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The Power of Ordinary Objects
Investigating Sanitary Care in Ghana

A Working Paper
By

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In an age in which women's independence and achievement are often framed by and articulated through consumer discourses and practices, what does this mean for the future of feminism and feminist identities? We wonder about such consequences precisely because the consumer lifestyle, as the cultural logic of capitalism, is a fundamentally un-feminist thing. . . . Further, since consuming is a singular act of identity formation and expression, we question whether women's empowerment through consumption at the individual level undermines the possibility of gendered social change at the collective level.

--Crossley and Dahl (2009), "On Feminism in the Age of Consumption"

Consumption, understood as a narrowly delimited behavior unique to industrial capitalism, has been viewed as antithetical to the goal of women's empowerment under most feminist theories of the past fifty years. Consumer behavior research, as it unfolded over the same period of time, described and documented consumption as a behavior observable in all human societies during all moments of the day and all periods in history. This research has examined consumption in its playful and positive manifestations, as well as in its dark and destructive instances. Studies have investigated the role consumption plays in cultivating individual identities, but also the way it advances group cohesion. So, in many ways, past consumer research has already undercut the contentions that consumption is merely the "cultural logic of capitalism" or is always--or even usually--an individualistic identity expression. What consumer behavior has not done is to answer the pointed accusation above: that consumption is irretrievably at odds with the goals of feminism.

This omission is important because it represents a roadblock to a potentially fruitful dialog between consumer research and global policy makers. At the policy level today, the empowerment of women is seen as a central strategy in economic development. Programs often focus on enabling women to gain access to finance or skills as entrepreneurs, but also increasingly use cause-related

marketing strategies to raise money and awareness for women's issues. Frequently, these campaigns are produced through partnerships with multinational consumer goods companies.

Major reports have suggested that the consumer habits of women are key to fighting poverty, as well as to building the middle class that is needed to stabilize market democracies —because the consumption of women builds human capital in a way that the consumer behavior of men does not (UNICEF GS). Global databases documenting gender inequality at the nation level, all built over the past fifteen years by the United Nations (UNDP 2010) and the World Economic Forum (WEF 2010), suggest strongly that industrial capitalism has produced better conditions for women than other forms of society. The idea that feminism and Marxism are necessary bedmates is fading into the past, but there is a long way to go to articulate how the market, especially its consumer goods, can be employed to empower women.

We contend, therefore, that much can and should be said by consumer researchers in the discourse about global economics and worldwide feminism. Yet the consumer research discourse first framed the relationship between consumption and feminism in this same way, consistent with the theories that held sway in the late 20th century, and feminist work in consumer behavior has stalled out. Our aims in this paper are to reposition consumption vis-à-vis feminism by introducing a more recent theory of women's oppression and by empirically demonstrating one way in which consumer goods might be employed positively to help women, especially those in impoverished circumstances.

We have purposely chosen an object that is neither a “special possession” nor likely enjoy the status of a “basic necessity.” Indeed, the product we have chosen, sanitary pads, is intentionally representative of the worst case from a conventional feminist perspective. As a disposable fast-moving consumer good, usually manufactured and heavily advertised by large multinationals, sanitary napkins epitomize the consumer object most often critiqued by feminists. And, indeed,

sanitary pads have quite often been the target of feminist critiques (ssss), even though their introduction probably ranks near the invention of bicycles and birth control as one of the most important material innovations for women in history (xxxx).

We will situate our argument and illustration within the contemporary dialog on global economic development and women's empowerment. Reproductive health and secondary education among girls have been identified as key factors in determining prosperous futures for developing nations through lower HIV transmission rates, lower infant and maternal mortality, fewer early pregnancies, and decreased fertility rates, as well as higher productivity (Lloyd and Young 2009). Consequently, there is keen interest within policy circles today in finding replicable interventions that will empower girls to maintain sovereignty over their own physical and intellectual development. One apparently simple proposal was posed in the world press: to provide poor schoolgirls in developing nations with sanitary pads, in order to facilitate their continued education after puberty (e.g., Kelly and Ford 2009; Kristof 2009; Mawathe 2006).

We offer an empirical study, conducted in Ghana, to demonstrate the way gender inequality is reproduced through a seemingly small, everyday issue: the management of menstruation. Through extensive fieldwork, we inquired into the economic, infrastructural, and social backdrop surrounding menarche in order to understand its impact on continued education and personal agency for girls. Then, with the consent of the communities involved, we experimented with the introduction of free disposable sanitary pads and an all-female sex education module to see what the impact would be on daily activity, school attendance, and personal confidence.

LITERATURE REVIEW

Feminist theory was introduced to consumer behavior, and to marketing generally, in the early 1990s, through three articles in a single issue of *Journal of Consumer Research*. Bristor and Fischer (1993), Hirschman (1993), and Stern (1993) all focused on epistemology, using feminist theory to open up new ways of thinking about research on consumption.

Stern posed questions about how an advertisement might be read by males and females (1993). By emphasizing language and identity over material issues, Stern's article reflected a strong tendency of the feminist academy during the 1980s and 1990s (Jackson 2001). Her recommendations for research emphasize that males and females have different ways of reading, a stance consistent with the popular 1990s notion that women have a distinctive experience and so an essential woman's standpoint (c.f., Gilligan 1982).

Bristor and Fischer (1993) explicated major streams of feminist theory then current, advocating a feminist "way of knowing" they show to be at odds with the objectivist stance of logical positivism. This article appeared among a battery of works typical of the paradigm shift occurring at that time, each of which challenged logical positivism in a different language, but on similar grounds (for instance, Anderson 1986; Arnold and Fischer 1994; Hudson and Ozanne 1988; Murray and Ozanne 1991). Once the paradigm shift had absorbed an overall notion that there are many ways of knowing and many methods to get there, feminist theory had a small point of distinction as an epistemological approach. One feminist path might next have undertaken research about the material impact of consumption on women's freedoms. The negative impact was covered somewhat in other fields (e.g., Wolf 1990). To argue for a positive impact was, in the environment of the mid 1990s, unthinkable.

