

# Modelling Patterns of Negative Life Experiences and Mental Health in Faroese Adolescents

Petersen, T., PhD Fellow, Armour, C, Post Doc., & Elklit, A. Professor



Syddansk Universitet

## Introduction

### Trauma exposure

Although exposure to trauma is highly prevalent (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995), studies of adolescents' exposure to traumatic events still are relatively scarce (Elklit & Petersen, 2008). Previous analysis of data used in the current study have shown, that the prevalence of direct and indirect exposure to trauma was somewhat higher among Faroese adolescents compared to adolescents from other countries, given that reported rates were 89 % among males and 94 % among females (Petersen, Elklit, & Olesen, 2010).

### Consequences of trauma exposure

Research has shown that exposure to trauma has a negative effect on children and adolescents in various domains, and that these consequences might be prolonged or chronic. Exposure to traumatic events alters maladaptive psychological development and increases risk of maladjustment. Short and long term psychological and physical health problems are significantly more prevalent in children and adolescents exposed to traumatic events compared to those not exposed to traumatic events (Briggs, Fairbank, Greeson, Amaya-Jackson, Gerrity, et al., 2012). Finally, studies indicate that exposure to traumatic events might lead to enhanced risk of further traumatization (Stein, Hofer, Perkonig, Lieb, Pfister, et al., 2002).

### Identification of traumatized adolescents

The identification of a trauma history in adolescents is important given that knowledge of such can be used to guide treatment plans and to prevent further traumatization. Additionally, it is of great economic interest for society, as studies have shown that childhood exposure to traumatic events was associated with a significantly higher utilization of mental and physical health services among adults (Briggs, Fairbank, Greeson, Amaya-Jackson, Gerrity, et al., 2012).

### Aims

- to identify naturally occurring typologies of Faroese adolescents based on their exposure to traumatic and negative life events.
- to examine posttraumatic stress, negative affectivity, and somatization among the adolescents in the different classes.

## Method

### Procedure

#### Collection of data

The present study is based on data from the Faroese Trauma Study among Adolescents. The data was collected from a self-report questionnaire survey from 687 Faroese eighth graders (85 % response rate). The study was approved by the Faroese Data Inspection. Age ranged from 13 to 16 years ( $M=14.2$  years;  $SD=2.1$ ) and just over half of the sample were males (52.5%).

### Measures

#### Eventlist.

The questionnaire included a list of potentially traumatic events and negative life events. The adolescents were asked to choose the event most distressing. They were subsequently requested to answer the Harvard Trauma Questionnaire (HTQ), based on their most distressing event.

#### Mental health examined

##### Posttraumatic stress symptoms

Harvard Trauma Questionnaire – Part IV (Mollica, Caspi-Yavin, Bollini, Truong, Tor, & Lavelle, 1992) was used to estimate the posttraumatic stress symptoms at the time following the potentially traumatic or negative life event. The HTQ consists of 31 items out of which 17 items correspond to the posttraumatic stress diagnosis in the DSM-IV (American Psychiatric Association, 1994). Each item is scored on a four-point Likert scale. The HTQ-Part IV measures the intensity of the three core symptom groups of posttraumatic stress disorder: Intrusion, Avoidance, and Hypervigilance. Only symptoms scored above three count for a posttraumatic stress disorder diagnosis. Good reliability and validity has been reported for the scale (Mollica et al., 1992; Bach, 2003); however HTQ reliability and validity data for adolescents or Faroese subjects is not currently available. The internal consistency of the scale was high in the present study (Cronbach's alpha of 0.98 for the total PTSD scale and 0.88, 0.91, and 0.90 for the Intrusion, the Avoidance, and the Hypervigilance subscales, respectively). The mean inter-item correlations for the subscales were, correspondingly 0.64, 0.59, and 0.63, indicating a moderate discriminatory power (Briggs & Cheek, 1986).

