

MITIGATING THE MATILDA EFFECT ON CHRISTINE VON PRÜMMER: A (RE-)ILLUMINATION OF HER EXTRAORDINARY WORK

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ABSTRACT

The *Matilda effect* refers to the systematic under-recognition of women's accomplishments in scientific fields (Rossiter, 1993), which we previously proposed extends into additional fields coded male within our culture, such as educational technology and distance education (Schmidt et al., 2021). In the current paper, we attempt to reverse the Matilda effect by highlighting the accomplishments of a groundbreaking early feminist distance education researcher, Christine von Prümmer, whose cross-national, multi-institutional empirical research focused on gender differences in online, digital, and distance education (ODDE). We briefly review von Prümmer's biographical background before exploring her major achievements in ODDE research, which include challenging accepted notions regarding the supposed gender neutrality of theories of learning (such as andragogy), uncovering empirical evidence of female distance learners' needs as distinct from those of "standard" (i.e., male) distance learners, and offering guidance to institutions across the world regarding how they might best support women learners' success in an ODDE environment. We conclude that von Prümmer's omission from standard textbooks and other works focused on distance education provides further evidence of the Matilda effect within this field.

Keywords: Matilda effect, women researchers, distance education, online education, gender differences, gender equity, feminist researchers

INTRODUCTION

In an earlier paper, we argued that the *Matilda effect*—the well-established phenomenon by which women's scientific accomplishments are systematically under-recognized—extends into the field of open, digital, and distance education (ODDE; Rossiter, 1993; Schmidt et al., 2021). Given the association of ODDE with computing and digital technology, both of which remain largely coded male within our culture (Makarova et al., 2019), we suggested that this extension was likely (Schmidt et al., 2021). As an example of the Matilda effect's impact within ODDE, we described the accomplishments of Starr Roxanne Hiltz, a superlative early online learning researcher, whose work is now largely forgotten.

In an era in which a computer was a million-dollar machine locked behind a glass wall, Hiltz's seminal 1978 publication, *Network Nation* (which was named the best technical-scientific publication of the year by the Association of American Publishers), anticipated the future of networked computing, including not only work, shopping, and banking from home via a computer, but also learning online (Hiltz & Turoff, 1978). Hiltz created the world's first fully functional learning management system, ran the world's first fully online postsecondary courses, and performed extensive research on online communities, with a particular focus on their social and emotional aspects (Hiltz, 1984, 1994; Kerr & Hiltz, 1982). Her work anticipated Garrison et al.'s (2000) Community of Inquiry (CoI) framework by more than two decades—and yet, while CoI is familiar to virtually every student of distance education theory, Hiltz's name remains comparatively unknown (Schmidt et al., 2021).

Hiltz is not the only female researcher within the field of ODDE impacted by the Matilda effect. Numerous other women have performed important—at times groundbreaking—research within the field over the past five decades. While some of this work may have been recognized in its time, it has since become largely invisible. This disappearance is congruent with the Matilda effect. As Rossiter (1993) describes, the Matilda effect not only results in systematic under-recognition in a woman's own time: it also results in her obliteration from history, even if a woman was reasonably well-known in her own day.

One such woman is Christine von Prümmer, whose work, spanning five decades, focused primarily on the issues facing women in open, digital, and distance learning environments, both as students, and as faculty or staff (Bainbridge & Wark, 2022). The author of *Women and Distance Education: Challenges and Opportunities* (2000), von Prümmer carried out the first large-scale empirical investigation into the conditions under which men and women study at a distance, a project that later expanded to encompass the first international and multi-institutional research into gender issues in distance education (Kirkup & von Prümmer, 1990; von Prümmer, 2000; von Prümmer et al., 1988). Von Prümmer and her collaborators identified women's gender-specific needs in multiple areas, including pedagogy and student support (Kirkup & von Prümmer, 1990; von Prümmer, 2000). Her research and advocacy contributed to a seismic shift in the culture of her own postsecondary ODDE institution, from zero female professors throughout the 1970s to a female president of the institution in 2018, and from a student population that was only 17% female in the early 1980s to over 40% female in 2018 (Bainbridge & Wark, 2022). In her own words, "I do feel that we made a contribution with our research and the sharing of the results" (Bainbridge & Wark, 2022, p 376).