The reason a positive approach to consumption and women's empowerment was unthinkable is clear when revisiting Hirschman (1993). This third article from the same issue of *JCR* questions the ideology underpinning research in consumer behavior. In her challenge,

Hirschman identifies feminism with Marxism, a common practice among feminists in the 1990s, and then posits fundamental oppositions, first, between feminism and capitalism and, then, between feminism and consumption. From this starting point, it would have been hard to imagine how a feminist research agenda could envision market-based phenomena with emancipatory potential.

In 1995, Patterson, Hill, and Maloy published an article with which our own study shares touchpoints. These authors took a consumer behavior approach to the experience of abortion and, in so doing, shed considerable light on a contentious policy issue of central importance to feminism. We, too, will use the consumer lens and we hope to have an effect on policy. However, our theoretical approach will differ from the woman's standpoint theory used by Patterson et al, and the problem on which we are focused is not the center of public debate, but instead has been made invisible by cultural taboos at the local and global level. Our research methodology is also closer to the spirit of participatory action research advocated by Ozanne and Saatcioglu (2008), creating a more materialist and activist trajectory.

Twelve years after the 1993 *JCR*, Catterall, Stevens, and Maclaran (2005) reviewed feminist work in marketing and lamented that, after this small burst in the mid-1990s, research carrying a feminist label stalled out. These authors specifically point to the overconcern with language, and call instead for more materialist and activist approach as a way of bringing the field into a more proactive engagement with feminism as a global movement. Catterall et al. acknowledge that the anticonsumption, antimarket bias that typified feminist theory make inhospitable ground for consumer research. However, their own characterization of consumption—as a ludic lifestyle project from which the poor are excluded—seems overly narrow in an international development context. Following Marxist influence, Catterall et al. also tend to frame their materialist approach in terms of production, posing an opposition between consumption and production/reproduction that we believe is a false dichotomy. We argue instead, following Sen (2000) and others, for a view of

consumer goods as, in some cases, materials that enable human capabilities development, thus potentially leading to empowerment through better health and education, as well as better control over reproduction and, perhaps, improved labor prospects.

Our proposed contribution therefore is threefold. First, we introduce a new theory, pragmatist feminism, that reflects world changes since the mid-1990s and opens up an entirely new path, both activist and materialist, for feminist inquiry into consumer behavior. We will then demonstrate the potential for a very focused and local analysis of an everyday material problem, menstrual care, to have major policy consequences in the global fight against gender inequality. A key condition for our analysis, however, is the willingness to see consumer goods as objects that, in use, can help realize human capabilities. To look upon consumer goods as potential instruments for empowering women on a global scale requires a radical departure from the conventional wisdom of the mid-1990s, however. Therefore, before introducing pragmatist feminism, we must show how world events and new data since that time have demanded a change in thinking.

FEMINISM AT THE 21st CENTURY CROSSROADS

Feminist theory has many faces, but one common objective: the empowerment of women. From its earliest days, feminist theory has been a work in progress, a radically different way of thinking that must continually adapt to new perspectives, fresh data, and changes in world history (Jaggar 1983). The anticapitalist attitude that typified feminist discourse in the last thirty years of the 20th century was a result of the Marxist influence that lingered from the New Left origins of the Second Wave (Hartmann 2003). Liberal feminism was the only theory that could align with capitalism and this consonance with market systems was a political liability within feminist circles. Its epistemology was also out of step with evolving thought, so liberal feminism became little more

than a straw man (Jaggar 1983). Feminists advocating for change within the democratic market system were often dismissed as “reformist” or “conservative,” both terms pejorative within this dialogue. By the mid-1990s, the hostility between liberal feminists and the rest of the movement was bitter (see Hoff-Sommers 1995).

Several other theories competed for primacy, none friendly to market frameworks, and the overall project seemed to have reached a stalemate (Benhabib 1994). Each approach presented theoretical impossibilities or required total revolution. For instance, from a Marxist/socialist perspective, the way forward was a revolution to overturn the capitalist system, though even theorists in this camp admitted the benefits to women in such a scenario were uncertain (Hartmann 2003). A belief that women had been better off prior to industrialization, because of their importance to agricultural labor, was often implicit, sometimes explicit, in socialist-inspired works (see, for instance, Jaggar 1983, pages 3-4). An evidentiary vacuum left room for such open speculation: historians had only begun in the 1970s to document the past for women in the Western nations, and comparative information about women in the Soviet Union, China, and Cuba was not available during the Cold War. Evidence from anthropology suggesting women were oppressed in preindustrial societies was often ignored in the rush to discredit industrial capitalism (Rubin 1975).

Radical feminism, in contrast, asserted women have been oppressed in all societies, but without comparative data, this was a tough premise to prove. Radicals emphasized the biological basis for gender oppression and use of sexual violence to maintain it, leaving them open to charges of biological determinism (Ramazanoglu 1989). As praxis, radical feminism often advocated separatism or retaliatory violence, or envisioned an “end-state utopia” toward which there was no clear path, other than to wipe the human slate clean and start over (McKenna 2002).

Other strands of thought, including standpoint and psychoanalytical feminism, focused on the way that the social construction of gender produced unique viewpoints for women (Chodorow

1978; Gilligan 1982). This argument was used to discredit the notions of objectivity upon which positivistic science is based, creating new feminist epistemologies and methodologies (Harding 1987), but was criticized for essentializing from white middle class American experience. Poststructuralist feminism, as well as postcolonial and black feminisms, brought a needed adjustment to this tendency; however, differences were often emphasized to a degree that seemed immobilizing, as they undercut the sense of women as a collective (Tripp 2000; Weedon 1998).

World events and new information near the turn of the 21st century upended this situation, reversing some hardened assumptions while offering unforeseen hope. Today, for instance, the Marxist/socialist position has been substantially questioned. The insistence on class as a template for all oppression was eventually acknowledged to be insurmountable (Hartmann 2003; Jaggar 1983), while the fall of the Soviet Union and the subsequent revelation of female suffering at the hands of both the Russian and Chinese regimes made adherence to a socialist vision difficult (see special issue of *Hypatia* edited by Nanette Funk 1993, especially Voronina). Many feminists once allied with Marxism have now rejected it (Ferguson 2000; Jackson 2010).

