Determinants of early- vs late-onset dental fear in a longitudinal-epidemiological study

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Abstract

A longitudinal investigation of risk factors for early- and late-onset dental fear was conducted. Early-onset dental fear was related to conditioning experiences (indexed via caries level and tooth loss), service use patterns, stress reactive personality and specific beliefs about health professionals. Late-onset dental fear was related to aversive conditioning experiences, irregular service use and an external locus of control. In contrast to recent findings for dental anxiety, personality factors were not strongly related to the onset of dental fear in young adulthood. The key role played by conditioning events in the development of both early- and late-onset dental fear was confirmed. Conditioning events appear to play a different role in the development of dental fear vs dental anxiety. This may reflect important, but largely ignored differences between these two closely-related constructs. Interventions for early-onset dental fear should aim to modify both the dental fear and the personality vulnerabilities that may contribute to the development of dental fear early in the life-course. © 2001 Elsevier Science Ltd. All rights reserved.

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1. Introduction

The commonly held view that dental fear arises in youth and results from traumatic dental experiences (Kleinknecht, Klepac & Alexander, 1973; Lautch, 1971; Milgrom, Mancel, King & Weinstein, 1995; Shoben & Borland, 1954) may require revision (Locker, Liddell, Dempster &

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Shapiro, 1999). Locker et al. (1999) studied the closely-related construct of dental anxiety among a community study of adults (aged 18 years and over) and obtained data consistent with at least two alternate paths to dental anxiety (Weiner & Sheehan, 1990). The first pathway involved conditioning events and was associated with early onset of anxiety; a second pathway, typifying late-onset cases, was characterised by high levels of general fearfulness and trait anxiety and relatively few aversive conditioning events. Based on these findings, Locker and his colleagues suggested that the late onset anxiety group might be particularly difficult to treat as it comprises individuals with an apparent constitutional vulnerability to negative affective states. Similar findings regarding the relative redundancy of conditioning events in the development of late-onset dental anxiety have recently been reported from a longitudinal cohort study (Thomson, Locker & Poulton, 2000).

Establishing the role of conditioning events in early- vs late-onset dental fear would be of interest for both practical and theoretical reasons. For example, the belief that chronic fear (emerging early in the life course in vulnerable individuals) should be more difficult to treat (Fiset, Milgrom, Weinstein & Melnick, 1989; Roy-Byrne, Milgrom, Khoon-Mei, Weinstein & Katon, 1994) may no longer be justified (Locker et al., 1999). From the theoretical perspective, findings that demonstrate the irrelevance of conditioning processes in late-onset dental fear would be inconsistent with associative and non-associative accounts of fear acquisition, as both predict a relation between aversive events and the development of dental fear (Mineka & Zinbarg, 1995; Poulton, Waldie, Menzies, Craske & Silva, 2000; Rachman, 1977, 1991). Understanding the processes involved in fear acquisition is important for the development of effective interventions. Accordingly, the present study examined the role played by conditioning events (indexed by caries experience and tooth loss), dental service use patterns, personality traits and locus of control in the development of early- vs late-onset dental fear (Locker et al., 1999; Thomson et al., 2000).

2. Method

2.1. Participants

The sample consisted of members of the Dunedin Multidisciplinary Health and Development Study, a longitudinal investigation of children born in Dunedin, New Zealand between 1 April 1972 and 31 March 1973 (Silva & Stanton, 1996). Briefly, the original sample (n=1037) has been assessed on a wide variety of psychological and medical measures at two year intervals from age 3 to 15, and subsequently at 18 (n=993), 21 (n=992), and most recently in 1998–99 at age 26 when 96.2% of the living cohort (n=980) was assessed.

2.2. Dental fear at age 11, 18 and 26

As part of the mental health assessment at age 11 (Costello, Edelbrock, Kalas, Kessler & Klaric, 1982), study members were asked “In the last year, have you worried about things before they happened (like going to the doctor, or having a test at school)”? If study members volunteered (i.e., unprompted) that they “always” worried about going to the dentist, they were classified as having dental fear (n=26, 3.3%). At age 18, study members were administered a modified version
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