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An evaluation of the absolute and relative stability of alexithymia over 11 years in a Finnish general population

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ABSTRACT

Objective: We investigated if alexithymia, a personality construct with difficulties in emotional processing, is stable in the general population.
Methods: Altogether 3083 unselected subjects aged 30 and older in Finland completed the 20-item Toronto Alexithymia Scale (TAS-20) in the longitudinal Health 2000 and Health 2011 general population surveys (BRIF8901). The stability of alexithymia at the 11-year follow-up was assessed with *t*-tests, correlations, and separate linear regression models with base-line and follow-up age, gender, marital status, education, and 12-month depressive and anxiety disorders as confounders.
Results: The mean score (SD) of the TAS-20 for the whole sample was 44.2 (10.4) in 2000 and 44.2 (10.9) in 2011 ($p = 0.731$). The mean score of the TAS-20 subscale Difficulty Identifying Feelings increased by 0.3 points, Difficulty Describing Feelings decreased by 0.6 points and Externally Oriented Thinking increased by 0.3 points. The effect sizes of the changes varied from negligible to small. Age had little effect except for the group of the oldest subjects (75–97 years): the TAS-20 mean (SD) score was 49.1 (10.1) in 2000 and 53.1 (10.3) in 2011 ($p < 0.001$), the effect size for the increase was medium. TAS-20 score in 2000 explained a significant proportion of variance in TAS-20 score in 2011. Controlling for all baseline confounders improved the model incrementally; the same applied to controlling for confounders at follow-up. Baseline depression or anxiety disorders were not associated with the TAS-20 scores in 2011, whereas current diagnoses were.
Conclusions: According to our large longitudinal study both the absolute and relative stability of alexithymia assessed with the TAS-20 are high in the adult general population.

1. Introduction

Alexithymia is a term coined by Sifneos in the 1970's meaning literally "no words for feelings" [1]. It signifies a personality construct with difficulties in identifying and describing feelings and an unimaginative and externally oriented style of thinking. According to a growing body of literature alexithymia is associated with several medical conditions [2–4], psychosomatic disorders [5,6] and psychiatric disorders [7–11]. In epidemiological studies, alexithymia has been associated with male gender, living alone, lower education and lower income [12–14].

The stability of personality traits in populations across the life course has been evaluated with absolute stability (the extent to which mean-

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level scores change over time) and with relative stability (the extent to which relative differences among individuals remain the same over time). At a population level it seems that most personality traits have some mean-level changes across the life course, but relative stability or rank-order consistency shows a progressive increase with age [15].

As alexithymia has repeatedly been found to be associated with negative affective states, especially depression and anxiety, it has been postulated that rather than being a stable personality trait it may be a transient, state-like secondary phenomenon as a reaction to psychological distress [16–19]. Moreover, there is evidence that suggests that alexithymia can be modified with psychological interventions [20] which may help to improve various treatment outcomes [21]. Most of the previous studies concerning the stability of alexithymia have been confined to clinical populations and their findings are inconsistent. The studies have evaluated both absolute and relative stability. According to longitudinal studies by Fukunishi et al. [22], Spek et al. [23] and Marchesi et al. [24], alexithymia scores decreased when a disease was alleviated and both absolute stability and relative stability of alexithymia were low among anxiety disorder patients [22], patients with subthreshold depression [23], and pregnant women with depressive symptoms [24], thus supporting the idea of alexithymia being a defense mechanism to cope with stressful events. On the other hand, both the absolute and the relative stability of alexithymia were high in longitudinal clinical studies of patients with breast cancer [16], patients with alcohol and substance use disorder [17,25], depressed outpatients [26] and general practice somatization patients [27], suggesting that alexithymia is a stable personality trait. There also are studies where the relative stability of alexithymia was high while the absolute stability remained low, for example among depressed patients [28], patients with cancer [29], inpatients with neurotic and psychosomatic syndromes [30], obsessive-compulsive disorder inpatients [31], and patients with inflammatory bowel disease [32]. These studies attest to the theory that even though psychological stress may intensify alexithymic characteristics, and even though these characteristics are ameliorated after the stressful event, the relative differences among individuals remain the same over time.

While some research has been carried out on the stability of alexithymia in general populations, no large longitudinal population-based studies have been reported that include both sexes and a population large enough for multivariate modeling to measure the relative stability of alexithymia. According to two studies concerning the stability of alexithymia in Finnish general populations, both the absolute and relative stability of alexithymia were high among middle-aged men [33] and among adolescents [34]. However, these investigations had restricted samples and only the study by Karukivi et al. [34] assessed alexithymia with the most recent version of the Toronto Alexithymia Scale, the 20-item TAS-20.