Over time, feminism had affected policy in a processual fashion, a gradual movement between theory and practice, rather than through sudden apocalypse (Kittay 1998). Dialogue between Western women's groups and those in other parts of the world had moved steadily, despite the proclaimed theoretical impossibilities, toward meaningful dialogue, especially via the United Nations Decades for Women meetings, which reached a particular moment of solidarity in the 1985 conference at Nairobi (Sen and Grown 1987). This turn toward pragmatic action coupled with communication through the internet led to an upsurge in formation of shared interest groups, a flow of funds from North to South, and a needed sharing of information from South to North (Basu 2003; Tripp 2000).

Perhaps surprisingly, some of the most extreme postulates of radical feminism became common wisdom, even policy. Of key importance has been independent documentation of the worldwide presence of gender oppression. The nation-level gender data brought this important information to light: the United Nations has only been documenting the Gender Gap since 1995 (UNDP 2010), while the World Economic Forum has only been collecting gender data since 2005 (WEF 2010). For the first time, analysts can compare levels of inequality across market-based democracies, former communist countries, and less industrialized, more traditional cultures. These data consistently show that gender inequality is worst in traditional societies (“traditional” in the sense of nations that have limited industry, media, consumer goods, and other trappings of “developed” countries), in spite of the figures that consistently show women dominating agricultural labor in those societies. Sexual control and violence are central to inequality’s perpetuation: this is why reproductive health is, according to the UN, the most powerful vector for reversing it (UNDP 2010).

Gender rankings from both the WEF and the UN reveal at first glance that Western industrialized nations dominate the top ranks on positive measures of gender status and that traditionalist Muslim majority countries cluster at the bottom. Patterns in the middle are difficult to discern. To demonstrate the theoretical problem facing feminism, we created three data groups: the Western market democracies, the former Soviet Union countries plus China and Cuba, and the sub-Saharan African countries. This allows us to contrast the three oppositional cases in the 1990s theoretical argument (capitalism, Marxism, and traditional societies), while offering a comparison to the region of our study, sub-Saharan Africa. We then graphed the composite 2010 WEF Gender Gap score for each group, as well as for all 134 nations, using box plots. The boxes in Figure 1 represent the middle 50% of each group. The bold line across the middle of each box is the median

for that group. The vertical lines depict the range of the data and cannot be longer than 1.5 times the inter-quartile range (the range of the middle 50%). Points beyond are marked separately as outliers.

Insert Figure 1 About Here

Contrary to conventional feminist wisdom, the industrialized Western democracies—where capitalism is most established and longest lived—show the best conditions for women. A Kruskal-Wallis test revealed a statistically significant difference in the gender gap scores among the three country classifications (Gp1, n= 22: Western-style democracies, Gp2, n=24: sub-Saharan Africa, Gp3, n=21: former and current communist countries), $\chi^2(2, n=67) = 31.469, p < .001$. Post-hoc comparisons using the Mann-Whitney U test indicated significant differences between the three classes. Western democracies ($Md = .748, n=22$) had a significantly higher gender score than sub-Saharan African countries ($Md = .664, n=24$), $U = 49.5, z = -4.717, p < .001, r = .72$ and communist countries ($Md = .697, n=21$), $U = 48, z = -4.446, p < .001, r = .66$. Communist countries had a higher gender score than sub-Saharan African countries ($U = 136, z = -2.639, p = .008, r = .39$).

These comparisons suggest that neither Marxist nor more traditional cultures are preferable to capitalist societies for women, but also that industrialization, which did occur in some communist countries, may play a positive role. A cautionary note is in order, however. These data do not necessarily indicate that market societies, as such, are good for women, since the score is a composite of education, health, and employment measures. And, of course, there are exceptions: the top ten includes Lesotho (0.77), for instance, and Japan ranks 94 out of 134, with a score of 0.65. Nevertheless, the variation within the groups is overridden by the comparison being made between them—otherwise, the mean scores would not be significantly different. Further, we are comparing countries within a narrow range: a mean of 0.75 to a mean of 0.65. Certainly there is no reason to conclude that the market democracies have solved their gender problem. Nevertheless, these data do

suggest some conditions in the histories of the market democracies were positive for women.

We therefore believe it has become incumbent upon feminist scholars to reexamine the market democracies, looking for replicable innovations that may have empowered women. Practical interventions based on these ideas should be studied to determine transferability, efficacy, and sustainability. We suggest that some of these innovations involve consumer goods. A few objects introduced during industrialization—the sewing machine, the bicycle, even the Hoover—had profound affects on women by increasing their mobility, allowing them to work from home, or simply saving time that could be put to better use (Ewen 1976; Marks 1990; Rosling 2011). We believe disposable sanitary pads, introduced commercially by Johnson & Johnson in 1896, was one of these empowering innovations. Because this premise is materialist, but not Marxist—since it looks to find limited solutions in the consumer goods of industrialization—a new theory is needed.

PRAGMATIST FEMINISM

Pragmatist feminism is, at once, an updated adaptation of classical American Pragmatism and a reinterpretation of that school of thought from a feminist viewpoint (Whipps 2010). Charlotte Haddock Siegfried (1996, 1998, as well as a special issue of *Hypatia*, 1993) has led an effort to reclaim from history the women scholars who studied under or influenced American Pragmatists, such as John Dewey, William James, and Charles Sanders Pierce, during the early 20th century. Two are already well known in other domains: Jane Addams, the Nobel Prize-winning settlement house leader, and Charlotte Perkins Gilman, the first feminist economist. Other scholars are adapting the philosophy of the pragmatists, who were not always cognizant of gender issues, toward a distinctly 21st century pragmatist feminism (Duran 1993; Mahowald 1997; Miller 1992; Mottier 2004).

As a philosophical doctrine, pragmatism emphasizes the purposive and contextual nature of thought. So, unlike liberalism, pragmatism does not hold to a single objective reality or a universal reason, but is antifoundationalist, like poststructuralist and radical feminist theory. Pragmatism is not ideologically bound, therefore, to any political system, including capitalism; pragmatist feminism would charge patriarchy wherever it exists.

