the fact that the overall pattern of results was consistent with our hypotheses and much of the previous literature, we believe that the data overall can be trusted. Third, the trauma inventory used is a new measure but was formulated carefully for this investigation with the advantage that this diverse sample could likely understand the items and answer them validly. Although, it yielded associations between PTE exposure, DE, and PTSD-symptoms consistent with previous research, the measure needs further validation. A fourth limitation of this study is the reliance on self-reports, which may lead to a common methods bias that inflates the correlations between measured variables. Finally, to enable a broad recruitment of participants, including a large proportion of adolescents with immigration background, we could not use an attachment measure, such as the Adult Attachment Interview based on analyses of spontaneous language.

A central clinical implication of this study is the importance of screening for attachment styles and emotional abuse, especially bullying, among high PTE exposure groups. This study builds on previous research that attachment style and the way adolescents view themselves and others may have an impact on the appraisal of PTEs and their psychological consequences. Our results raise the important question of contextualizing traumatization in order to understand the effect of PTEs and how dissociative processes develop. Additional research that more systematically investigates bullying as a serious traumatic event in the context of peer attachment and its relation to posttraumatic stress and dissociation is recommended. In sum, these results suggest that the relation between trauma and dissociation is complex, depending on the interaction between specific traumatic experiences and attachment pattern.

Conclusions

This study shows that insecure self-reported attachment styles, possibly indicating an ambivalent or even disorganized attachment strategy, are related to DE among adolescents, independently of PTE exposure, and that anxious attachment styles moderate the relation between PTE exposure and DE. Our results also suggest that higher rates of DE are related to an interaction between attachment style and the experience of verbal harassment and bullying, mainly by peers in school. Effort should be made to thoroughly assess different types of emotional abuse, with specific attention to peer abuse, as well as its interaction with insecure working models about oneself

and the world. Doing so will help us understand the development of dissociation in the aftermath of different types of trauma, as mediated by (the more distal) styles of attachment.

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Study III

Dissociative Experiences and Trauma Exposure among Newly Arrived and Settled Young War-Refugees

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Abstract

War-traumatized refugee adolescents are a vulnerable and under-studied group. In this study two different groups of war-traumatized youth (N = 77) resettled in Sweden (newly arrived refugee adolescents, n = 42, 13-19 years, and settled students with childhood war experiences, n = 35, 11-18 years) were evaluated on their war experiences, refugee journey, general trauma exposure, posttraumatic stress symptoms, and dissociative experiences. Both groups had experienced many traumas and a substantial proportion reported pathological levels of posttraumatic stress (71% in the newly arrived group and 34% among the settled students) and dissociation (36% and 23%, respectively). The study also provides information about the type of adverse events that are experienced by war-refugee adolescents, including their own subjective appraisal of the worst events. The results show that the extent of trauma exposure and posttraumatic and dissociative symptomatology among refugee adolescents is considerable even after a period of resettlement, a finding that has educational, clinical, and social implications.

Keywords: war, refugee, dissociation, posttraumatic stress, adolescents

Sadly, by the end of 2015 63.5 million individuals, half of them youth under the age of 18, had fled their homes because of human rights violations (United Nations High Commissioner for Refugees, [UNHCR], 2016). Only a minority of them has sought asylum in Western countries, and those who have face challenges that include the adverse consequences of war related potentially traumatic events (PTEs; Dimitry, 2012) and resettling in a new and unknown environment. This study includes two different youth groups of similar ages resettled in Sweden to investigate previously understudied war/refugee trauma-related consequences such as dissociative experiences (DE) and posttraumatic stress. The two groups provide a more diversified understanding of refugee youth as they have experienced PTEs and resettlement at different age and development periods, and have come from different countries. In lieu of a longitudinal analysis, whose logistics would be considerably more difficult and which has not been conducted so far, comparing cross-sectionally these two groups can give some insight on the psychological health of newly arrived refugees and its course after resettlement.

Psychological Consequences of Trauma during War and Refugee Journey

Psychological consequences of war include both the direct effects of PTEs and indirect effects of lack of emotionally supporting adults, safe possibilities to play and learn, and other important factors for a good development into adulthood. Besides war-related PTEs, many refugees from the Middle East and North Africa experience a very dangerous journey when seeking safety in Europe, but seldom acknowledged and asked about. Global studies among war-affected youth have shown that posttraumatic stress disorder (PTSD) is especially prevalent (Dimitry, 2012). Studies of children and adolescents in Arab countries affected by military conflict show a PTSD prevalence range between 35-50% (Baddoura & Merhi, 2015). In addition, studies with unaccompanied refugee minors (URM) showed that ≈40-50% met the criteria for PTSD at arrival, one, and two years following resettlement (Smid, Lensvelt-Mulders, Knipscheer, Gersons, & Kleber, 2011; Vervliet et al., 2014).

Trauma-related dissociation. Beyond the well-known PTSD, pathological dissociation has been linked to trauma exposure across different cultural contexts (e.g., Francia-Martínez, de Torres, Alvarado, Martínez-Taboas, & Sayers, 2003; Şar, Önder, Kılınçaslan, Zoroğlu, & Alyanak, 2014), with some scholars even suggesting that PTSD is a form of trauma-related dissociation (Van der Hart, Nijenhuis, & Steele, 2006), and a new type of PTSD in the DSM-5, dissociative PTSD (American Psychiatric Association, 2013). Dissociation has been defined as a complex psychophysiological process that disrupts the accessibility and

integration of memory, knowledge, behavior, and a sense of self in relation to development (Putnam, 1994). The traumatized individual can suffer from diverse DE, including depersonalization, derealization, and psychogenic amnesia. The common factor is that the individual experiences loss of information and/or control over mental processes that ordinarily are available/controllable (Cardeña & Carlson, 2011). Resettled refugees have often been exposed to severe trauma, but the few studies of refugee youth that have mentioned dissociation have not evaluated DE (Brennen et al., 2010; Kira, Lewandowski, Somers, Yoon, & Chiodo, 2012). To our knowledge, only one study has specifically investigated DE among war-traumatized adolescents, although not with an experience of resettlement. Ghannam and Thabet (2014) evaluated 400 Palestinian youth in Gaza, 15-18 years of age, and reported that they had an increased risk of DE as a consequence of war. The authors also concluded that these symptoms had impacted negatively on their psychological resilience. The lack of research on this subject is especially problematic as unassessed dissociation may hinder PTSD-treatment (Bae, Kim, & Park, 2016; Kleindienst et al., 2016) or be otherwise misdiagnosed and mistreated (Silberg & Dallam, 2009). For instance, a study concluded that war-traumatized 10 to 13-year olds in Gaza, Palestine with high rates of peritraumatic DE did not benefit as much from a psychosocial school-based intervention as those with low rates (Qouta, Palosaari, Diab, & Punamäki, 2012).

Rationale and Aims

An important part of providing good resettlement is awareness of the needs of refugees, including the mental health consequences of war. The purpose of this study was to investigate the prevalence of DE in resettled refugee youth and their relation to PTEs and PTSD symptoms. Another goal was to investigate the diverse trauma context of resettled refugee youth and what types of PTEs they found most distressing. To compare newly arrived youth with those who had been resettled for some time, we included two different groups of adolescents who had immigrated to Sweden: newly arrived refugees and a group that arrived to Sweden during their early childhood and has been settled in Sweden for years. As their war and refugee experiences occurred at different age and development periods, we could provide more information about DE and PTSD in varying refugee groups, while at the same time having a view of the extent of problems for those newly arrived and those who had been resettled for years at similar ages. We hypothesized that individuals with higher reports of total and war/refugee related PTEs would score higher on measures of PTSD and dissociation, and that those recently arrived, with a more recent history of PTEs, would be more likely to have more problems than

those who had been in a more stable context for years. The study was approved by the Regional Ethics Board.

Method

Participants and Procedure

Group 1 (Newly arrived). Participants (n = 42; ages 13-19) were newly arrived war exposed adolescents (67%, n = 29, possessed a Swedish permanent residency permit) recruited before initiating any treatment through a center for war victims and homes for URM. The first author, a psychologist, administered the questionnaires individually, in interview form, using professional interpreters. This was done in order for the translation to be accessible to the informants, to monitor their reactions, and not to rely on literacy as many of them came from countries without a working educational system or had not attended school. The first five adolescents participated in a pilot part of an interview study, where they were only administered A-DES and the questions on demographics (Gušić, Malešević, Cardeña, Bengtsson, & Søndergaard, 2017). We chose to include them in the A-DES data in the present study as this is an understudied area and their answers were valuable, thus the sample size for the remaining measures is 37.