##### Negative affectivity and somatization

The Trauma Symptom Checklist (TSC) is a broad symptom list which assesses the impact of the traumatic event or negative life event on the person's body, emotions, and cognitions, in addition to their social relations and self-image. Each item is scored on a four-point Likert scale (0: not present, 3: very often present). Good validity and reliability of the TSC has been reported (Briere & Runtz, 1989). Factor analysis of the TSC has identified two subscales: the somatization and the negative affectivity subscales (Krog & Duel, 2003). The somatization subscale consists of eight items relating to headache, dizziness, stomach ache, and other non-specific somatic symptoms. Adolescents in the current study scoring above 23 were defined as high on somatization. The negative affectivity subscale consists of ten items relating to a mixture of anxiety and depressive symptoms, such as: are you feeling sad, and thoughts of self-harm. Adolescents in the current study scoring above 30 were defined as depressed. The alpha values in this study were .82 for somatization and .85 for negative affectivity.

## Results

### Prevalence of trauma exposure

Table 1: Participants' endorsement across all ten negative trauma or life experience

Traumatic Events and Negative Life Events	Frequency of Endorsement (%)
1. Physical Assault	9.6
2. Rape	4.1
3. Witnessing the injury or death of others	9.6
4. Threats of violence	31.6
5. Suicide attempts	9.9
6. Serious illness	12.8
7. Sexual abuse	5.1
8. Physical abuse	7.3
9. Neglect	4.9
10. Humiliation or persecution from others (Bullying)	30.1

### Prevalence of posttraumatic stress, depression and somatization

One hundred and thirty-nine, that is 20.2 % of the adolescents, fulfilled the criteria for posttraumatic stress. Seventy-five (10.9%), had high scores on negative affectivity and 86 (12.5%), had high somatization scores.

Table 2. Fit indices for the two to six latent class models

	AIC	BIC	SSABIC	Entropy	LRT (p)
2C	4118.539	4213.718	4147.040	0.901	591.512
3C	4059.463	4204.498	4102.893	0.860	79.963
4C	4042.828	4237.718	4101.187	0.885	0.0315
5C	4035.082	4279.828	4108.370	0.754	38.105
6C	4036.071	4330.672	4124.288	0.780	0.0436
					29.337
					0.1789
					20.723
					0.0364

Note. AIC = Akaike information criterion; BIC = Bayesian Information Criterion; SSABIC = sample size adjusted Bayesian Information Criterion; LRT (p) = Lo-Mendell-Rubin adjusted likelihood ratio test value and associated significance level

### Latent Class Analysis

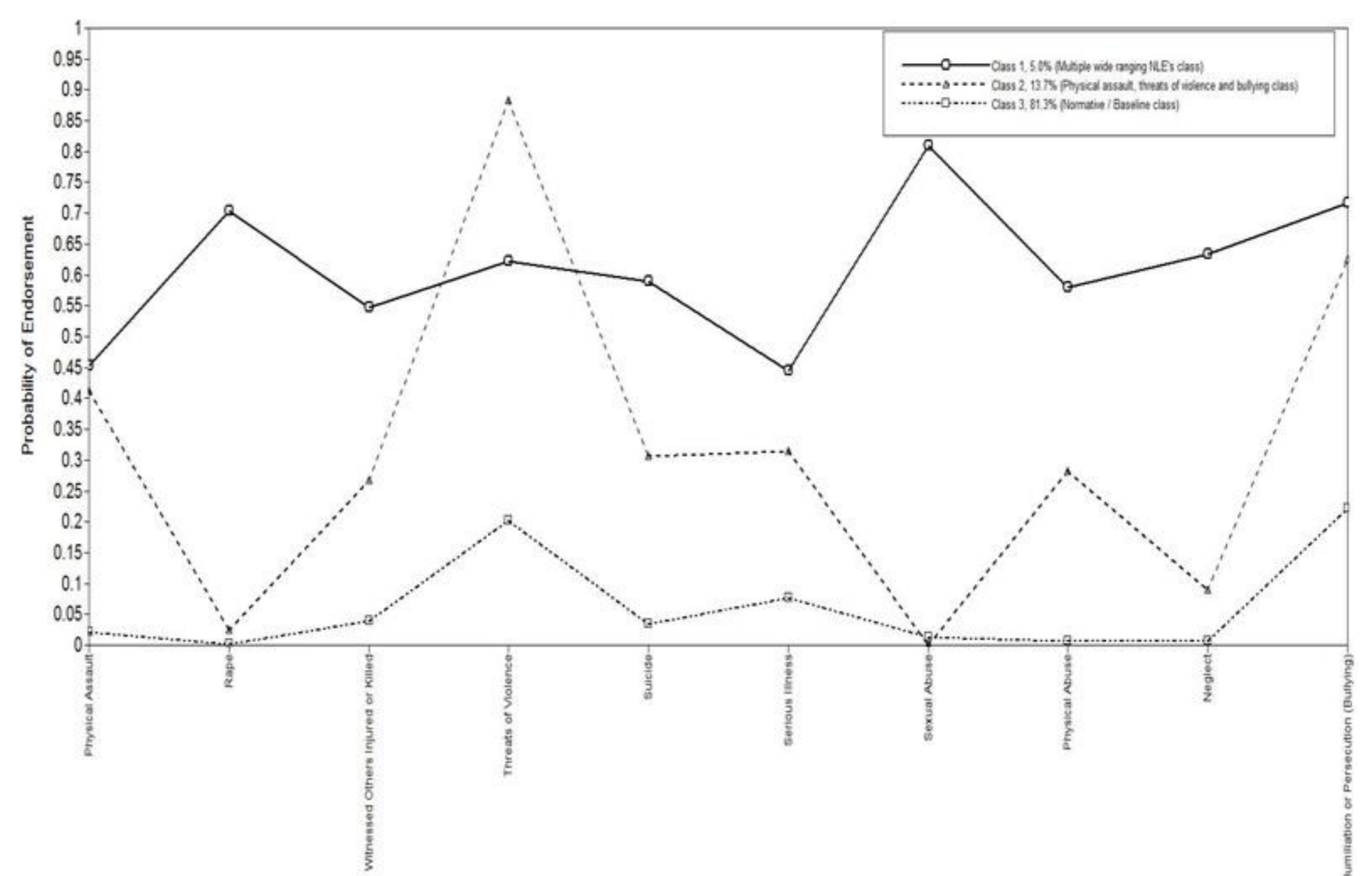
#### Class enumeration.