Much like radical and poststructuralist feminism, pragmatism sees knowledge as formed by experience and therefore fundamentally embodied. Pragmatism is thoroughly pluralist: since each of us has a different body and a different experience, there are many possibilities for what is known. However, a pragmatist would assert that any one experientially-grounded way of knowing would be necessarily partial. Therefore, pragmatism holds that it is essential, not impossible, to form communities to support conversations in which knowledge can be shared. Multiple viewpoints and methods combine to provide better knowledge, theory, and practice.

Pragmatism emphasizes that human existence is always evolving, though not necessarily in a positive teleology. Pragmatists do not posit grand metanarratives the way Marxism did, but instead focus how communities can carefully apply collective intelligence to guide future events toward desired “ends-in-view.” The special term, “ends-in-view,” denotes an achievable outcome, as contrasted with a dream toward which there is no accessible path. Siegfried cautions that: “Such ends-in-view must be consistent with the means at our disposal if situations are to be actually and not just imaginatively transformed for the better” (1998, p. 53). A pragmatist agenda, therefore, does aim toward social justice, but in a way described as “process utopianism,” as opposed to the end-state utopias favored by radical and socialist feminism (McKenna 2002; Rorty 1990). Though it could be described as “reformist,” pragmatist feminism would not endorse revolution as a strategy, on the grounds that revolutions have a bad record for achieving desired ends (Goldstone 2009).

Epistemologically, pragmatist feminism might resemble the conversational science advocated by Donna Haraway (2003), and would be commensurate with both feminist empiricism (Harding 1987; Nelson 1990; Shuford 2010) and grounded theory (Glaser and Strauss 1967). However, this feminist stream also has a special connection to action research, through its historical forebear, Jane Addams, and her settlement house work (Seigfried, 1996). In this approach, the researcher is also an activist, an engaged party working directly with communities to understand problems and devise solutions to them. So, pragmatist feminism would be especially well-matched with the new work taking place under transformative consumer research (Mick 2008; Ozanne and Saatcioglu 2008). Importantly, action research expects the researcher will have an impact on the setting, rather than asserting neutrality or invisibility as required under an objectivist paradigm.

Indeed, pragmatist feminism rejects essentialist or objectivist viewpoints, including even the fraught “woman’s standpoint,” in favor of methods that attempt to make sense of multiple perspectives in order to move toward an improved condition. As Richard Rorty, the leading pragmatist philosopher today, observes, “a pragmatist feminist will see herself as helping to create women rather than attempting to describe them more accurately” (1990, p.16). What would give a project coherence would be the end-in-view, rather than a claim to final truths:

There is a lot of feminist writing which can be read as saying: we are not appealing from phallist appearance to nonphallist reality. We are not saying that the voice in which women will some day speak will be better at representing reality than present-day masculist discourse. We are not attempting the impossible task of developing a nonhegemonic discourse, one in which truth is no longer connected to power. We are not trying to do away with social constructs in order to find something that is not a social construct. We are just trying to help women out of the traps men have constructed for

them, help them get the power they do not presently have, and help them create a moral identity as women (Rorty 1990, p. 14).

A precondition for a feminist moral identity, at least in Rorty's view, is to build communities, marked by new language and new practices, that support the emancipatory trajectory "between a painful present and a possibly less painful, dimly seen, future" (1990, p. 19). Rorty, somewhat tongue in cheek, refers to the feminist movement as a kind of invisible, but well-established club that can build this sense of solidarity. Whether adopting bloomers and birth control or rejecting bras and bustles, the feminist "club" historically has marked itself rather aggressively with objects and practices (Scott 2005). Consumer research has a substantial stream of work showing how community emerges in connection to ownership of objects (c.f., Muniz and O'Guinn 2001).

Social justice researchers in transformational consumer research emphasize the need to investigate the power of goods to realize human capabilities in deprived settings, particularly for socially marginalized groups, and to recognize that both forced consumption of certain objects and withholding of others can constrain the development of human potential (Scott et al. 2011; see also Sen 2000). Again, the tradition of pragmatism resonates, this time through Charlotte Perkins Gilman, who argued as early as 1904 that the consumption rights of a young person should be those things she must have to grow into the kind of human the society needs her to be. Indeed, American Pragmatism generally avers the importance of interaction between physical objects or instruments, the practices of living, the orientation of consciousness, the relations among humans, and, therefore, the trajectory of society (Siegfried 1996).

Importantly for our study, pragmatist feminism would also be in close alignment with the African feminisms recently emerging (Mikell 2003; Tripp 2000), which reject Western essentialism and turn away from attempts to build philosophy on African traditionalism (Oluwele 1998), but focus instead on addressing present problems through practice.

Pragmatist feminism, in sum, can bring forward key strengths from earlier feminist theories, while dropping more crippling aspects and encompassing both activist research and consumption-as-capability. Pragmatist feminism is not tied to capitalist, socialist, or traditionalist systems, but would be capable of criticizing all of them. This theory demands conversation, not silos; and it focuses on the one thing that binds all feminist theory—the freedom of women as the unifying end-in-view.

EMBODIMENT, PRIVACY, AND VULNERABILITY

We wish now to center attention on a specific overlap between pragmatist feminism and feminist theories of the 1990s: embodied experience as a building block of gender inequality. In this study, we focus closely on a local setting and observe how the realization of biological “femaleness” in the moment of menarche meshes with community beliefs and material practices to produce gender inequality. Fear, shame, and anxiety related to the bodily experience work to bring the subject into a position of vulnerability, specifically by denying her sovereignty over her own reproductive powers. The female subject is thereby drawn into certain institutions, particularly motherhood, and excluded from others, particularly education (see DiQuinzio 1993).

Though our focus will be sharply local, we recognize that anthropology has deemed menstrual taboos among the few universal features of human society (Buckley and Gottlieb 1988). What seems consistently missed is the way these rituals and taboos trumpet the female’s reproductive status, not only at the first appearance of menses, but often for every period that occurs thereafter—while often simultaneously precluding talk about the situation in the name of modesty.