Group 2 (Settled students). Participants (n = 35; ages 11-18) were recruited from four public schools in a big Swedish city. Experiencing war at age four or older was chosen as one of the inclusion criteria to ensure episodic memories of war, as was participating in normative Swedish school curriculum to ascertain proficiency in Swedish. All possessed a residency permit. Information about the study was distributed via teachers or the first author after permission from school principals during one-day visit in each school. Because of the study's sensitive nature and in order to respect the students' integrity, they were informed about the study and the inclusion criteria, and invited to participate by showing up at a specific time for data collection. They filled out the forms in the presence of the first author.

Measures

Demographics. Information about gender, age, and migration history was collected. Participants were asked if they had experienced childhood poverty (defined as lack of food, clothes, or shelter), child labor, and their subjective and relative socioeconomic status (SES; 1 = *very poor*, 2 = *poor*, 3 = *average*, 4 = *rich,*

and 5 = *very rich*) by answering "While growing up, how poor or rich was your family in comparison with others around you (e.g. your class-mates, neighbors)?" As the participants fled from different socioeconomic backgrounds, it made sense to compare their own experience of poverty and SES in relation to their own context.

War/Refugee and General Trauma Inventory. The first author developed this inventory (Gušić, Cardeña, Bengtsson, & Søndergaard, 2016a), partly inspired by the Childhood War Trauma Questionnaire (CWTQ; Macksoud, 1992). This approach was chosen as there was a need for a detailed but not too lengthy inventory that included both specific questions on war and refugee journey in civilian youth that reflects the contemporary refugee situation, as well as questions on general PTEs. The inventory also contains a worst trauma item, asked last: "Of all those terrible events that you have experienced, which is absolutely the worst one?" and follow up questions such as whom one has lost in war and what kind of harassment one has experienced. The inventory contains 28 items (Table 1), 16 general PTEs, and 12 war/refugee related.

Children's Revised Impact of Event Scale (CRIES). CRIES measures PTSD symptoms during the last month in relation to the PTE (Children and War Foundation, 2005). It consists of 13 items on re-experiencing, avoidance and arousal, and is self-rated on a 4-point scale (0 = *never*, 1 = *rarely*, 3 = *sometimes*, and 5 = *often*). It has been used in war-affected countries and has reliable psychometric properties (Perrin, Meiser-Stedman, & Smith, 2005; Smith, Perrin, Yule, Hacam, & Stuvland, 2002). The cutoff indicating PTSD is a sum of 30. Cronbach's alphas were .68 in the newly arrived and .87 in the student group.

Adolescent Dissociative Experiences Scale (A-DES). A-DES (Armstrong, Putnam, Carlson, Libero, & Smith, 1997) is a self-report questionnaire with 30 descriptions of DE, rated on an 11-point scale (0 = never to 10 = always). A mean of 3.7 or higher suggests pathological levels of dissociation (Armstrong et al., 1997). The A-DES has been translated into different languages and tested in different clinical, non-clinical, and cultural contexts with children and adolescents aged 11 to 19, and has showed good psychometric properties (e.g., Brunner, Parzer, Schuld, & Resch, 2000; Farrington, Waller, Smerden, & Faupel, 2001; Şar et al., 2014). Cronbach's alphas in the present study for the two groups were .94 and .96.

Analyses

For mean differences, two-way ANOVA, and Tukey tests were used; the $\chi 2$ test was used to examine categorical variable differences, but when groups were small Fisher's exact test was used. For evaluating relations between variables, we used Pearson correlations. IBM SPSS version 21 was used with $p < .05$, two-tailed.

Nine descriptive worst life-event categories were created to be as straightforward and descriptive as possible, as well as presenting the data in an optimal way and enabling all events to be categorized. The events were assessed based on a number of criteria: war-related (1) or not (2), if the adolescent was a direct victim of a primarily physical (3) or emotional (4) experience, if they involved sexual or physical abuse by a caregiver or close relative (5), or loss by death or separation of a significant person (6). Events where others were the main victim were categorized either as "witnessing human suffering" (7) or "adverse event of a significant person" (8). The final category included the non-responders (9). The categories are not exclusive and a response can for example be both war-related and involving a loss. Some of the participants also reported two or three worst lifetime events.

Results

Demographics and Living Conditions.

Group 1. Of the 42 adolescents, mean age 16.1 (SD = 1.5), 26 (62%) were boys. The majority (n = 31, 74%) had arrived as URM, mean age on arrival was 15.2 (SD = 1.3). Afghanistan was the most frequent land of origin (n = 26, 60%), followed by Somalia (n = 7, 16%) and Syria (n = 3, 7%). The rest originated from Middle East and North Africa. The relative SES mean was 2.8 (SD = .64), n = 23 (55%) reported growing up poor, and n = 22 (52%) had worked as children, starting at age of M = 10.6 (SD = 3).

Group 2. Participants (n = 35) had a mean age of 14.8 (SD = 1.4), 24 were boys (69%). All participants had arrived to Sweden with their families. Mean age on arrival was 7.4 (SD = 2.9), with 54% (n = 19) coming from Iraq, 17% (n = 6) from Lebanon, and the rest from other Middle East countries. The relative SES mean was 3.1 (SD = .83); n = 13 (37%) reported growing up poor, and n = 3 (9%) reported child labor.

Trauma Exposure and Trauma-related Psychopathology

Group 1. The majority (71%, n = 30) scored above the cut off suggesting PTSD and a third (36%, n = 15) above the cut off for dissociative psychopathology. Type of experienced PTEs and mean scores for the measured variables are presented in table one and two. The four A-DES items with the highest means (> 4) were: "When I am somewhere I don't want to be, I can go away in my mind" (10), "I

feel like my past is a puzzle and some of the pieces are missing" (27), "I can do something really well one time and then I can't do it at all another time" (4), and "I look at the clock and realize that time has gone by and I can't remember what has happened" (8). As the rating was done through an interview it is worth mentioning that some of the adolescents spontaneously commented on item 27 that the "missing parts" referred to missed childhood opportunities.

Table 1.

Frequencies and Prevalence Rates (%) of Trauma Inventory Items.

Type of PTE	Newly arrived *N* (%)	High School students *N* (%)
Primarily general PTEs		
At any point in life direct experience of:		
Physical abuse	31 (74)*	9 (26)
Captivity	21 (50)*	4 (11)
Seriously hurting or killing someone	2 (5)	1 (3)
Unwanted sexual experience	8 (19)*	1 (3)
Physical abuse by caregiver	29 (69)*	7 (20)
Verbal abuse by caregivers	15 (36)	6 (17)
Harassment or bullying by non-relative	25 (60)*	8 (23)
Natural disaster	15 (36)	16 (46)
Any kind of accident	17 (41)	14 (40)
Adverse event not previously asked about	19 (45)	10 (29)
At any point in life witnessing:		
Threats	30 (71)	24 (69)
Physical abuse	31 (74)*	17 (49)
Unwanted sexual experience	4 (10)	2 (6)
Torture	6 (14)	3 (9)
Killings	23 (55)	12 (34)
At any point in life hearing about:		
A significant other's adverse experience	30 (71)	28 (80)
Primarily War/Refugee related PTEs		
Direct experience of:		
War/Armed conflict	39 (93)	33 (94)
As a consequence of war and flight, direct experience of:		
Fleeing, changing home and school before arriving to Sweden	28 (67)	17 (49)
Separation from caregiver	36 (86)*	10 (29)
Loss (by death or disappearance) of significant other	28 (67)	27 (77)
Bombings or shootings	28 (67)	26 (74)
Own participation in military combat	3 (7)	4 (11)
Being without shelter, food, or other necessities	29 (69)*	5 (14)
During flight, direct experience of:		
Unwanted sexual experience	4 (10)	0 (0)
Physical violence	16 (38)*	2 (6)
Threat or coercion	16 (38)	10 (29)
Forced labor	4 (10)	3 (9)
Captivity, detention	14 (33)*	3 (9)
Any kind of PTE	42 (100)	35 (100)

Note. * = $p < .05$.

Older adolescents and those with experience of childhood labor reported more total and war/refugee related PTEs (Table 3). Adolescents reporting not being poor and having higher subjective and relative SES reported higher rates of DE.