This paper focuses on von Prümmer's essential contributions to the field of ODDE, with the aim of reversing the Matilda effect and bringing her accomplishments (back) to light. It begins with a review of her background and then explores her work in more depth, with a focus on her contributions to the understanding of challenges and opportunities for women as learners, as researchers, and as faculty and staff in the ODDE environment.

BIOGRAPHICAL BACKGROUND

Christine von Prümmer was born in Germany in 1946 and completed the equivalent of a high school diploma in Germany in 1966 (Bainbridge & Wark, 2022; von Prümmer & Rossié, 1988a). She received a full scholarship to Smith College, an elite women's institution in the northeastern United States, from which she graduated with honours in sociology in 1969 (Bainbridge & Wark, 2022). Of note, Smith College is not only a top liberal arts college in the United States (and one of the Seven Sisters); it is also the alma mater of second-wave feminist icons, Betty Friedan and Gloria Steinem (Smith College, n.d.).

After her graduation from Smith, von Prümmer went on to study at the University of Konstanz in Germany, where she completed a Master's degree in sociology and political science in 1973 (Bainbridge & Wark, 2022). She moved to Stuttgart in 1974 to lead a three-year sociological study, during which time she was also involved in establishing a refuge for women experiencing domestic violence, an important initiative of second-wave feminism (Bainbridge & Wark, 2022). In 1978, she spent six months in England on contract, completing the pilot phase of a research project examining the housing needs of women who had experienced domestic violence (Bainbridge & Wark, 2022). From late 1978 until her retirement in 2011, she was an institutional researcher and evaluator at the FernUniversität (FeU) in Germany, a single-mode distance education postsecondary institution established in 1974 (Bainbridge & Wark, 2022). From 1978 until her retirement (and beyond), the focus of her research was distance education.

Initially, von Prümmer was primarily interested in the potential for distance education to ameliorate educational disadvantage, such as disability, or a remote or inaccessible geographic location (von Prümmer, 2000). Over the next several years, however, she became "concerned with the situation of women in distance education, specifically women academics like me who were grossly under-represented at FeU and, indeed, at other universities" (Bainbridge & Wark, 2022, p. 373). Indeed, when she began her work with FeU in 1978, "there were only male professors, not one woman" (Bainbridge & Wark, 2022, pp. 370, 376). In fact, it was not until 1985, 10 years after FeU's establishment, that the institution appointed its first female professor (von Prümmer, 2000). Von Prümmer (2000) noted that given the history of FeU, this is not particularly surprising: the founding committee of the institution, established in 1974, did not count a single woman amongst its 35 members.

Von Prümmer's understanding of the impacts of sexism in the field was not merely theoretical. In a recent interview, she noted that "not being taken serious[ly] as a woman" (Bainbridge & Wark, 2022, pp. 376, 425) was a significant challenge throughout her career. She related an anecdote in which, after she presented at her first international conference, a male professor from her own institution got up, stood in front of her with his back to her, and said to the audience that he "didn't know what I was talking about" (Bainbridge & Wark, 2022, p. 425). Ironically, the subject of her talk had been the situation of women in distance education, and afterwards, "some other colleagues, men as well as women, told him that he was demonstrating what I had been talking about" (Bainbridge & Wark, 2022, p. 425). Perhaps unsurprisingly, von Prümmer described the incident as "just one instance of how women who were asking for women's rights in the University were treated by many male colleagues and professors" (Bainbridge & Wark, 2022, pp. 425, 376).