We will thus invoke a concept that has sometimes been problematic in gender policy, the notion of privacy. On one hand, the concept of the “private sphere” has been consistently identified as an enabler of oppressive practices from *purdah* to labor discrimination. On the other, the “right to

privacy” has been foundational to reproductive freedoms. Following Allen (1998), we argue that three domains of privacy are important to a feminist agenda: physical privacy, informational privacy, and decisional privacy. Physical privacy is defined in both positive and negative terms: as control over one’s own body and also as “freedom from unwanted physical observation or bodily contact (Allen, p. 458). This “freedom from” condition is extended to home, as well as work and school sites, and is predicated on the notion that all women are “entitled to freedom from stalking, gratuitous crowding, groping, and similar highly offensive contact” (p. 459). Informational privacy presumes the right to limit the disclosure of personal information. Finally, decisional privacy refers to the “ability to make one’s own decisions and to act on those decisions, free from governmental or other unwanted interference” (p. 460). We argue that denial of informational privacy surrounding menstruation leads to encroachment on physical and decisional privacy. However, we will also see the more traditional operation of privacy, in which modesty related to sexuality not only forces the girl to retreat into the home, but cloaks the event in shame and silence.

THE STUDY

The initial purpose of this study was to understand beliefs and practices surrounding menstruation in a developing world context, and, in particular, to ascertain whether provisions made for sanitary care were problematic for retaining post-pubescent girls in school.

Ghana was chosen for several reasons. The government is deeply supportive of girls’ education and the Ministry of Education monitors progress carefully. Since our first trip there, in fact, Ghana’s Gender Parity Index has improved substantially. However, the Ministry’s own measures showed wide gender parity variation among communities—as low as .57 in some districts-- and the key factor of girls’ enrollment in secondary school was, as in most developing nations, very

low at 46% (UNESCO 2010). Ghana also emphasizes standard measurement in schools, so we were certain of getting reliable data on educational outcomes. Ghana's commitment to improving girls' education meant that we had the full cooperation and, indeed, enthusiastic assistance, of both the health and education ministries during the course of our work.

In Ghana, we were also able to engage local and global NGO partners, who introduced us to communities and helped gain the approval and cooperation needed through traditional protocols. The official language in Ghana is English, so, though languages like Fante and Twi are still most prevalent, we could communicate directly with our partners, and with many respondents as well. Finally, members of our team had done fieldwork in west Africa, including Ghana, during previous projects, so we had cultural expertise on which to draw.

Research was conducted in qualitative and quantitative stages. We report these separately for clarity's sake, but our grounded theory approach created a flow of learning and adaptation as we executed and analyzed, making the distinction between methods somewhat artificial.

QUALITATIVE STAGE

The initial, qualitative study occurred in September/October 2008 and January/February 2009. A research team from the UK went into the field with local NGO workers to interview girls, parents, and teachers, to observe conditions in the schools, and to discuss the provision of sanitary care with education and health officials. Fieldwork encompassed both Christian and Muslim populations and took place in urban, periurban, and rural locations: in Accra, as well as the Western, Central, Upper East, Northern, and Ashante regions. Toilet facilities were inspected in all schools visited and documented with photographs and videos. Shop checks were conducted during travel between sites to determine the accessibility and prevailing price of sanitary pads.

Respondents were drawn from three subject groups—girls, teachers, and parents—and interviewed through a combination of individual conversations, focus groups, and community meetings. Table 1 summarizes this work and provides codes we will use to reference our findings.

Insert Table 1 About Here

Girls were interviewed mostly one-on-one because of the taboo nature of the topic (103 individual interviews; 10 focus groups totaling about 136 girls) (See codes range G1-G23). Nearly 250 parents were interviewed in groups ranging from 6 to 75 (Codes P1-P9). One discussion took place in a teachers' meeting at the district level, attended by 105 teachers, but individual interviews and small group discussions were also conducted among the 173 educators we met (E1-E26). Where possible, conversations were in English, but most interviews were conducted in the relevant local language, with NGO staff providing on-site translations. Discussions were taped, subsequently transcribed and, where necessary, translated into English by an independent party to ensure accuracy of understanding. A number of meetings were also held with NGO personnel, as well as public health staff (O1-O35). Only some of these meetings were taped, but extensive notes were taken. NGO partners also delivered seven written reports from fieldwork.

All work was conducted with ethical clearance from the Ghanaian government. Community work was preceded by formal visits where approvals of chiefs and other elders were obtained.

This stage generated 562 pages of fieldnotes, 455 photographs, seven NGO reports, 3 hours and 20 minutes of videotape, and 53 hours of audio recording. Transcriptions and second translations, followed by coding and comparison, continued into 2010.

Findings

Our findings are grouped into four themes: physical conditions, economics and practices, social setting, and embodied experience. In reporting physical infrastructure and pricing of pads, we draw on our own direct observations. Most other findings result from many conversations on the ground. When we report information from specific respondents, we give source codes from Table 1. Otherwise, reports are based on views expressed so often it is impractical to list all relevant codes.

Physical conditions. We visited 20 schools, from remote rural schools in the Northern region to middle-class private schools in urban Accra. At no school did we see a flush toilet. Only private schools had seated latrines. Others had squat pit facilities. Only two had water nearby and only one had a space private enough that a girl who soiled her clothing could change in it. Many had no doors; several were used by both sexes. In three schools, toilets were padlocked. Often toilets were backed up; children told us they went “in the bush.” Some schools had no toilet. In remote areas, an entire community might be served by central pits.

In one rural village, for example, there were two such pits for men and women. The female toilet was a hole in the ground approximately ten feet long, five feet wide, and six feet deep (video available). Logs about 15 inches in diameter were laid across it, width-wise, at intervals of approximately 18 inches. Users had to carefully walk out on the logs and squat to defecate or urinate into the open waste left by many others. The pit was shielded on one side by a mud wall, but was otherwise open, and had a grass roof held up by sticks. The mens’ facility could be seen nearby.

Only private schools had power. Outside the cities, there were few books in the schools. Teaching was done from a blackboard, using chalk. Some schools did not have furniture, but most had long benches and desks. The schools teach mostly in an oral fashion, where recitation and memory take the place of books and pencils. Often, lack of electric lighting and books made it impossible to go home and study; instead, learning required sustained attention in the moment of instruction so that lessons could be remembered. Students stood to ask or answer questions.

In urban and periurban areas, schools were at walkable intervals from the communities they served. However, in the rural areas, students often had to walk between one and two hours each way. In several rural cases, there were no roads leading to the school or the road had been significantly eroded; thus, the journey often meant climbing or wading to get to school. Animals and snakes were common and the path was often overgrown with foliage, obscuring potential predators.

