Gender Identity and Systems Development

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INTRODUCTION

This article draws on interviews and case study research on gender-IT relations to examine the relationship between gender identity and IT development activities. It explores the intertwining of gender and technological identity for women in office work contexts, a location where a boundary between the design and use of IT systems has long been recognised. It is important to explore identity construction within this framework of design and use as separate activities since women's identity is constrained on both sides of this perceived boundary. The article first explores issues for women as IT professionals, then as users of IT-based work systems and lastly, it discusses the feasibility of constructing gender identities that encompass and recognise the technical work that both developers and users do.

BACKGROUND

There has long been a feminist concern with the masculine construction of computer-based systems in European and North American gender and IT research. Statistical evidence continues to indicate male dominance in information systems development (Ahuja, 2002). The association between masculinity and technology remains strong and "men's affinity with technology is integral to the constitution of subjective identity for both sexes." (Wajcman, 2004, p.111) I have argued that gendered technology relations are implicit in this perceived boundary between the activities of design and use (Stepulevage, 2003). As Webster notes, "The very processes and methods used in the development of computer systems are carried out in a world apart from that of the workers who are the users." (1996, p. 148) Women's identity in relation to IT systems for office-based work is assumed to be that of "user" rather than designer or developer. Narratives by women about their experiences with computers and IT, however, demonstrate that there is a strong association between women and the development of computer technologies (Abbate, 2003).

Research on the development of IT office systems presents a complicated picture of how the identities of women IT professionals and office workers are viewed and how they situate themselves in relation to technical practices. It demonstrates that identity as a technologist is difficult to maintain for women IT professionals and difficult to claim for women clerical workers, as the following quotes demonstrate. A woman IT professional comments: "At its worst it can feel like people think women are only there to look pretty…or to make the systems look pretty." (Woodfield, 2002, p. 135), and a clerical worker interviewed during the implementation of a IT application notes, "I am not supposed to be interested in computers." (Stepulevage & Mukasa, 2005, p. 117). This article is concerned with questioning the constraints of a gendered boundary that situates men as the technical developers of IT systems and women as the users of these systems.

THEORETICAL APPROACHES

The gender and IT literature dealing with women's position as IT professionals and users can be said to conceptualise identity as either socially shaped or socially constructed. Both of these approaches firmly place the relations of technology as significant to identity construction.

A social shaping perspective focuses on women's identity as shaped through their life experiences, and skills and knowledge they have developed in everyday life. In a collection of papers concerned with the gendering of systems design, Bodker and Greenbaum (1993) discuss how different life experiences, especially those in employment, can influence ways of

thinking about work activities such as IT systems development. They describe the typical professional IT developer as male, and they locate a masculine perspective on the "things" side of a "things vs. people" split, in which development activities are premised on a logical, reductionist approach that ignores the social relations of office life. Bodker and Greenbaum argue for a more inclusive approach to development, suggesting methods that enable cooperative design with office workers as active participants. This perspective challenges the separation between design and use in that IT professionals' identities are enlarged to encompass the social as well as the technical constituents of design activities, and office workers' identities are transformed from end-users to valuable contributors to the development process.

A social constructionist perspective analyses the construction of gender identity as a moving, relational process achieved in daily social interactions (Wajcman, 2004, p. 54). I draw on this conception of identity as it allows for changing interpretations of design and use activities as they intertwine with gender relations and constitute identity as a developer or user. Narratives and case studies of women systems developers offer examples of the significance of gender identity in the social interactions of development work. In Grundy's narrative of her experience of working in information systems in a local health authority, she describes development activities such as working with users to create new report formats, as being conceptualised by the dominant male group as the "messy" side of computer development. She notes that male developers, constituting their identity as technical, have little interest in this work and avoid it or do it badly. Grundy draws a link between this messy work and women's identity as bound up with housework (1994). Harvey notes that within the IT cultures she studied "woman is only allowed an identity through her role interaction with a man." (1997, p. 169) She examines her experiences of IT cultures in a number of work contexts and identifies four projected views of women, woman as victim, as wife, as prostitute, and as mother/carer of men, each identity mutually constructed as women carry out IT development in a male dominant culture.

WOMEN IT PROFESSIONALS AND IDENTITY

Gender and IT research has exposed some of the constraints that influence identity-construction for women working as IT professionals. Their identity is often categorised in extremes, such as being the "odd girl out" (Trauth, 2002) or aligning themselves with males as one of the boys (von Hellens, Nielsen, & Trauth, 2001). Women's outsider status is demonstrated in a "coke and pizza culture" where work takes precedence over domestic and leisure activities in order to complete IT projects (von Hellens et al., 2001). This literature engages with the difficulties of being a woman in a male-identified and/or male-dominated culture of IT development and notes that many women in IT shift from more technically-identified areas to people-identified ones. Woodfield notes that there has been a shift in the profile of the IT industry in the UK from workers with specialist technical skills to those who also are deemed to have social and communication skills (2002, p. 120). Her analysis of the dominant discourses in relation to social skills and IT development work provides evidence of the association between gender identity and development activities for these "hybrid" workers. One of the discourses questioned the effectiveness of the women's work. While women were credited with being able to improve relations, "these abilities were rarely related specifically or directly to the core, creative or constructive aspects of IT design and development" (p. 126). Another discourse indicates that social skills were valued, but they were more valued when associated "with the working personae of technical men" (p. 129). I believe that though this hybrid identity is an attempt to foster effective social relations within development work, it can also help constitute gender identity in ways that continue to devalue the social and promote the technical in constructing identity as a systems developer.

A persistent myth about women and IT is that women are not involved in IT development (Mortberg, 2000). Mortberg asks, as one of a number of women who have developed IT-based systems, "are we women?" While she does not develop an analysis of her question regarding gender identity, she is expressing a concern about destabilisation of gender