In addition to her own experience working for a profoundly male-dominated institution, von Prümmer's interest in women in distance education was prompted by a particular discovery. In 1983, she participated in a four-month academic exchange program with Canada's Athabasca University, a single-mode distance education postsecondary institution like FeU (von Prümmer, 2000). While there, she learned that approximately two-thirds of the students at Athabasca University were women, compared to only 17% of students enrolled at FeU at the time (von Prümmer, 2000). This gap in representation at her own institution precipitated her quest to uncover "the real reasons behind the under-representation of women" (von Prümmer, 2000, p. xiv), a project that occupied much of her subsequent career.

During von Prümmer's stay in Canada, she also connected with members of the newly formed Women's International Network (WIN), a collective of female distance education researchers within the International Council for Distance Education (Bainbridge & Wark, 2022; Danver, 2016; ICDE; von Prümmer, 2011). Of note, ICDE—a professional organization whose membership is accessible to educational institutions offering

postsecondary and adult education at a distance—was overwhelmingly male-dominated at the time, despite the fact that, as von Prümmer describes, “the majority of people working and studying in distance education were women” (Bainbridge & Wark, 2022, pp. 374, 432; Danver, 2016). In fact, at the 12th ICDE world conference in 1983 where WIN was formed, only 93 of the 374 members present—less than a quarter—were women (Danver, 2016). WIN had a dual aim: to give a voice to women within ICDE, and to identify and address gender issues within the field of ODDE (Danver, 2016; von Prümmer, 2011).

Von Prümmer’s work appeared in “the first tangible WIN product” (von Prümmer, 2011, p. 117), an international collaboration between female researchers entitled, *Toward New Horizons for Women in Distance Education: International Perspectives*, which included contributions from every continent (Faith, 1988). Her chapter (with collaborator, Ute Rossié), entitled “Gender-Related Patterns in Choice of Major Subject or Degree Course at the FernUniversität (West Germany),” followed her previous publication in the *ICDE Bulletin* (now *Open Praxis*) on the same subject, “Women at the FernUniversität: Gender-Related Differences in Students’ Choice of Degree Programs”; it describes a significant mixed-methods study with over 1,000 participants, which explored the underlying reasons for women’s underrepresentation at FeU (von Prümmer, 1986; von Prümmer & Rossié, 1988a, 1988b). *Toward New Horizons* was released at the ICDE World Conference in Oslo in 1988, a conference at which, according to von Prümmer, “women were more fairly represented in keynotes and sessions” (Bainbridge & Wark, 2022, pp. 374, 432) than they had been at previous ICDE conferences. In fact, in 1993, WIN ran its own international conference, on the theme of feminist pedagogy and women-friendly perspectives in distance education, with von Prümmer as keynote speaker (Bainbridge & Wark, 2022).

The late 1980s and early 1990s, with its publications, active research collaborations, and the international conference, represent the pinnacle of WIN’s influence. In 1997, ICDE stopped funding the group, and it ceased to exist due to a lack of financial resources (Bainbridge & Wark, 2022). As von Prümmer related, at the ICDE conference that year (in 1997), it was “again men on the podium” (Bainbridge & Wark, 2022, p. 379). In fact, von Prümmer described a female researcher at the 1997 conference, Gisela Pravda, going up on the podium and saying “she was going to just test if it would break down if a woman stepped on it, somebody other than a white Anglo-Saxon Protestant [male] in a dark suit” (Bainbridge & Wark, 2022, p. 379). The relative heyday of women in the field had come to an abrupt end, with von Prümmer (2011) stating that “ICDE is once again a male-dominated organization” (p. 117).

In 1996, just prior to the suspension of WIN, von Prümmer completed her Ph.D., which she had been actively pursuing for the previous eight years (Bainbridge & Wark, 2022). Her doctoral work focused on working-class women’s social mobility through distance education; her approach, which examined the social position of women’s mothers and fathers, as well as women’s own social positions, was groundbreaking at the time, as women’s social mobility was usually extrapolated from the male figures in their lives (their fathers and husbands) rather than being examined directly (Bainbridge & Wark, 2022). Her thesis was published in German in 1998, and in 2000, her English-language book, *Women in Distance Education: Challenges and Opportunities*, which not only built on the foundation of her doctoral work but extended well beyond it, was released. Numerous research articles and book chapters followed, both before and after von Prümmer’s mandatory retirement in 2011. Of note, von Prümmer’s expertise in the area of gender and distance education continued to be recognized in the 2000s, at least by feminist researchers: she was invited to write the entry on distance education in the encyclopedias *Gender and Education: An Encyclopedia* and *Gender and Higher Education* (Bank 2011; Bank et al., 2007).