Schools in Ghana, no matter how poor, require school uniforms. Each school has a different set of colors and both sexes wear uniforms in those colors. Girls wear a kind of pinafore dress. Clean clothes are required, even in situations where water and soap are limited. A torn uniform can mean the poor child who owns it cannot return to school.

Ministry of Education policy was that every school keep sanitary pads on hand for emergencies (O2). No school we visited had this provision. In urban and periurban areas, disposable pads were usually available within walking distance from the school, in small shops selling toiletries, batteries, and other goods. In contrast, families in rural areas often walked a long distance once a week to the nearest market town, where items like sanitary pads were sometimes available.

In periurban and rural areas, we were told that most homes did not have electricity and none had plumbing. Water was obtained by walking to a nearby river or borehole and filling a jug. In rural areas, materials of all kinds were scarce, including both soap and cloth. In periurban areas, media reach was sparse because of limited electricity and equipment. In rural areas, radio was occasionally available, but television and print media usually were not.

Economics and practices. Upper class and urban people we spoke to at the beginning of our inquiry—especially NGO workers--believed a traditional cloth arrangement was still in use among women in rural areas. The traditional cloth, a red print like a bandana, was once worn wrapped through a beaded belt and then put through the legs. In truth, the red cloth is only a ritual item now,

sometimes exchanged as part of the wedding gift process and sometimes even buried with a female corpse at a funeral (O18, O30, O32). We had several interviews with a woman who sold the cloth and beaded belts from her stall the market in Accra (O18). She insisted that no one in the cities used cloth any more, except for ritual purposes, because the demands of modern life—going to work, going to school—made it impracticable. When you walk, the cloth rides up the back, often then becoming visible and leaving the wearer at risk for soiling. When worn away from home, cloth is difficult to change and wash.

So, adults usually asserted that schoolgirls in Accra used pads. In the rural and periurban areas, however, adults consistently told us that school girls used cloth or “toilet roll” (essentially a wad of toilet paper put in the underwear) because they could not afford sanitary pads. Grandmothers, aunties, and mothers used cloth or toilet roll and did not see why their daughters should do differently. Among the very poor, however, cloth was scarce. Women used whatever cloth they could find, usually cutting up clothing. Each female in a family might have one or two pieces of cloth, using one while the other was cleaned. In some homes, females had to share cloth. One teacher told us of a place where she had taught: the inhabitants were so poor that grown women used cloth and young girls simply bled freely (O36).

The main advantage to toilet roll was disposability, as some women did not like having to handle and wash used cloth. Disposability, however, meant toilet roll had to be purchased with each period, making it seem expensive. Pads were thought even more expensive, but were also seen as unnecessary and vaguely foreign.

Shops carrying sanitary pads usually carried Always, the Procter & Gamble brand, as well as an array of cheaper pads. Always averaged US\$1.20 for a pack of 8; other brands were slightly lower, at about US\$1.00 for the same number. One pack of sanitary pads was about the same price as a bottle of beer, a product that is consumed regularly by males even in the poorest villages. It

seemed, therefore, that when the pads were available, their use was more a matter of household priority or familiarity than expense, since the cost of a whole package of pads might be spent in one bottle of beer. In remote areas, there are few shops and these might not have sanitary pads at all. In the village with the pit described above, only one of the women had seen a sanitary pad, though they had heard radio commercials for Always (P2).

Ghanaian schooling is free up to the senior high school level, but various costs such as uniforms and supplies make education prohibitive for some families. Particularly in the north, which is poorer than other regions, we heard that families could not send their children to school because they could not afford the uniform. Adding sanitary pads to the list would reduce the likelihood that a girl's education would be supported after menarche.

Given the economic deprivation, caring for a child was an expensive proposition sometimes unwanted, especially if the carer were not the birth parent. Therefore, the onset of menstruation, as we were told by some people in all groups and in all regions, was taken as a welcome signal that the girl, now a woman, should leave the home and support herself. A headmaster in a particularly poor periurban middle school told us, with angry compassion, that his female students, once they menstruated, would be sent out to sell things along the roadside, even at night, where they would sometimes be raped (E12). A newly pubescent girl might even be encouraged to go off to the city, to work in the markets of Kumasi or in a home in Accra as a domestic servant. The chances of such girls ending up in the sex or slave trade were high, as both problems are serious in Ghana. Sometimes, though, carers would simply stop supporting the girl, in whole or merely in part, often refusing specifically to continue paying school expenses. We heard repeatedly that the girl in such a situation was supposed to take "a boyfriend," which in Ghana carries the unequivocal expectation of economic support. We also listened to charges that the girls were too materialistic and therefore

traded sex for goods (O22). We heard that girls ran off to the city to become prostitutes because they wanted pretty clothes (E16, O21).

The swelling numbers of runaway girls on the streets of Kumasi and Accra are a social problem universally recognized, though no one has a good count and everyone has a different theory as to why they came (O20, O32, O33). Two of our research partners worked with runaways and street children, as well as in slave rescue (O32, O33). We were taken, late at night, to view the hundreds of runaway teenage girls sleeping in the doorways or bathing in the streets of Accra. One partner was particularly distraught about the number of babies being brought up on the street by these runaways, wondering what the children would be like as adults (O33). He took as many as he could into his home and supported others out of his own pocket. We interviewed a 16 year old prostitute, who told us she had to leave home when her parents divorced and neither would take economic responsibility for her (G2). We were told by our partner who worked in slave rescue that the common practice among slavers was to bring in groups of teen runaways, sorting them by appearance, the pretty ones for the sex trade and the others for domestic service (O32).

Social setting. Local rituals around menstruation were practiced depending on location and family wealth. In some Ghanaian traditions, for instance, a mother celebrates her daughter's first menstruation by feeding her an egg and sometimes yams (EAO3). Very poor families, however, had no means to honor this ritual, any more than they could provide the traditional red cloth. However, long-standing taboos restricting behavior during menstruation were very much in evidence. Sometimes a menstruating woman was forbidden to cross a river, sometimes to pass a shrine, or to cook, to fetch water, go to church. Taboos were often enforced with threats of stillborn children, infertility, or disturbing visions.