There was an expected moderate relation between PTSD and dissociation symptoms; however there was no relation between PTE exposure and DE. To explore this finding we identified cases with high trauma exposure and low rates of DE. Of the six cases with highest rates of DE but lowest rates of PTEs five were Afghan girls. The opposite pattern, lowest rates of DE and highest rates of PTEs, was found among four Somali girls, and three boys, one of whom had trouble remembering the past and another did not want to disclose what had made him flee from his home country, probably indicating underassessment of PTEs. When rerunning the correlation analysis without the identified cases, there was a significant relation between A-DES score and PTE exposure (r = .60, p = .003). Further on, an exploratory two-way ANOVA showed a significant interaction between the effects of gender (girl/boy) and origin (Afghan/non-Afghan) on DE, F (1, 38) = 6.12, p = .018, and total PTEs, F (1, 32) = 12.98, p = .001, but not on PTSD-symptoms, F (1, 33) = 0.01, p = .926, mean scores for the four subgroups are presented in table 4. Post-hoc Tukey tests showed that Afghan girls (n = 6) had significantly lower rates of PTEs than Afghan boys (n = 19; p = .007) and close to significantly lower rates than non-Afghan girls (n = 10, 70% Somali girls; p = .085). Afghan girls had higher rates of DE than non-Afghan girls (p = .003).

Table 2.

Trauma Exposure, Posttraumatic Stress Symptoms, and Dissociation.

Variable	Newly arrived		Settled students	
	N	*M (SD)*	*N*	*M (SD)*
Age	42	16.1 (1.5)*	35	14.8 (1.4)
Age at arrival to Sweden	42	15.2 (1.3)*	35	7.4 (2.9)
Total PTEs sum	36	15.2 (3.8)*	35	8.3 (3.3)
War/Flight PTEs sum	36	6.7 (1.9)*	35	3.8 (1.8)
Children's Revised Impact of Event Scale	37	38.7 (10.7)*	35	25.0 (14.0)
Adolescent Dissociative Experiences Scale	42	3.1 (1.9)	35	2.5 (1.8)

Note. PTEs = Potentially Traumatizing Events. One participant declined to report experienced PTEs.
* p < .001.

Group 2. Reported PTEs and mean scores for the measured variables are presented in table one and two. In this group 34% (n = 12) scored above the cutoff for probable PTSD and a fourth (23%, n = 8) for dissociative psychopathology. The only A-DES item with a mean > 4 was "I can do something really well one time and then I can't do it at all another time" (4). As expected, a higher rate of reported PTEs was associated with more DE and PTSD-symptoms, and DE and

PTSD-symptoms correlated significantly as well. In this sample, participants reporting poverty and lower SES mentioned more PTEs and DE (see table 3).

Table 3.

Correlation of Demographics and Dependent Variables for the Two Groups.

Variable	1	2	3	4	5	6	7	8	9
Newly Arrived									
1. Gender	-								
2. Age	.48**	-							
3. Poverty	-.03	.16	-						
4. SR-SES	.04	-.02	-.28	-					
5. Child labor	.50**	.48**	.38*	.06	-				
6. Acc/Unacc	-.65**	-.47**	-.20	.14	-.43**				
7. Total PTEs	.22	.37*	.27	-.23	.40*	-.20	-		
8. W/F PTEs	.11	.31#	.07	-.20	-30#	-.20	.81**	-	
9. CRIES-13	.07	.16	-.13	-.02	-.15	-.25	.08	.10	-
10. A-DES	-.01	-.13	-.36*	.35*	-.13	-.08	-.26	-.19	.50**
Settled Students									
1. Gender	-								
2. Age	.40*	-							
3. Poverty	-.12	-.15	-						
4. SR-SES	.02	.28	-.54**	-					
5. Child labor	.21	.27	.40*	-.29	-				
6. Acc/Unacc	-	-	-	-	-				
7. Total PTEs	-.04	-.20	.67**	-.49**	.35*	-	-		
8. W/F PTEs	-.04	-.25	.55**	-.41*	.26	-	.82**	-	
9. CRIES-13	-.20	-.15	.05	.02	.10	-	.33#	.47**	-
10. A-DES	-.13	-.17	.46**	-.54**	.25	-	.61**	.47**	.37*

Note. Gender: Girls = 0, Boys = 1. Poverty, Child labor: No = 0, Yes = 1. Acc = 1, Unacc = 0. SR-SES = Subjective and Relative Socioeconomic Status. Acc/Unacc = Accompanied/Unaccompanied. PTEs = Potentially Traumatizing Events. W/F = War/Flight. CRIES-13 = Children's Revised Impact of Events Scale -13 items. A-DES = Adolescent Dissociative Experiences Scale.

p = .05-.08. * p < .05. ** p < .01.

Worst Lifetime Experience

The number of participants in each group reporting a specific category of worst lifetime experience is presented in Table 5 with quote examples. We looked specifically at the worst event narratives of Afghan and Somali girls as they differed from each other regarding DE rates. Four of the six Afghan girls reported physical abuse by a caregiver or close relative, however none of the seven Somali girls did the same (p = .021).

Table 4.

Trauma Exposure, Posttraumatic Stress Symptoms, and Dissociation in Newly Arrived.

Variable	Afghan girls *M (SD)*	Afghan boys *M (SD)*	Non-Afghan girls *M (SD)*	Non-Afghan boys *M (SD)*
Total PTEs	12(2)	17(2)	16(4)	13(4)
A-DES	5.2(2.0)	3.2(1.7)	1.9(1.7)	2.8(1.3)
CRIES-13	39.5(13.8)	39.9(9.53)	37.0(13.1)	38.1(8.0)

Note. PTEs = Potentially Traumatizing Events. A-DES = Adolescent Dissociative Experiences Scale. CRIES = Children's Revised Impact of Event Scale.

Comparison of the Two Groups

Newly arrived adolescents reported more PTEs and PTSD-symptoms than more settled adolescents, but there was no significant difference in rates of dissociation. Physical abuse in general, particularly by caregivers, was more prevalent among newly arrived than settled students. The newly arrived also mentioned the abuse by the caregiver as the worst live-event, while none of the high-school students did the same. Both physical abuse and captivity during the refugee journey was more often reported by newly arrived than the students. Other experiences more often reported by newly arrived were unwanted sexual acts, harassment in the community, and being without shelter, food, or clothes. The relation between reporting poverty and lower SES was differently associated with DE in the two samples. Newly arrived who reported not being poor and having higher SES reported more DE, while settled school students reporting poverty and low SES reported more DE.

Table 5.

Frequencies, Prevalence Rates (%), and Quotes of Worst Event Category.

Worst event category	Newly arrived *N* (%)	Quote examples	Settled students *N* (%)	Quote examples
War-related				
War-related event	16 (38)	"militia came to our home and kidnapped my uncle"	14 (40)	"bomb exploding"
Non-war related event	19 (45)	"father abusing us"	13 (37)	"a fire in Sweden"
Direct exposure to a physical or emotional act				
Direct experience of physical kind	18 (43)	"the old man forced himself on me"	10 (29)	"Earthquake"
Direct experience of emotional kind	3 (7)	"the bad words by my forced husband's family"	2 (6)	"bullying"
Other specific experiences				
Physical or sexual abuse by caregiver or close relative	8 (19)*	"physical abuse by my family, in war everyone is equal but to suffer because of your family is worse"	0 (0)	
Loss by death or separation	16 (38)	"parents being abducted"	8 (23)	"my grandmother's death"
Witnessing human suffering	3 (7)	"seeing a man get killed"	5 (14)	"witnessing an execution"
A significant other's adverse experience	5 (12)	"uncle getting arrested by militia"	2 (6)	"my father was exposed to rape"
Nothing mentioned, or does not want to disclose	3 (7)		4 (11)	

Note. * = p < .05.

Discussion

This is, to our knowledge, the first study of the prevalence of DE and their relation to PTEs and posttraumatic stress in groups of resettled war traumatized youth. War exposed youth reported multiple PTEs with high rates of PTSD symptoms (71% in the newly arrived group and 34% among the settled students scored above the cutoff for PTSD) and dissociation (36% and 23% above the cutoff for pathological dissociation). Even though the newly arrived were more traumatized than the students, a prevalence of 34% is of concern as the second group was recruited from normative schools. Other research on child and adolescent refugees shows 35 - 90% rates of PTSD, depending on country of origin, a similar range as in our study (Baddoura, & Merhi, 2015; Lustig et al., 2004; Smid et al., 2011). Mean rate of DE in newly arrived is similar to that of previous research on Swedish youth reporting sexual abuse (Nilsson & Svedin, 2002) and adolescent PTSD-patients in Turkey (Zoroğlu, Şar, Tüzün, Tutkun, & Savaş, 2002). Items indicating loss of control with the here-and-now, memory problems, and altering self-perception were the most endorsed in both groups. However, childhood amnesia was sometimes understood as missed opportunities during childhood, something that clinicians should be aware of when assessing those with adverse childhoods. An

additional contribution of this study is the adolescents' own descriptions of what experience in life they find the most distressing, showing that only about half of the participants report war-related events, stressing the need to not over-generalize the experiences and needs of refugee youth.