Subsequent sections of this paper will focus on von Prümmer’s work from the early years of her gender-related research in the 1980s, through her mid-career in the 1990s and later

career in the 2000s. The primary focus is on her contributions to the understanding of gender differences in distance education.

EARLY WORKS: 1980s

Starting in 1986—three years after her eye-opening academic exchange with Canada's Athabasca University—von Prümmer began publishing peer-reviewed articles and talks focusing on women and gender issues in distance education. This work lays the foundation for the self-described "feminist research" she conducted throughout her career (Bainbridge & Wark, 2022, p. 375).

Von Prümmer's earliest research explored the question of why women's enrollment at FeU lagged behind men's so dramatically in comparison with other distance education institutions, such as Athabasca University—or even in comparison with Germany's traditional face-to-face universities (von Prümmer & Rossié, 1988a). Her discoveries led her to the conclusion that women distance learners encountered an array of gender-specific barriers, including learning content, pedagogy, and systemic factors, which impacted their access to and success in distance learning environments (von Prümmer et al., 1988). In a keynote presentation given at the 14th ICDE World Conference, she challenged the notion that andragogy—the well-established theory of adult learning—was gender neutral and argued that, in fact, it was infused with male bias (von Prümmer et al., 1988). Her call to action was blunt: "We must free ourselves as well as our students from male-centered notions of how adults learn, what content adult learners need, and what kinds of structure and support best facilitate their learning" (von Prümmer et al., 1988, p. 58). She went on to argue that when women distance learners' needs were considered, the result was the "empowerment of women" (von Prümmer et al., 1988, p. 58), a call that continues to echo into the present day (Koseoglu et al., 2020).

Von Prümmer et al. (1988) described the systemic gender-specific barriers encountered by women learners in distance education, which impacted both initial enrollment and continued study. The authors highlighted the cost of distance study as a significant barrier due to women's unique circumstances, stating that women "frequently are entitled to only a small share of the family income and have little or no right to dispose of it on their own" (p. 60).

Anticipating the work of later feminist researchers, such as Stalker (2001), von Prümmer and her colleagues described the unique pressures experienced by female distance education students, who are "not only affected by work commitments but also by their parenting and homemaker responsibilities" (von Prümmer et al., 1988, p. 60). While von Prümmer and colleagues did not name this as a facet of misogyny, we can apply Manne's (2017) conception of misogyny as a system (rather than an individual psychological phenomenon) used to continually police and enforce patriarchal expectations of women. Under this conception, we can clearly identify misogyny in the set of circumstances von Prümmer and her colleagues described.

At the same conference, von Prümmer presented a paper that described her groundbreaking study, the first large-scale study to explore the conditions under which men and women study at a distance, as well as how they manage to balance their distance studies against their other responsibilities (von Prümmer, 1988). With a dataset consisting of extensive written responses from almost 1200 participants at FeU, and a parallel study undertaken at the Open University UK (OUUK), von Prümmer and her collaborator at OUUK, Gill Kirkup, produced groundbreaking results (Kirkup & von Prümmer, 1990). In fact, this was the first international project to gather empirical evidence on women and men in two postsecondary distance institutions, making cross-cultural and cross-institutional gender

analyses possible (von Prümmer, 2000).

Intriguingly, von Prümmer and Kirkup, found “striking similarities” between female students at FeU and OUUK, despite the fact that the institutions were located in different countries and conducted studies in different languages (Kirkup & von Prümmer, 1990, “Introduction,” para 4). Women at both institutions preferred interactive and shared learning in marked contrast to men, leading the authors to question whether the concept of “independence” in distance education—a hot topic at the time—was modelled after male students’ learning preferences rather than being gender neutral, as had previously been implicitly assumed (Kirkup & von Prümmer, 1990).