One teacher who had been in a very remote village for 17 years noticed that the taboo against crossing the river during menstruation kept his female students out of school a few days each month

(TI12). He began tutoring to help them keep up. He explained to us that he struggled to retain the girls into middle school against the prevailing expectation that they would marry after menstruating. He said the families had debts that could be paid by marrying a daughter. In one chilling moment, after we asked whether the girls were able to exert any power over when or to whom they were married, he forcefully said, “No, when you are a woman, you have no choices.” We heard variations on this theme in the Ashante and Northern regions.

Teachers, administrators, and NGO workers in the rural and periurban areas emphasized strongly that the communities they served valued education very little, especially for girls. Absenteeism and drop out rates were said to be high, particularly after puberty. However, only a few had thought about a possible connection between menstruation and schooling. Those who had were impassioned with stories of embarrassed girls who, after soiling themselves at school, never returned (E6, E17, E18). In a large meeting of teachers, we witnessed an argument between a few older men who insisted there was no problem with sanitary care among the girls and a vocal group of women and younger men, who shouted them down with exemplary stories (E6).

Parents normally did not talk to their daughters about menstruation or sex until menarche. A prevailing attitude held it was the school’s responsibility, not the family’s, to have such conversations. How and what to communicate to daughters was a topic that could erupt into arguments between parents and educators (P1, P5). The parenting style in Ghana, we were told by education officials, was not warm or conversational, particularly with girls, and menstruation was an uncomfortable subject (E24, 25). Ironically, we also listened to outraged parental complaints that the girls never told anyone when their menses started, but instead kept it a secret (P1, P5, P6).

We were often told that children were being cared for by other relatives because parents were dead or gone away for work. It was easy to see that many of the “parents” in our focus groups were,

in fact, probably grandparents. The women caring for girls were often old enough that they had stopped menstruating and had grown up at a time when girls had not gone to school.

Schools in Ghana have a standard sex education curriculum, including a section on menstruation (E1). This module is to be delivered to boys and girls at the same time. In one school, the female teachers had formed a club for the girls that met after school and taught about various topics, including menstruation and personal hygiene (E2). The farther we travelled from the city, though, the more likely we were to find schools with only young male teachers. Those teachers were embarrassed even to be asked about sex education (E3) and most schools had not actually provided it. Further, school officials and NGO workers were candid about the sexual aggression that sometimes happened between such teachers and their teenage students, but emphasized that female teachers would not come to such schools because of the lack of facilities, especially toilets.

The health service does make birth control and condoms available to teens. However, we were told girls were ashamed to go to the clinic for fear of being seen, as the request for such assistance might cause a girl to be shunned (O12). One heroic health nurse in the Central region began giving out birth control from her home at night so girls could slip up to her door without being seen. Her husband, a teacher at the middle school, helped spread the word that this arrangement was available. Nevertheless, in this site as in every other we visited, the main cause for dropping out of school was unwanted pregnancy.

We were told in many places and ways that the beginning of menstruation made a girl “ripe” and “fair game” and that consent was not necessarily needed. Early pregnancy and sexually-transmitted diseases were a common concern, but sexual harassment and various forms of forced sex were also said to be rife. Underlying traditions and current practices aligned in giving the girl little choice over the sharing of her body:

In Ghana, menstruation means a girl is ready for a relationship. Some traditional beliefs and cultures have it that once a girl first sees blood it means a man can sleep with her.

The girl is “outdoored” into the system so that a man can seek her hand in marriage. As a result of this, most girls will not come out openly to tell their parents of their menstruation because she is not ready for such relationships. In the northern region of Ghana and some remote cultures, when a female child is born, she is betrothed. The man monitors the growth of the girl and immediately she starts menstruating, she is pulled out of school for marriage to the man she has been betrothed to (O10).

Though the men were often unclear about the practice of sanitary care, they sometimes seemed keenly attuned to which girls had menstruated in their community. They noticed when they saw menstrual cloths drying (one man told our male colleagues that he found the sight of a menstrual cloth drying in the yard of a newly-pubescent girl erotically stimulating) (P9) and when they smelled a menstruating woman.

Embodied experience. About half the girls we interviewed knew nothing about menstruation when the blood first appeared. They were terrified and went immediately to tell a female carer, usually their mother. The other girls found out in school or from a friend or a sister. These girls were less likely to tell an adult. Those who were advised by an adult woman were initially given cloth, even in the cities. However, in the periurban and urban sites, very nearly all the girls claimed now to use pads regularly, having been introduced to them by peers. This report conflicted so strongly with the claims of the adults in their periurban communities, we were skeptical and wondered whether the girls were overstating their occasional use of pads. In one case, we even redid an entire focus group as individual interviews to try and get behind social pressure to report pads usage (C8 and C21). We queried especially how girls came into the money to buy the pads. We found that if the girl had a means of earning a living—for instance, at one Muslim school

in Accra, several girls sold toffee or baked goods on the street after school—she bought the pads herself. If she was given some money at home—for instance, for lunch during school—she saved some of the money to buy pads. We found that girls would fast several days a month in order to be able to buy the pads. Some girls had been cut off economically by their families and had boyfriends who were buying pads, as well as paying for uniforms and other expenses.

Girls in school usually told us quite emphatically they were avoiding boys so they could continue their education. As we would eventually see more clearly, a girl who has menstruated and yet is still in school has defied the odds in a dramatic way. She is committed and will not risk pregnancy if she can possibly avoid it. The problem is that her sexual initiation may not be of her own choice and the very fact that the community knows she has “ripened” puts her at risk. Keeping informational privacy about her menstrual status becomes very important.

In the absence of sanitary pads, however, keeping this secret is difficult. Imagine for a moment going to school in the remote village with the communal pit we described earlier. Most of the girls in this village had to walk at least an hour to school. As one of them explained to us, her cloth was so inadequate for the long walk that blood would be running down her legs by the time she arrived (G15). There was no place at school to change the cloth or wash her hands. If she went to the pit, she would have to either take off the cloth before climbing out on the logs or squat there precariously while she attempted to remove it. She could be seen by anyone passing by, including the men. If she went in the bush, she would be hidden from the village, but might be caught, literally with her knickers down, and a bloody mess around her ankles hindering escape, by predators both human and animal.