The Relation between PTEs, Dissociation and Posttraumatic Stress

As expected, more reported PTEs correlated with higher rates of pathology among the settled students. The newly arrived group was highly PTE-exposed but there was no relation between PTEs and pathology, however DE and PTSD-symptomatology correlated as expected. Post-hoc explorative results showed that responses of the newly arrived group partly varied according to gender and pre-resettlement trauma context, suggesting that the relational context of trauma and societal conditions might affect the experienced psychological consequences. Afghan boys reported more PTEs than Afghan girls, in line with previous research showing higher PTE exposure in boys than girls (Zona & Milan, 2011). Another finding was that Afghan girls had higher rates of DE and a tendency to lower rates of PTEs, while reporting more caregiver abuse as the worst lifetime event, than the subgroup of mostly Somali girls. Keeping in mind that this is a follow-up explorative analysis with small *n*s, it is still interesting to consider why this might be. The Afghan girls in our study may have had more oppressive living conditions as they often described familial abuse and oppression as the worst lifetime event, which may have contributed to poor psychological support and responsiveness by their caregivers. Girls and women in Afghanistan are indeed routinely oppressed and persecuted since the start of the militarization and wars during the 1970s until now (Human Rights Watch, 2016). In addition, familial oppression and negative social control, as well as parental unresponsiveness have been linked to higher dissociation, (Dutra, Bureau, Holmes, Lyubchik, & Lyons-Ruth, 2009; Şar, Akyüz, Öztürk, & Alioğlu, 2013).

There were also differences between groups. Consistent with previous research (Evans & Kim, 2013; Gušić et al., 2016a) reporting childhood poverty was associated with more PTEs and DE in settled students. In contrast, newly arrived with no poverty experience and higher SES reported more DE. The latter finding may be specific to this small sample or indicate that the wealthier members of the group differ in some other way such as higher access to education and thus a better ability to understand the questions and express their experiences. The newly arrived group was older and reported more traumas and psychopathology than the student group which experienced war at a younger age and had resided in Sweden for several years. The difference is not surprising as the groups were recruited in different settings and the fact that the longer the time (i.e., older age) spent in a conflict zone, the more the risk of multiple victimization. However the results

indicate that other factors may also relate to the differences between groups such as higher prevalence of caregiver separation and caregiver abuse among the newly arrived youth. The newly arrived also reported more experiences of physical abuse and captivity during refugee journey reflecting aggravated refugee conditions during the recent period. Finally, the amount of reported psychopathology and PTEs among the settled students, even after many years of being in a stable environment, suggests that experiences of war and resettlement have complex long-lasting effects, which has clear clinical and social implications.

Clinical Implications, and Future Research Suggestions

The considerable prevalence of PTEs, DE, and PTSD symptoms in this study underlines the importance of systematically screening trauma-related conditions and pathology in refugee child and adolescent mental health care when planning treatment. When assessing trauma in newly arrived refugees, the unsafe conditions of the refugee journey as well as PTEs in the caregiving environment should be evaluated. Data from this and another study (Gušić, Cardeña, Bengtsson, & Søndergaard, 2016b) also indicate that other variables such as the type of attachment in the family are important factors in youth's reactions to adverse conditions. Clinicians working with newly arrived refugees may benefit from evaluating trauma-related psychopathology in this group and prioritizing trauma-focused treatment to enable rehabilitation in the country of resettlement. Besides psychological suffering, unattended trauma-related difficulties in a refugee resettlement context may lead to other difficulties such as difficulties disclosing one's asylum claims because of avoidance and memory problems, which may hinder developing a coherent self-narrative, and acquiring a new language, academic skills, and social support. As resettling in a new sociocultural context is in itself a major challenge, young individuals bearing difficult experiences and unattended mental health problems may also be at risk for poor general well-being and future socioeconomic exclusion. Future research about DE in refugee youth is needed to verify our findings with larger samples, as well as differentiating this heterogeneous group to explore differences related to trauma context, gender, and the socio-cultural environment.

Study Limitations

As this study presents self-reported cross-sectional data from a smaller sample, no causal conclusions can be drawn and there is a risk of providing inaccurate estimations and an overestimation of prevalence rates. We cannot state how many of the participants would have met the criteria for a clinical diagnosis of PTSD or

a dissociative disorder as this requires a structured clinical interview. A second potential limitation is the use of a newly developed trauma inventory, although constructed by war trauma specialists. As the samples were small and the study used established scales in a new cultural context, it is not surprising that one of the alpha values was slightly below 0.7. However, under these circumstances a threshold of 0.6 has been previously taken as acceptable (Nunnally, 1978). A third limitation is the use of interpreters with the first sample and of Swedish material with the second, which may have led to a misunderstanding of some questions. However, these arrangements made it possible to include more participants from this understudied population and by using immediate translation with the newly arrived it was possible to directly clarify misunderstandings. With the settled students, there were always a psychologist and assistants present to answer questions. A few of the participants declined to answer some of the items, which may have led to underreporting of the results as it is possible that they avoided answering items related to specific PTEs or symptoms that may be perceived as shameful or stressful.

Conclusions

Both groups of war-exposed youth reported considerable rates of PTEs, with the newly arrived reporting more caregiver abuse and adverse events during the refugee journey. Newly arrived had high rates of both dissociation and PTSD-symptoms but the proportion of settled school students with trauma-related psychopathology was also considerable. The DE rates of the newly arrived were similar to those among other traumatized adolescents, and preliminary results show that newly arrived girls reporting familial abuse and oppression as their worst traumas had the highest rates of DE. Our results show that even after having been settled in the country for years a substantial percentage of youth continue to report post traumatic and dissociative symptomatology, which has two implications. The first is that those resettled for years may nonetheless benefit from therapeutic approaches that take into consideration posttraumatic symptomatology. The second implication is that resources should be made available in resettlement countries to evaluate and treat, as necessary, incoming youth, and study the effect of the interventions longitudinally to assess how effective they are and for whom. Not to do so will, in the long run, have considerable more costs, of all types, both for the individual and for the society.

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Study IV

"I feel like I do not exist" - A Study of Dissociative Experiences among War-Traumatized Refugee Youth

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Abstract

Objective: War-traumatized refugee children and adolescents have been overlooked in research on trauma-related dissociation, and whatever research has been conducted has relied almost exclusively on questionnaires. The present study explores dissociative experiences in multi-traumatized war refugee youth. **Method:** This study utilizes a mixed-method approach by grouping participants according to a Western-based dissociation measure (the Adolescent Dissociative Experiences Scale), and conducting qualitative and quantitative analyses of their verbal descriptions of mental experiences related to dissociation in the aftermath of war and resettlement. Participants were 40 refugee youth, ages 13 to 21, 19 females and 21 males resettled in Sweden because of war and persecution. **Results:** Severe trauma-related dissociation was a problem for a considerable subgroup of the sample. Some dissociative experiences increased continuously from no to high severity, while others were restricted to the most dissociative group. Correlates of pathological dissociation included: high frequency and severity of emotional dysregulation and intensity, negative self- and body-perception, depressive mood, and experiences of detachment. **Conclusion:** Clinicians are urged to be aware of and assess trauma-related dissociation in war-refugee youth, and consider not only dissociative phenomena but also other important markers such as emotional dysregulation.

Keywords: war, refugee, adolescents, dissociation, trauma

Some war-related mental health consequences such as posttraumatic stress disorder (PTSD) have been widely studied (Dimitry, 2012), but there has been scant research on dissociation as a consequence of severe traumatization involving war-traumatized refugee youth, and using other instruments than questionnaires. This study explores the extent and related features of dissociative experiences (DE) among war-refugee youth combining a self-report measure and quantitative and qualitative analyses of semi-structured interviews about mental processes related to dissociation.