Crucially, the authors argued that women’s preference for shared and interactive learning stemmed from a “desire to be connected with others” and could be seen as “a positive way of being rather than [being dismissed as] an immature state on the road to ‘separation’ or ‘independence’” (Kirkup & von Prümmer, 1990, “Supporting Women’s Learning,” para. 4). Kirkup and von Prümmer (1990) directly challenged the presumed universality of the theories of both andragogy and student-centred learning, suggesting that they were male-focused rather than gender neutral as generally supposed. They concluded by stating firmly that “debates about the independent learner in distance education need to take gender difference into account as a significant educational issue” (Kirkup & von Prümmer, 1990, “Supporting Women’s Learning,” para. 6). Of note, this article was influential enough that it has continued to be cited more than 30 years after publication (e.g., Koseoglu et al., 2020), as well as warranting discussion in the *Routledge International Encyclopedia of Women* (Kramarae & Spender, 2004).

MID-CAREER: 1990s

In the 1990s, von Prümmer continued her research into women and distance education, building upon the foundation she had established in her earlier work, particularly on the parallel studies that she and Gill Kirkup had conducted at FeU and the OUUK. In an article published in 1994, she stated plainly that her own institution’s “emphasis on the self-sufficient and isolated learner has the effect of creating a hostile environment for women distance students” (von Prümmer, 1994, p. 6). At FeU, according to von Prümmer (1994), the male student was seen as the norm, with female students considered as “deviant” and “lacking” (p. 7)—particularly in the areas of “independence, self-sufficiency, and competence” (p. 7). She also raised the thorny question of the willingness of distance institutions to adapt to female students, rather than requiring female students to adapt to a system designed for men—a question that arguably has been answered in the negative in the decades since (Koseglu et al., 2020; von Prümmer, 1994).

Von Prümmer (1994) also raised the importance of the (in)visibility of women on faculty as a barrier for female students studying at a distance. Twenty-five years on, this remains a salient issue: recent research by Kizilcec and Kambhampaty (2020), using an extremely large dataset (1.4 million enrollments), demonstrates that women are more likely to enroll in a course with a female instructor, regardless of area of study, while men are unaffected by instructor gender. Of note, at this stage of von Prümmer’s career, there were still only three female professors out of 80 at FeU—and she observed that it had taken 10 years after the establishment of her institution to appoint any female professors at all (von Prümmer, 1994). Despite von Prümmer and her colleagues’ best efforts to improve the learning and teaching situation for women at FeU, the number of female professors had reached only five by 1999, while the overall number of faculty had grown to 86, indicating that male faculty still outnumbered female faculty by a staggering ratio of 16 to 1 (von Prümmer, 2000). Von Prümmer (2000) was also well ahead of the curve in noting the nuanced differences between conditions for male and female academic staff. For example, she

observed that women were more likely to be appointed to temporary and part-time posts than their male counterparts (von Prümmer, 2000), a gap that persists into the present (De Angelis & Grüning, 2020).

Von Prümmer also challenged the stereotype of the time that female distance students did not participate in paid employment and, as homemakers, had infinite flexibility to pursue their studies. In contrast, she found that 48% of female students at FeU worked in full-time paid employment, and that women with families saw their childcare and domestic labour *increase* after beginning distance studies, regardless of their paid employment status—in distinct contrast to men’s childcare and domestic labour, which markedly decreased after enrollment (von Prümmer, 1994). Of note, von Prümmer (1994) was the first to describe this phenomenon, which she attributed at least in part to the pressure women placed on themselves “to be even better mothers and partners and to have even cleaner homes in compensation for being *allowed* to pursue their own interests” (italics in the original, p. 9). Later feminist researchers, such as Stalker (2001), identified this mechanism as being the result of misogynistic cultural standards, which demand that women maintain the home as a sanctuary (for others), make learning invisible, be available on demand, and ensure home comforts for partners and children, regardless of the costs to women’s education.

