Socio-economic background and computer use: the role of computer anxiety and computer experience in their relationship

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Abstract

The proposition that socio-economic background relates to amount of current computer use indirectly, via its relationship with computer experience and computer anxiety, was tested with questionnaire data from a sample of 267 university students. The results supported the proposition, as they indicated a causal path model that contained a positive indirect relationship of socio-economic background with the amount of current computer use, via computer experience and computer anxiety. Socio-economic background had a direct positive relationship with computer experience and an indirect negative relationship with computer anxiety. The pattern of relationships was held over and above the variance accounted for by the set of control variables that included, among others, computer access and sex. The findings are supportive of the digital divide and they imply that information technology may in fact be increasing inequalities among social strata in their access to employment opportunities. The limitations of the study along with potential directions for future research are discussed.
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Keywords: Computer anxiety; Digital divide; Socio-economic background; Computer experience; Computer use; Computer access; Causal path model

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1. Introduction

The term "digital divide" refers to the unequal distribution of opportunities across societal groups to reap the benefits of computerization. Socio-economic level is one of the major factors implicated in the digital divide and the differential access to the benefits of computerization (e.g. Organization for Economic Co-Operation and Development, 2001). This study sought to provide an account for the link between socio-economic background and computer use by proposing and testing a causal path model that connects these factors by means of their relationship with computer experience and computer anxiety.

1.1. Computer anxiety and computer experience

Computer anxiety refers to negative emotions evoked in actual or anticipated interaction with computers (e.g. Raub, 1981; Heinssen et al., 1987). The behavioural manifestations of computer anxiety include avoidance of computers and minimization of any necessary interaction with computers (e.g. Maurer and Simonson, 1984; Deane et al., 1995).

Despite the proliferation of computers in the present era, computer anxiety still constitutes a serious issue for the society and the economy. A recent empirical study on the prevalence of computer anxiety in the United Kingdom (UK), a country that has one of the highest computer penetration rates in the world (Organization for Economic Co-operation and Development, 2004), indicated that more than 20% of experienced managers and professionals and more than 40% of undergraduate students display symptoms of computer anxiety to a substantial degree (Bozionelos, 2001a). Computer anxiety incurs considerable costs for the economy (see Bozionelos, 2001a) because of its adverse effects on the amount of computer use and on performance in computer-related tasks (Rosen et al., 1993; Rosen and Weil, 1995; Anderson, 1996; Mahar et al., 1997; Brosnan, 1998; Browndyke et al., 2002), but also because of its negative effects on individual well-being and work attitudes (Hudiburg, 1990; Murrell & Sprinkle, 1993; Rosen et al., 1993). For example, Brosnan (1998) found that computer anxiety negatively affected performance in a task that required use of computer software. And Murrell and Sprinkle (1993) found that employees' scores on computer anxiety were negatively related to their job satisfaction, which in turn was related to their commitment towards their employing organization.

Amount and breadth of experience in the use of computers (conventionally referred to as "computer experience") is the most consistent correlate of computer anxiety (meta-analytic review by Chua et al., 1999; and for recent empirical studies see Choi et al., 2002; Beckers and Schmidt, 2003). Although computer experience alone does not provide an exhaustive account for individual differences in computer anxiety (Rosen and Maguire, 1990; Rosen and Weil, 1995; Mahar et al., 1997; Bozionelos, 2001b), empirical evidence from quasi-experimental and longitudinal research does suggest that acquisition of computer experience by individuals is associated with decreases in their computer anxiety scores (e.g. Gilroy and Desai,