The fit statistics for latent class models, two to six, across 10 binary NLE indicators are presented in Table 2. When applying the recommendation of DiStefano and Kamphaus (2006) the largest decrease for the SSABIC value occurs from the two to three class solution suggesting that the three class solution is optimal, albeit that there is a slight rise in value from the four to five class solution and the five to six class solution.

### Logistic Regressions

Logistic regression was conducted using the covariates of gender, posttraumatic stress, somatization and negative affectivity to determine if individuals of male gender, those who met the diagnostic criteria for posttraumatic stress disorder, and those who had high scores on somatization and negative affectivity would be more likely to be members of classes one (multiple wide ranging PTE class) and two (physical assault, threats of violence, and bullying class) compared to class three (baseline class).

Figure 1. Profile plot of traumatic events and negative life events classes.



### Gender

There was no significant association found between gender and class one compared to class three. However, membership in class two compared to class three was significantly predicted by gender in that males were almost three times as likely to belong to class two compared to class three (OR = 2.4; CI = 1.81 – 3.42).

### Posttraumatic stress disorder

Posttraumatic stress disorder significantly predicted membership in classes one and two. Indeed, individuals who met the diagnostic criteria for posttraumatic stress were over twice as likely to be members of class one (OR = 2.41; CI = 1.17 – 4.50) and over twice as likely to be members of class two (OR = 2.45; CI = 1.73 – 3.47).

### Somatization and negative affectivity

High scores on somatization and negative affectivity both provided significant associations with classes one and two compared to class three. Individuals meeting the criteria for somatization were almost three times as likely to be members of class one (OR = 2.76; CI = 1.36 - 5.59) and over twice as likely to be members of class two (OR = 2.45; CI = 1.60 - 3.74) compared to class three. Individuals meeting the criteria for negative affectivity were just over five times as likely to be members of class one (OR = 5.18; CI = 2.38 - 11.28) and almost three times as likely to be members of class two (OR = 2.80; CI = 1.79 - 4.37) compared to class three.

## Conclusions

Because latent class analyses are exploratory and empirically driven, they provide latent variables that best describe the data. The present study can be said to be a concise picture of how Faroese adolescents are exposed to trauma and what consequences they have on their psychological wellbeing.

Almost 1/5 of the Faroese eighth graders were exposed to different traumas and had severe symptoms of psychological distress that need treatment.

Of those, one fourth, that is 5 % of the total population, had major symptoms of distress and were exposed to severe childhood trauma that require both psychiatric treatment and psycho-social intervention.