Trauma-Related Dissociation

The development of the self as complex, coherent, flexible, and meaningful entity is a relational, cumulative, and successive process (Harter, 2012). Pathological dissociation has been conceptualized as a trauma-triggered failure or limitation of self-integration and -differentiation during the developmental course (Putnam, 1997). A comprehensive definition of dissociation was proposed by Cardeña and Carlson (2011, p. 251): “experienced loss of information or control over mental processes that, under normal circumstances, are available to conscious awareness, self-attribution, or control, in relation to the individual’s age and cognitive development.” The definition includes positive (e.g., "flashbacks”) and negative (e.g., gaps in awareness) symptoms, besides the experience of disconnectedness from the self and/or the world. Pathological dissociation has been conceptualized as either a dimensional or a typological construct. The dimensional approach states that dissociation ranges on a continuum from normal to pathological, as more clearly seen among youth (Putnam, 1997). The alternative of viewing pathological dissociation as a distinct type or taxon proposes that there are two types of dissociation, a non-pathological dissociation trait with quantitative variations on absorption, and a separate pathological type with depersonalization and amnesia types of phenomena (Waller, Putnam, & Carlson, 1996). The debate on this issue is not yet settled, but there is evidence that a taxonomic approach may be more appropriate for more pathological adult subgroups (Cardeña, 2008), with a relevant variable being the developmental period in which dissociation is studied (Putnam, 1997).

One factor related to dissociation is the nature of early caregiver relationships as conceptualized by attachment theory, which states that the infant-caregiver relationship leads to specific attachment patterns on the basis of the caregiver’s predictability and ability to comfort and care (Bowlby, 1969; Dutra, Bureau, Holmes, Lyubchik, & Lyons-Ruth, 2009),. A disorganized attachment pattern is related to an unpredictable and abusive caregiver, which leaves the child with a fragmented experience of the self and others (Main & Solomon, 1986). This can later on manifest as dissociative pathology in the face of trauma (Liotti, 1999).

There is also some evidence suggesting that psychological unavailability of the caregiver is a stronger predictor of DE in adolescence than early trauma alone (Dutra et al., 2009). Furthermore, abusive experiences by a caregiver, or betrayal trauma (Freyd, 1996), have been more associated to dissociation than other types of trauma (Platt & Freyd, 2015).

There are a handful of qualitative studies on trauma-related dissociation, none including war-exposed youth. Sandole and Auerbach (2013) interviewed adult female survivors of the Rwandan genocide who had experienced trauma-related dissociative identity transformations. Other studies include adult recovery from pathological dissociation (Mauritzson, Odby, Holmqvist, & Nilsson, 2015), dissociation in children's trauma narratives as indicative of PTSD (Kenardy et al., 2007), and the peritraumatic experience of adult victims of violence (Mattos, Pedrini, Fiks, & de Mello, 2016).

The Context of Trauma and Dissociation in Refugee Youth

The multifold experience of refugee youth can be conceptualized in at least three different phases (Kirmayer et al., 2011). *Premigration* involves the person's experiences before fleeing, including potentially traumatic events (PTEs), as well as relevant variables such as socioeconomic status (SES), family network, and social support. The *migration* phase starts when the adolescent flees and can include violence, separation, unsafe refugee camp conditions, and detention. The *postmigration* phase involves such stressors as unfamiliar systems in the resettlement country, poverty, language barriers, racism, and separation from loved ones, as well as the loss of familiar social roles and culture.

Culture plays a complex role when studying DE among war-traumatized refugee adolescents. For instance, all the individuals in our group had, by necessity, left the known sociocultural networks that gave them support and meaning. Thus, migration may aggravate psychological and sociocultural disintegration in the aftermath of severe trauma. Second, there is the context in which the self is experienced and constructed. A sociocultural approach posits that "mind and culture are mutually constitutive and as such cannot be studied separately from one another" (Ellis & Stam, 2015, p. 300). If we view human life as developing in interaction with cultural meaning and tradition, we may also need to acknowledge that some DE in refugee adolescents can be normal in their original cultural milieu and a part of a socioculturally different experience of the self and subjective awareness, for instance one based more on a sense of a porous and relational self. A body of research (e.g., Şar, Akyüz, Öztürk, & Alioğlu, 2013; Schaffler, Cardeña, Reijman, & Haluza, 2016) attests to the existence of cultural variability in the dysfunctional and/or beneficial aspects of dissociative phenomena.

Researchers in Turkey, while confirming the validity and reliability of the assessment tools developed in North America in another culture (Zoroğlu, Şar, Tüzün, Tutkun, & Savaş, 2002), present evidence for regional differences in etiology and prevalence of dissociative pathology, with emotional neglect being particularly related to dissociation (Akyüz, Doğan, Şar, Yargiç, & Tutkun, 1999).

Study Rationale and Research Design

Severely traumatized refugee youth are a growing group in mental health settings due to the global refugee situation. There is a need to provide knowledge to clinicians about the types of DE in this heterogeneous group and to investigate how it relates to our understanding of dissociation and its screening. Adolescents were grouped according to scores on a DE self-report scale. They were then asked about their mental experiences related to dissociation and their responses were analyzed qualitatively and quantitatively. Possible moderators such as caregiver and other close relationships were also analyzed. A mixed methods approach has been recommended for the study of mental health among refugees (Weine, Durrani, & Polutnik, 2014). To our knowledge this is the first time it has been applied to study DE among refugee youth.

Method

Participants and Procedure

A sample of recently resettled refugee adolescents, ages 13 to 21, were recruited through a treatment center for war-traumatized refugees and residential care homes for unaccompanied refugee minors in Sweden. The inclusion criterion was being a teen with war and refugee experience. Exclusion criteria were having initiated psychotherapeutic treatment, being in an acute crisis, cognitive impairment, and/or current drug abuse. Adolescents were given written information about the study through a verbal translation, and 40 (19 females and 21 males) volunteered. The majority of the participants were originally from Afghanistan (n = 25, 62.5%), followed by Somalia (n = 7, 17.5%). The rest came from other countries in the Middle East and North Africa. On average, participants had arrived to Sweden 13.2 months (SD = 10.8) earlier. One participant did not want to disclose PTEs and the first five participants, on whom the interview was piloted were not tested with the trauma inventory or the PTSD-scale. Written consent was obtained, and for those below the age of 15 it also included the

written consent of their legal guardian. Participants received a gift card worth 10 Euros for their participation. The study was approved by the regional ethical board. The first author, a clinical psychologist, performed all the interviews via professional interpreters and recorded them for later transcription. The trauma inventory and the dissociation scale were administered verbally via interpreters. Interpreters were informed about the material and the studied constructs before each interview, during these briefings the interpreters got a chance to discuss how the constructs can be translated and made sense of in actual language. Interpreters and participants were also instructed to feel fire to mention if they are not sure about or do not understand something during the interview. This approach was chosen to verify, as much as possible, that all the participants understood the questions and items used. Many of the participants had fled from countries without a stable educational system and their literacy varied. Participants answered questions in the same order as we present the measures below, with the interview preceding the A-DES ratings.

Measures

Demographics. Information about age, gender, birth country, refugee journey, time in Sweden, number of family members, current residence, and schooling was collected.

Trauma inventory[1]. This inventory was developed by the first author to assess general and war/migration related traumas (Gušić, Cardeña, Bengtsson, & Søndergaard, 2016a). Respondents answered yes or no to experiencing specific events (max sum = 28). In addition to 16 items about general traumas and 12 items about war and migration experiences, there were questions on poverty during childhood and child labor.

Children's Revised Impact of Event Scale (CRIES). The CRIES (Children and War Foundation, 2005) evaluates 13 different PTSD-symptoms and is self-rated on a 4-point scale (0 = *never*, 1 = *rarely*, 3 = *sometimes*, and 5 = *often*). It has been used with war- and refugee exposed youth and has reliable psychometric properties (Perrin, Meiser-Stedman, & Smith, 2005; Smith, Perrin, Yule, Hacam, & Stuvland, 2002). The cut-off indicating PTSD is a sum of 30. Cronbach's alpha in this study was .69.

Semi-structured interview about mental experiences related to dissociation. Open-ended questions were formulated to assess the participants' subjective descriptions of their experiences of dissociation (DiCicco-Bloom & Crabtree, 2006), as well as their family and friendship experiences. Participants were instructed to respond to the extent that they felt comfortable, emphasizing that

[1] The inventory can be obtained in Swedish and English by contacting the first author.

there were no right or wrong answers and that it was possible not to answer specific questions. One person chose not to answer one question. The interview questions are presented in Table 1.

Adolescent Dissociative Experiences Scale (A-DES). This self-report measure has 30 items describing different DEs with answers indicating how often each experience happens, marked on an 11-point scale (from 0 = *never* to 10 = *always;* Armstrong, Putnam, Carlson, Libero, & Smith, 1997). A mean score of > 3.7 suggests pathological levels of dissociation, and > 6.2 a dissociative disorder (Armstrong et al., 1997; Zoroğlu et al., 2002). The A-DES has been used in various countries and has shown good psychometric qualities and cross-cultural validity (e.g,. Farrington, Waller, Smerden, & Faupel, 2001; Martínez-Taboas, Canino, Wang, García, & Bravo, 2006). Cronbach's alpha in the present study was .95.