From 1991 to 1994, von Prümmer saw some of her research into woman-friendly perspectives for distance education put into practice in Germany with a pilot project that created a network of 200 women’s learning centres for distance students (von Prümmer, 1994). The learning centres offered childcare (including homework support for older children), hot lunches and takeaway meals, and study groups for women learning at a distance (von Prümmer, 1994). This created an opportunity for social and connected learning—a primary need for female distance learners as identified by Kirkup and von Prümmer (1990)—as well as alleviating some of the pressure associated with increased domestic and childcare workload. As von Prümmer (1994) stated, the results of the pilot supported the notion that distance institutions “need to pursue an active policy” (p. 12) of woman-friendly education, both pedagogically and in terms of active support for women’s life situations.

Around the same time, von Prümmer (1995b) began to question the dominant narrative around emerging forms of technology such as computer conferencing; she described this dominant narrative as “technological euphoria” (p. 263). With her typical concern for the material realities of distance students’ lives—and particularly those of women—she noted that “many students do not have the equipment” (von Prümmer, 1995b, p. 263). In fact, her research demonstrated that while the majority of distance education students at FeU owned a PC, only 15% owned a modem, which was of course a necessity to participate in computer conferencing (von Prümmer, 1995a). Further research demonstrated that women in particular had less access to technologies than men, including computers and the Internet, and less control over the computers in their homes and workplaces (Kirkup & von Prümmer, 1997; von Prümmer, 2011; von Prümmer & Rossié, 2001).

As Kirkup and von Prümmer (1997) stated, many educators—and particularly those involved in promoting new technologies—“presume a symmetry [between men and women] with respect to resources, power, and privacy in the domestic environment” (p. 52). As their research repeatedly demonstrated, this presumption was inaccurate (Kirkup & von Prümmer, 1997). In fact, “there are still many material and cultural circumstances which make it difficult for women to study through the [distance education] system” (Kirkup & von Prümmer, 1997, p. 52).

Nearly 25 years later, this tension remains. Despite ODDE still typically being considered accessible and affordable for women, Koseoglu et al. (2020) observe that such a

“determinist view of ODL [open and distance learning] may not align with the lived experiences of women and furthermore may overlook or even perpetuate the mechanisms that produce gender inequality in the first place” (p. 6). In fact, von Prümmer (2000) described the presumption that ODDE had “automatic benefits” (p. xv) for women as stemming from naïveté—a naïveté that she acknowledged she shared early in her career.

By this stage in her career, however, von Prümmer’s naïveté was long gone, as was her belief in any “automatic benefits” for women. She continued to emphasize the importance of considering the material realities of women’s lives in ODDE research—including research on information and computing technologies (von Prümmer, 1998). While she recognized the opportunities and benefits of emerging technologies, she maintained a balanced perspective, noting for example that the predominant ad hoc approach to evaluation of technology risked obscuring “more general patterns and themes,” (von Prümmer 1998, p. 65), such as the possible exclusion of “large segments of potential students, namely women, from access to opportunities through distance education” (p. 65). Of note, this continues to be an issue into the present day. While access to technology continues to be considered gender-neutral, 250 million fewer women than men have access to the Internet globally as of 2018 (Organisation for Economic Co-operation and Development [OECD], 2018). In the least developed parts of the world, this gender gap actually widened between 2013 and 2017, while in the developed world the gap remains persistent, reaching as high as 16% in some developed nations (OECD, 2018). Women in rural areas and those over the age of 55 experience an even greater gendered digital divide (OECD, 2018). For specific technologies, such as smartphones, the gender gap is as high as 70% in some parts of the world (OECD, 2018).

LATER CAREER: 2000s

In 2000, von Prümmer published the English-language book that built upon the foundation of her PhD research, as well as her institutional research for FeU: *Women and Distance Education: Challenges and Opportunities*. The book is a comprehensive, empirical exploration of gender issues in distance education, including the material circumstances of women’s lives, gender-specific learning needs, emerging technologies and their relationship to gender, and questions of intersectionality, such as the impact of social class plus gender in distance education (von Prümmer, 2000). As Alan Tait writes in the foreword, the book impacts women and beyond, “open[ing] the path for others to examine ethnicity, social class, the social geography of rural and urban learners, [and] the context of students with special needs” (von Prümmer, 2000, p. xi).