The findings concerning the association between age and alexithymia have been inconsistent in cross-sectional studies. In two population-based studies in Germany and one in Japan, no association between age and alexithymia was found [6,35,36] whereas in three studies in Finland the correlation between higher alexithymia and older age was found to be significant [8,13,14]. A study with a small general population in the United Kingdom found that older adults tend to engage in more externally oriented thinking than younger adults, but rate themselves as better at identifying feelings [37]. To date, there have been no longitudinal studies in general populations investigating whether the association between age and alexithymia remains stable or changes with advancing age, that is, if the association with higher age is either a cohort phenomenon or an attribute of aging.

The aim of the current study was to investigate the absolute and relative stability of alexithymia in a large, unselected sample of the Finnish adult general population in an 11-year follow up setting. We evaluated the stability of alexithymia and its subscales (difficulty identifying feelings, difficulty describing feelings, and externally oriented thinking) in both men and women and in different age groups. We also examined how earlier and current diagnoses of depressive and anxiety disorders contributed to the prediction of the mean TAS-20 score in 2011.

2. Methods

This study is part of the Health 2011 Survey, which is a follow-up study of the Health 2000 Survey (BRIF8901). Health 2000 Survey was a nationally representative survey of the Finnish population based on a sample of 8028 adults aged 30 years and older living in mainland Finland. The study used a two-stage clustered sampling of 15 largest towns and 65 health districts. Persons aged 80 years and over were oversampled by doubling the sampling fraction [38]. The study consisted of an interview to gather basic background and sociodemographic information, and information on health-related factors. There were 6770 subjects who also participated in a health examination after the interview and were given a self-administered questionnaire, the 20-item Toronto Alexithymia Scale (TAS-20). Of them 5454 (67.9% of the whole sample) Finnish or Swedish speaking subjects returned the TAS-20 questionnaire completed.

The invitation to take part in the Health 2011 survey was sent to all persons who had been included in the Health 2000 survey, were alive and living in Finland, had contact details available, and had not refused to participate [39]. Because the Health 2000 Survey was not an intervention study, mortality and emigration of the study population is equal to that in the whole population, and therefore Health 2011 Survey is considered to be representative of the Finnish population in 2011. The study had approval of the Ethics Committee of the Hospital District of Helsinki and Uusimaa. Participants provided written informed consent.

2.1. Study population and attrition

In Health 2011 Survey, 4620 people aged 41 years and over participated in at least one part of the study. Of them 4013 also participated in health examinations and were given the TAS-20 and 3446 (85.9%) of those returned it completed. Altogether 3083 Finnish or Swedish speaking men (n = 1362) and women (n = 1721)—56.5% of the year 2000 sample—completed the TAS-20 both in 2000 and in 2011 and were included in our substudy. The study flow and numbers of participants are presented in Fig. 1.

A logistic regression analysis was performed to test whether dropout after 2000 was predicted by age, gender, marital status or years of education in 2000 in step 1, and the mean TAS-20 score and the 12-month prevalence of depression and anxiety disorders in 2000 in step 2. Dropout was lower among women than among men (adjusted OR = 0.80, 95% confidence interval (CI) 0.71, 0.90, $p < 0.001$) and higher among those who lived alone than among those who were married or cohabiting (adj. OR = 1.69, 95%CI 1.48, 1.92, $p < 0.001$). Older age and lower education also predicted dropout significantly (adj. OR = 1.03, 95%CI 1.03, 1.04, $p < 0.001$ for aging one year and adj. OR = 0.92, 95%CI 0.90, 0.94, $p < 0.001$ for one year more education). In step 2 the higher mean TAS-20 baseline score (adj. OR 1.03, 95% CI 1.02, 1.03, $p < 0.001$ for one point increase in the TAS-20 score) predicted dropout in 2011 significantly. Depression and anxiety disorders did not significantly contribute to participation in 2011 (adj. OR 0.97, 95% CI 0.86, 1.09, $p = 0.610$ for depression and adj. OR 0.94, 95% CI 0.81, 1.09, $p = 0.391$ for anxiety disorders).

2.2. Measures

Alexithymia was measured with the 20-item Toronto Alexithymia Scale (TAS-20) [40,41], which is the most widely used instrument for assessing alexithymia. The internal consistency, reliability and validity of the TAS-20 have been shown to be good in >20 different language versions of the scales, including Finnish [42] and Swedish [43] which were used in the current study. The TAS-20 consists of 20 items that are rated on 5-point Likert scales, giving composite scores ranging from 20 to 100. The TAS-20 is comprised of three subscales that measure three central facets of the alexithymia construct: difficulty identifying