Table 1.

Semi- structured Interview Questions about Mental Experiences Related to Dissociation.

Question		Follow-up questions
A.	Can you start by telling me a bit about yourself and your family and other important persons in your life?	
B.	Tell me what you notice about yourself since you have been through the difficult experiences in your life.	
1.	a) How do you perceive yourself? b) How do you experience yourself when you are happy, sad, angry, and afraid? c) Do you ever experience inner quarrels with yourself, almost like there are multiple persons within yourself?	Is there a difference in your experience of yourself when you are alone than when you are with others?
2.	How do you experience your feelings?	Strong or weak; controlled or out of control; as your own or someone else's?
3.	When you see yourself in the mirror, how do you perceive yourself?	In comparison to others? How do you think others perceive you?
4.	How do you experience your body?	How does it feel? Have you self-harmed yourself? Do you have body pain?
5.	How do you perceive the world around you?	
6.	How do you experience time?	Fast/slow/with interruption? Do you sometimes feel like you lose time? Do you sometimes feel like time has passed but you do not know what you have done during that time? How long can that be?
7.	How do you experience your memory?	For important recent events? For important past events? For school subjects?
8.	How do you perceive your self-control?	Of your body; thoughts; feelings; behaviors; others around you?
9.	How do you experience your concentration and attention?	
10.	When you have pain somewhere in your body, how do you experience that pain?	Strongly/Weakly/Moderately?
11.	How do you experience your dreams?	How do you differentiate between dreams and reality?
12.	Have you ever experienced something that felt unreal or supernatural?	

Analyses

Statistical analyses. Independent t-tests and ANOVAs were used to test differences between group means, and Fisher's Exact Test for differences between proportions. SPSS version 21 was used for all statistical results. No data transformations were done because the data did not deviate from normality.

Qualitative analysis. Interviews were analyzed with the method discussed by Braun and Clarke (2006). It involves: (a) transcription, (b) in-depth reading of the interviews, (c) systematic categorization of the entire data set into codes, (d) rereading the codes and categorizing them according to over-arching themes, (e) verifying that the themes are relevant representations of coded extracts, and (f) naming and defining all themes. The final step (g) was a summary of the analysis, stratified by level of dissociation. We strengthened the validity of this analysis by including two independent inter-raters at steps b through f. The first and second authors, psychologists working with war-traumatized refugees, independently analyzed all interviews and coded narratives into quantitative data when feasible (e.g., how many of the participants self-harmed). Extracted codes, themes, and quantitative data had a satisfactory inter-rater agreements greater than 80%. Differences were discussed and agreed upon after step c and f. Interviews were transcribed using Express Scribe and qualitatively analyzed using N'Vivo for Mac.

Results

Demographics, Background, Trauma Exposure, and Dissociative Experiences

Demographic information and mean rates of measured variables are presented in Table 2. The boys in the study were older than the girls and more boys than girls had arrived unaccompanied, in line with the statistics from Swedish Migration Agency (2016). No one reported less than eight total PTEs or less than three war/refugee PTEs. Low dissociators (l-d) scored < 3.7 on the A-DES, indicating normative dissociation (n = 24, 60%), medium dissociators (m-d) scored 3.7 - 6.2, suggesting some dissociative symptomatology (n = 11, 27.5%), and high-dissociators (h-d) scored > 6.2, suggesting the presence of a dissociative disorder (n = 5, 12.5%). There was no difference between groups in number of total PTEs, $F(2, 31) = 0.32$, $p = 0.73$, or PTSD-symptoms, $F(2, 32) = 2.85$, $p = 0.07$, with 29 (73%) scoring above the cut-off suggesting PTSD, and h-d scoring non-significantly higher than the other two groups. The five participants that did not have data on PTEs and PTSD symptoms did not differ in their A-DES mean (M =

3.1, *SD* = 1.4) from the rest (*M* = 3.4, *SD* = 2.2; *p* = .71). There were no significant differences in proportion of girls/boys (*p* = .1) and number of unaccompanied youth between groups (*p* = .1).

Table 2.

Demographic Information and Measured Variables.

Variable	Total group (*N* = 40)	Girls (*n* = 19)	Boys (*n* = 21)	L-d (*n* = 24)	M-d (*n* = 11)	H-d (*n* = 5)
Age, *M* (*SD*)	16.1 (1.8)	15.3 (2.2)	16.7 (1.1)*	16.0 (1.7)	16.1 (1.4)	16.0 (3.2)
Total PTEs, *M* (*SD*)	15.1 (3.8)	14.6 (4.1)	15.8 (3.5)	15.5 (3.3)	14.4 (4.4)	14.5 (5.8)
W/R PTEs, *M* (*SD*)	6.8 (2.1)	6.6 (2.3)	6.9 (1.8)	6.9 (2.0)	6.7 (1.9)	6.3 (3.2)
CRIES-13, *M* (*SD*)	39.7 (11.0)	38.7 (12.3)	40.9 (9.4)	36.7 (11.3)	42.0 (8.3)	48.4 (9.8)
A-DES, *M* (*SD*)	3.3 (2.1)	3.5 (2.6)	3.2 (1.7)	1.9 (1.0)#	4.6 (.5)#	7.3 (.7)#
Uac minors, (%)	26 (65%)	6 (32%)	20 (95%)*	16 (67%)	7 (64%)	3 (60%)
Gender girls (%)	19 (48%)	-	-	10 (42%)	5 (46%)	4 (80%)

Note. L-d = Low dissociators. M-d = Medium dissociators. H-d = High dissociators. PTEs = Potentially Traumatic Events. W/R = War/Refugee. CRIES = Children's Revised Impact of Events Scale. A-DES = Adolescent Dissociative Experiences Scale. CRIES = Children Revised Impact of Events Scale. Uac = Unaccompanied.

* $p < .05$ for significant differences between girls and boys.

# $p < .05$ for significant differences between dissociation groups.

Themes on Mental Experiences related to Dissociation

Both raters found nine similar themes. Minor differences regarding *subthemes* were agreed upon. Table 3 shows the significant differences between the groups stratified by A-DES scores and the sections below provide examples of narratives of significant or marginal differences.

1. Emotions. H-d differed significantly from l-d in reporting more very intense emotions, almost always feeling sad, and experiencing intense fear with little way of coping with it. Both m- and h-d reported less emotional control and more self-harming when upset than l-d. *Recognition and experience:* The narratives of l- and m-d included positive emotions: "I try to be happy," while h-d reported persistent sadness "I'm always sad." H-d reported high emotional intensity: "I feel that I have really strong emotions" and sometimes not knowing where an emotion comes from: "Sometimes I have a feeling that water runs over my eyes [Like tears?] Yes." *Regulation and strategies:* L-d generally stated feeling in control of their emotions: "When I am afraid, I try to confront that situation and control fear" differing from m-d: "When I am angry I get really hot in my body and I try to hit the wall" and h-d: "I lose control [over emotions] without even knowing that I lose it." Respondents in all three groups mentioned strategies to cope with difficult emotions, such as listening to music or Quran readings, praying, seeking others, writing about one's feelings, visiting a real or imagined safe place, and avoiding others. L-d mentioned significantly more success using these strategies than the other two groups.

2. Experience of the self. L-d had significantly more positive descriptions of themselves than h-d. There was also a tendency (p = .059) for h-d, as compared with l-d, to report less control over themselves and their lives, and experiencing multiple or strange selves. *Self-image and self-agency*: L-d used descriptions such as: "I am a very god person" and "I help myself," in contrast to all of the h-d who expressed self-loathing: "I hate myself." *Self-experience*: A few l-d described an altered self-experience including inner voices and helping angels, multiple parts of the self, or feelings of being "different" and "old". The descriptions of m-d included an "incomplete" and "crazy" self, while h-d described intense feelings of a strange and unrecognizable self, confusion, and multiple parts inside oneself: "It feels like someone else tells me to do it, not voices, but something in the thoughts." The quality of this experience was also more negatively experienced by m- and h-d, while some of the l-d had positive experiences of and inner guidance by their multiple selves.