Women and Distance Education draws on research conducted throughout von Prümmer’s career, from her joint international research with Gill Kirkup in the late 1980s, to later evaluation research at FeU with her colleague, Ute Rossié, as well the research that she completed for her doctoral dissertation, and her latest research on gender and distance education technologies (von Prümmer, 2000). She states that her primary aim is “to make the distance education system more ‘women-friendly’ and their [women’s] chances of success more realistic” (von Prümmer, 2000, p. xv). To this end, the book contains extensive evidence to support her conclusion that women’s access to DE had been hindered by factors including “not only the teaching system and organisation of local support, but also the contents and presentation of courses and the overwhelmingly male academic staff” (von Prümmer, 2000, p. 201).

The book ends on a hopeful, if slightly melancholy note. After questioning whether her lifetime of work examining gender in distance education was merely “whistling in the dark, trying to convince myself that all is well” (pp. 200–201), and questioning whether it was even possible to “challenge the existing distance teaching system to become less

androcentric and more women friendly” (p. 201), von Prümmer ultimately concluded: “Let us continue to whistle in the dark! Not in order to pretend all is well, but because others will hear us and take notice” (von Prümmer, 2000, p. 207). And some others have indeed heard her. Twenty years after its publication, *Women and Distance Education* continues to be cited by gender equity researchers (e.g., Campbell, 2020; Koseoglu, 2020; Koseoglu et al., 2020; O’Shea, 2020, 2021), and many of the issues von Prümmer raised continue to be explored around the world.

Von Prümmer continued to actively research and publish for the next decade, until her mandatory retirement in 2011 (and beyond, with select collaborators). With the rise in online education throughout the early 2000s, she continued to examine the connection between gender and educational technology, and in particular, the impact on access for women. As she observed in 2004:

In my work as an Institutional Researcher at a large Distance Teaching University (DTU), I have often come across the assumption that gender is either irrelevant or can be ignored as distance education systems are seen to be non-gendered or even to favor women. (von Prümmer, 2004b, p. 474)

Von Prümmer goes on to explain why this assumption is incorrect; gender is indeed an issue in online education. She provides data to support three areas in which gender impacts online learning: access to (and control over) information and computing technologies (ICTs); computer literacy; and gendered learning needs (von Prümmer, 2004b). These themes are explored in more detail in another publication from the same year (von Prümmer, 2004a). She provides specific, detailed recommendations for distance institutions to support female learners, as well as examples of successful provision of women-friendly institutional support (von Prümmer, 2004a, 2004b).

In one of her final collaborations before retirement, von Prümmer (with her colleague Olaf Zawicki-Richter) examined publication and collaboration patterns within the field of distance education through the lens of gender (Zawicki-Richter & von Prümmer, 2010). The authors examined 695 articles in five prominent distance education journals over a nine-year period (2000 to 2008). Distinct patterns emerged, both in terms of subject matter and research methodology. In particular, the authors found that women tended to publish in the female-coded areas of learner interaction and communication, learner support, and the like, while men tended to publish in the male-coded topics of management and technology (Zawicki-Richter & von Prümmer, 2010). This research bore out what von Prümmer had been saying literally for decades: that the gender issues in distance education impact not only women learners but also women researchers and faculty.

CONCLUSION

In this article, we have reviewed the accomplishments of Christine von Prümmer in the field of distance education. She performed groundbreaking empirical research on gender issues in distance education and published an extensive body of peer-reviewed work, in addition to her book-length exploration of the subject. And yet, like Starr Roxanne Hiltz, whose career we explored in an earlier article (Schmidt et al., 2021), her name and her contributions remain largely unknown, even within the field of distance education. We submit that this provides additional support for the existence of the Matilda effect within the field of distance education.

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