3. Memory. All h-d described bad memory for everyday information and school work, differing significantly from l-d. Approximately half of l- and m-d described their memory similarly. *Everyday memory function*: H-d related their memory loss to feelings of not being connected to the present: "I have said something but then someone says 'No, you didn't say that' and then I wonder if I have" and "My thoughts split and I wonder where I am." L- and m-d reported forgetting what they once were aware of. *Memory of childhood*: Few in each group stated not remembering their childhood, especially the positive experiences. *Memory of trauma*: Almost all participants stated remembering traumas well, wishing they could forget them. Few in each group stated that they did not remember trauma or that the trauma memory was blurred. H-d expressed many negative emotions when talking about trauma memories, while l- and m-d expressed less emotionally preoccupied trauma narratives.

4. Thoughts and cognitive abilities. Some adolescents in all groups described problems concentrating and maintaining attention, but all h-d reported them, differing significantly from l-d. *Concentration and attention*: All adolescents mentioned being distracted by worries about the family, trauma memories, or negative thoughts about the future: "When I worry about my family I cannot concentrate." Among l- and m-d a few mentioned strategies to deal with this, including seeking others to be close to, as this helped them stay focused on their tasks. *Thought control*: Approximately half of the l- and m-d expressed being in control and aware of what they were thinking about, in contrast to no one in the h-d group, who sometimes mentioned that they often feel as not themselves or present: "I don't feel present sometimes, thoughts are not here."

5. Time perception. All of the h-d expressed not feeling in control of how they experience time, differing significantly from l-d. *Time awareness*: In all three groups there was a similar experience of time passing as slow, fast, or moderate, depending on mood or activity. *Loss of time*: The experience of losing track of

time was mentioned by the majority of participants in all groups, few l-d reported a longer loss than a couple of minutes. L-d could also relate the loss of time passing to an external activity. Even if this was sometimes the case with m- and h-d as well, they also reported longer time losses and not knowing what they had been doing during that time, sometimes relating it to inner experiences such as mind wandering because of uncontrollable thoughts or emotions: “I don’t know how [the time passed] and I have not read anything and I only think about Afghanistan and what I’ve endured.” There were participants in all three groups that related the question about losing time to skipping childhood, as in being forced to grow up fast, missing a good life due to war, and not having time to learn and develop because of the asylum process.

6. The experience of reality. Significantly more h-d than l-d reported having anomalous experiences that were negative. *Dream/Reality differentiation*: Participants in all three groups stated that they could differentiate dream from reality. *Paranormal experiences*: All participants reported having experiences that included hearing/seeing something that does not seem to be a part of the “real world,” feeling a presence, or having dreams come true. A few l-d mentioned that the experiences had been negative, and a few stated that they had been positive, in contrast with h-d who mainly experienced them as negative. H-d mentioned feelings of unreality, hearing voices or screams, feeling persecuted by a presence, having the feeling of being unreal, or that the world is strangely small: “When alone it happens often (…) someone is calling me, sometimes I think someone is touching me (…) I get really scared.” Finally, a few of the participants, regardless of group, described the severe situation in their home country and their traumas as “not natural, not of this world” when asked about “supernatural” experiences.

7. Dream experience. Participants in all groups had negative dreams. However, half of l-d described having good or "ok" dreams as well, differing significantly from m-d.

8. Body experience. Significantly more h-d than l-d reported a negative body-image and being unable to control one’s body. More m- and h-d expressed feeling physical pain when experiencing negative emotions than l-d. *Body-image:* The h-d described their body as “weak,” “in pain,” “tired,” or generally being dissatisfied with it. *Body control*: H-d described little body control: “Something in the body says no, something hurts, but I don’t know.” *Pain experience*: Participants in all three groups stated that they usually feel pain in relation to physical injury, but only h-d stated that they do not feel physical pain at all when they also are emotionally distressed.

9. Experience of the surrounding world. Significantly fewer h-d than l-d experienced the world as predominantly positive. In addition, all h-d, differing significantly from l-d and near-significantly from m-d, reported experiencing the surroundings as unreal, strange, or persecutory (e.g., feeling as perpetrators or

danger are present in Sweden). Most l-d gave realistic and balanced descriptions of the world (e.g., as both good and bad, sometimes beautiful and sometimes ugly).

Table 3.

Reported Experiences by Dissociation Group.

Themes and reported experiences	L-d (n = 24)	M-d (n = 11)	H-d (n = 5)
1. Emotions:			
Strategies to cope with difficult emotions	62.5% [a]	36.4% [a]	40% [a]
Experiences no fear, or some fear and strategies to cope with it	75% [a]	36.4% [a*b]	0% [b]
In control or mostly in control over emotions	87.5% [a]	45.5% [b]	0% [b]
Able to feel joy in life	95.8% [a]	90.9% [a]	20% [b]
Almost always or always feels sad	8.3% [a]	9.1% [a]	80% [b]
Experiences very intense emotions	16.7% [a]	27.3% [ab]	80% [b]
Self-harming when upset	8.3% [a]	54.5% [b]	80% [b]
2. Self-experience:			
Predominantly positive descriptions of oneself	62.5% [a]	36.4% [ab]	0% [b]
Feels in control of oneself and one's life	50% [ab]	27.3% [a]	0% [ab*]
Experience oneself as multiple selves, different, or strange	29.2% [ab]	63.6% [a*c]	80% [b*c]
3. Memory:			
Bad memory for everyday information and learning	41.7% [a]	54.5% [ab]	100% [b]
Does not remember childhood	4.2% [a]	9.1% [a]	40% [a]
4. Thoughts and cognitive abilities:			
Problems concentrating and paying attention	45.8% [a]	63.6% [ab]	100% [b]
Good-enough control over thoughts	41.7% [a]	45.5% [a]	0% [a]
5. Time perception:			
Loses awareness of what is happening and track of time	62.5% [a]	54.5% [a]	100% [a]
Loss of time sense and awareness for an hour or more	26.7% [a]	50% [a]	80% [a]
Not feeling in control of time experience	37.5% [a]	63.6% [ab]	100% [b]
6. The experience of reality:			
Can differ between dream and reality	66.7% [a]	54.5% [a]	40% [a]
Has had supernatural experiences	45.8% [a]	72.7% [ab]	100% [b]
The supernatural experience has been negative	36.4% [a]	75% [ab]	100% [b]
7. Dream experience:			
Has positive or neutral dreams at least sometimes	58.3% [a]	18.2% [b]	20% [ab]
8. Body experience:			
Negative experience of one's body	16.7% [a]	45.5% [a b*]	100% [b]
Feels in control of one's body	50% [a c]	72.7% [a]	0% [b c*]
Feels bodily pain when experiencing negative emotions	12.5% [a]	54.5% [b]	60% [b]
9. Experience of the surrounding world:			
Experiences the world as predominantly positive	79.2% [a]	45.5% [a*c]	0% [bc]
Experiences surroundings as unreal, strange, feels paranoid	12.5% [a]	45.5% [a*b*]	100% [b]
Relationships:			
Describes positive relationships with parents	75% [a]	27.3% [b]	20% [b]
Parental separation, physical abuse by parents, feelings of guilt	29.2% [ab]	54.5% [a]	80% [ab*]
Has several friends and a social network	75% [a]	72.7% [a]	0% [b]

Note. Groups with different letter superscripts differ significantly, $p < .05$. If an asterisk follows a letter, there was a near-significant difference of $p = .05$-$.10$ between the percentages with the same letter. L-d = Low dissociators. M-d = Medium dissociators. H-d = High dissociators.

Relationship Experiences and Dissociation

Most of the l-d described positive relationship with their parents, differing significantly from m- and h-d. M-d mentioned some positive experiences while also describing experiences of being abandoned or let down. H-d mostly described their parents as controlling, physically and emotionally abusive, and neglectful. Most l- and m-d described having multiple friends, even if not always a close friend, differing significantly from h-d, who mentioned very few or no friends at all.

Discussion

The overall results show that war-traumatized adolescents report DE in similar rates to other groups of traumatized youth (Nilsson & Svedin, 2006; Zoroğlu et al., 2002). There were significant differences in most types of narrated experiences between l and h-d, such as h-d reporting more intense emotions, self-loathing, not being connected to the here-and-now, loss of control over time, and frightening paranormal experiences. Experiencing the surroundings as unreal, strange, and persecutory increased from l- to m-d, and to h-d. Some experiences were also specific to the h-d group, differing significantly or marginally from l- and m-d. These include persistent sadness and lack of joy, distorted body-image, and loss of body control. M- and h-d experienced more fear and less strategies to cope with fear, difficulties controlling emotions, self-harming, frightening self-experience of multiple separated parts or other adverse self-perceptions, somatization when emotionally distressed, and not experiencing the world as mostly positive.

Experiences that did not differ between groups were losing awareness of what is happening for a short span of time, being able to differentiate between dreams and reality, not remembering one's childhood, and reporting strategies to try to cope with difficult emotions. In general, the narratives of h-ds, and to some degree of m-ds, of their inner experiences seem to be qualitatively different from those of l-d in that they described more suffering, vast and frightening loss of control, and detachment from the self and the environment.

A considerable proportion of the adolescents in all groups mentioned difficulties with attention, losing control over drifting thoughts, and daily forgetfulness, likely related to the prevalence of PTSD-symptomatology. We did not find that PTSD symptoms and reported PTEs differed between groups, although PTSD symptomatology was non-significantly higher among h-d, and this difference would have probably been significant with a higher *n*. This suggestive pattern

supports a general comorbidity of dissociative and PTSD symptoms (e.g., Van der Kolk et al., 1996).

Mental Experiences related to Dissociation in Traumatized Refugee Youth

M- and h-d participants frequently mentioned problems regulating emotions. Emotional dysregulation has been linked to dissociation and in fact dissociation has been considered a form of emotional dysregulation (Powers, Cross, Fani, & Bradley, 2015). Results from brain imaging adult studies suggest that dissociation may involve a maladaptive emotional regulation involving high baseline affective arousal that is inhibited in the presence of stimuli considered threatening (Hopper, Frewen, Van der Kolk, & Lanius, 2007). H-d in our study also reported high emotional intensity in general and expressed more negative emotions and preoccupied thoughts when talking about trauma. This may be a feature of adolescent dissociation that, in the absence of treatment, might lead to the development of chronic strong inhibition of affective arousal.

Prevailing depressive mood was also found specifically in h-d. Depression as well as negative self-image has been found to relate to dissociation among traumatized adolescents (Lemos-Miller & Kearney, 2006). Other research (Şar, et al., 2013) found a difference between depressed women with and without additional dissociation, introducing the concept of "dissociative depression." The dissociative group experienced more self-harm behavior, thoughts related to guilt and worthlessness, and feelings of emptiness. In addition, they reported more abuse and neglect in childhood, and more frequent early cessation of school due to family pressure. Although speculative, it is of interest to note that the h-d group consisted predominantly of girls, who described their relationships to parents as abusive and controlling. Depressive mood may be linked to dissociation and mediated by a context of oppression and lack of self-autonomy during self-development. Recent studies have found that emotional abuse and neglect (including oppression and familial control) to relate to dissociation (Gušić, et al., 2016a; Haferkamp, Bebermeier, Möllering, & Neuner, 2015).

The differences regarding family relationships between l-, m-, and h-d are in line with previous research. (Dutra et al., 2009; Modestin, Lotscher, & Thomas, 2002). Narratives of negative parental experiences including early separation, feelings of guilt, neglect, and abuse were more frequent among m- and h-d, whereas the l-d group was characterized by positive caring family narratives, even if there were separations. There were no differences on dissociation scores between those arriving unaccompanied and those not, which suggests that dissociation is related to experiences of abuse and abandonment and insecure attachment interacting with

PTEs (Gušić, Cardeña, Bengtsson, & Søndergaard, 2016b). Our finding that the h-d group reported very few current peer relationships has not been mentioned previously, possibly indicating both a tendency to not engage with or trust in others, as well as difficulties in maintaining relationships due to identity fluctuation, low self-esteem, and emotional lack of control. This is an area worth investigating further.

Experienced loss of control is a key feature of dissociation (Cardeña & Carlson, 2011) and the narratives of the h-d group indicate this as well. They described recurring loss of control over thoughts, emotions, body, and speech. The first author observed this as well during the interview when some h-d lost a sense of time and place, and control over what was happening during the interview, as has been also found when using a structured interview in other contexts (George, Kaplan, & Main, 1985). The narratives of the h-d group, and to some extent the m-d group, show that trauma-related dissociation may be understood as a failure to hold and integrate consistent self-narratives (found in youth diagnosed with dissociative disorders; Putnam, 1997). Our results together with previous research suggest that these disturbances may be related not primarily to PTEs alone but to an ongoing traumatizing relational milieu in interaction with adverse events and possibly predisposing genetic vulnerability (Dutra et al., 2009; Putnam, 1997). Furthermore, high self-loathing as well as more negative internal experiences of the self among the h-d, including multiple dysphoric parts of the self, may differentiate between non-pathological and pathological self-disturbances in adolescence. Our results indicate that the more severe the dissociation, the more frequent and predominantly frightening or demeaning multiple self-experience, severe loss of control of oneself (with regard to body, sense of time, and emotions) and experiences of frightening lapses in self-monitoring, in line with previous research (Putnam, 1997).

Finally, the majority of the sample reported paranormal experiences, especially ostensible premonitory dreams or experiencing a guiding presence. This may represent a greater openness to these experiences in their original cultures, and should not be thought of as intrinsically pathological (Cardeña, Lynn, & Krippner, in press). However, an associated sense of lack of control, dysphoria, and the frightening nature of the experiences, may relate to a disorganized type of attachment among h-d (cf. Marcusson-Clavertz, Gušić, Bengtsson, Jacobsen, & Cardeña, 2016).

Implications

This is, to our knowledge, the first specific study to explore DE using a mixed-methods approach with a group of war-traumatized refugee youth, and there are

several clinical implications. First, clinicians should be aware that not only PTSD but also dissociative symptomatology is prevalent among war-exposed refugee youth. Second, traumatized refugee adolescents reporting severe loss of control over behavior and emotions, few to no peer relationship, depressive mood, high emotional intensity, and experiences of detachment from the self and the environment should be thoroughly assessed for dissociation. Third, this study provides preliminary support for the careful use of A-DES when assessing dissociation in this group, considering that the interview results reinforce the groupings obtained using that questionnaire. However, clinicians need to make sure, by asking open questions, that the adolescent understands the meaning of the items, and how they are interpreted in their culture of origin. Some questions were interpreted differently than the interviewers intended, for instance experiencing the trauma as "supernatural", and associating loss of time and memory to actual loss of childhood due to poverty and war. Finally, it is essential to evaluate attachment and close relationships to make sense of trauma-related consequences. Future research may screen larger and diverse groups of war-refugee youth to better understand the prevalence of dissociation as well as the possible importance of oppressive and unsafe environments in the face of trauma, and the possible moderating effects of depressive mood. Concerning trauma exposed children and adolescents in general, additional mixed-method research to better understand DE in this developmental period are called for. Finally, the current study found emotional intensity and regulation to be relevant to trauma-related dissociation and this link should be investigated further by exploring different emotional (dys)regulation strategies in the presence of trauma, and by looking at how intense related emotions are regulated during different developmental stages.

Limitations

This study used self-report cross-sectional data so no causal interferences can be made. Thus some suggested explanations are somewhat speculative but aim to give ideas for further research. The h-d group included only five individuals, providing little power and limiting some conclusions. We did not assess actual diagnoses and, in hindsight, evaluating depression would have clarified the findings related to negative mood. The studied group varied in national origin and war experience and cannot be thought of representing the "refugee population," which in itself is highly diverse. Other limitations include the use of interpreters, which may have prevented some participants from disclosing sensitive information. On the other hand, using interpreters and an interview-form enabled a broader inclusion of participants and mutual clarifications when needed. It also ensured, as far as possible, that the constructs used were comprehensible and allowed for a better monitoring of how participants were feeling during data

collection, to ensure participants' well-being. The A-DES and the interview questions had not been validated in these ethnic groups before this study, but they provided convergent validation of each other.

Conclusions

> I am sitting here, but I have those voices, it is always like that. Sometimes I become totally crazy, I do not understand what they want, what they say, I cannot understand. All those events, everything that has happened, they are talking in my brain. And it is a very difficult feeling. Sometimes I pass the station where I should get off, the bus I mean, thoughts come that make me forget, where I am. I cannot hear them clearly, there is so much in the brain.

The young person expressing this illustrates the struggle with trauma-related dissociation. This study broadens the understanding of DE in adolescents in general and war-refugee youth in particular. They not only show that trauma-related dissociation is a problem for a subgroup of traumatized refugee youth, but how it affects them. Some DE were found to be in a continuum from non to high severity, others were circumscribed to high dissociators. Severe dissociation was associated with high frequency and severity of emotional dysregulation and emotional intensity, negative self- and body-perception, depressive mood, and experiences of detachment. Clinicians are urged to be aware of and assess trauma-related dissociation in war-refugee youth, and consider how it relates to other symptoms and past and present relationship experiences.

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