Some males apparently did stalk the girls. When they walked home, girls said they were victims of “eve-teasing,” a term for sexual harassment where boys and grown men follow school

girls, heckling and sometimes attacking them. This is a well-documented phenomenon in Africa and elsewhere in the developing world (Leach et al. 2003; Mgalla et al. 1998).

Girls in such situations told us that they stayed home from school four to five days a month during their periods. Sometimes they would stay home if they even thought their period might start during the day—a hard thing to predict in the early years when the menses are often irregular. If they went to school during or just before their periods, girls risked teasing by the boys and men if they had an accident and soiled their clothes. Post-pubescent girls said they worried about this possibility as they sat in the classroom, making it hard to concentrate on the lesson—a problem when teaching is oral and there is no study after school. Since students must stand to ask or answer questions, the menstruating girl was also less likely to participate—the fear of standing to reveal blood on the back of your skirt is a familiar experience to most women everywhere. Since the uniforms are required, getting blood on the skirt could also mean never coming back, as removing the stains would be difficult, particularly in communities that had chosen light colors (O30).

Getting the menstrual cloths clean was the more frequent challenge. Most girls told us they took the cloths into the bath with them at night for washing, but then they were afraid to put the cloth out to dry where it might be seen. So, they “hide dried” it in some private space, usually one without air or light. Most often, the cloth was put under the bed to dry. Since they would only have two or three cloths to use, this situation meant that, after the first day, they were wearing a damp cloth. The cloth eventually would give off a strong and distinctive scent. This, in turn, would alert others to their situation and cause them embarrassment and potentially unwanted attentions. So, in the end, it was no wonder that girls who had shops selling pads nearby bought them, even if they had to go without food to afford it. The taboo on talking about menstruation kept the adult women from seeing the problem, since many had not themselves gone to school past puberty.

One last instance is worth telling. A 15-year-old who lived on the street in Accra told us she used scraps of cloth that she retrieved from a tailor's dustbin for her menstruation (G9). Most girls we met were older than their grade indicated, especially in secondary school, where students might be as old as twenty. Yet this girl was in the ninth grade, indicating she had been a dedicated student, despite sleeping in a kiosk at night and selling kerosene on the street after school. She was so embarrassed about her situation that she carefully closed the door and pushed a desk up against it before she sat down to speak with us. She told us it was a commonplace occurrence for her menses to leak through the tailor's cloth to her uniform. She had made friends with one of the female teachers in the school, so when this happened, she had permission to leave school, go to the place where she kept her things hidden, change the cloth, and return. She told us she didn't worry about the stain on her clothes because the dark brown color of the school's uniform camouflaged it. In this way, she had managed to stay in school well past the point where most girls give up.

Discussion. We concluded a significant number of girls among very poor and remote populations were missing four or more days of school a month due to anxieties resulting from inadequate means to manage their menstruation. Girls were distracted when they did attend school during their periods, potentially reducing comprehension. We suspected that they did not participate freely in many other activities out of fear and shame. Further, we could see that cloth usage made it more likely others would know they were menstruating and this, in turn, jeopardized both their economic support and their sexual sovereignty.

Knowledge and communication were important variables. When the girls did have sex education in the school, they reported it as an embarrassing event, in which the boys made noises and teased them, and from which they retained very little (G7). The mixed sex environment was thus a missed opportunity to connect girls with peers who could provide support when their periods came. When they did not know about menstruation before it happened, the girls fearfully told an

adult, which risked setting off a chain of events leading to pregnancy and worse. Where there were behavioral taboos in place, such as not crossing the river during menstruation, the change in their behavior effectively telegraphed their status to everyone. In particular, the attitude of entitlement that males sometimes felt toward girls who had menstruated presented a serious threat to their future and made the question of privacy more crucial than we had previously thought.

The sum of these conditions pointed to a crippling invasion of privacy on physical, informational, and decisional terms: infrastructure with long distances to school and no private space on arrival, material deprivation that made caring for cloth so difficult it began to smell, family norms that made buying a bottle of beer a bigger priority than purchasing pads, rituals that advertised a girl's readiness for sexual encounters, tolerance for sexual aggression by males, and, finally, marital practices or the withdrawal of economic support eventually forcing the girl out of education and into motherhood on any terms.

Our conclusions, however, were necessarily provisional. We were being told different stories by the various informant groups. Even some participants who knew each other well were obviously not being open with each other. Many subgroups had beliefs about other localities or classes that were not holding up under investigation. Traditions were being ripped out by poverty or replaced by new global practices—or both—yet nostalgia was evident, even on the ground. Particularly because of the taboo topic, it was difficult to sort out anything that might be called “objective truth” from these various perspectives.

Though we ourselves were coming from a culture where infrastructure and expectations are vastly different, we did find shared areas of belief and understanding. In particular, there is much about the experience of menstruation, both physically and culturally, that was the same. There are similarities of physical experience, such as menstrual cramps, as well as social experience, such as

blood on the back of your skirt, that allowed us to build bridges with our respondents, even to share jokes and stories with them.

We also saw how the local attitudes toward menstruation meshed with those of the global community, ultimately making the problem invisible. One major international NGO, which promotes itself on a global level as being dedicated to girls, had courted our project in the UK. However, when we arrived in Accra, the management there made it very clear they did not want to be involved in anything regarding menstruation. Other men in the field were convinced of the importance of the issue and dedicated to solving it, but hesitated even to say the word “menstruation.” Yet we also had conversations with aid professionals in our home countries, most notably one meeting with USAID, in which the whole topic was dismissed and our interest in it demeaned (O1). Sanitary pads were a trivial item and menstruation low on the list of priorities where education in developing countries was concerned. Professional women, however, whether we met them in Ghana, the US, or the UK, were often moved to tears when the question was first brought to them and remarked that they were ashamed they had not thought of it before. Thus, the shared taboo linked local and global communities and, as a result, the issue received no attention. Under cover of that silence, the indignities continued.

Once this silence was broken on the ground, however, our Ghanaian partners shared freely with us, taking us places we would have been unable to go alone, and helping us to grasp those things that seemed most opaque. So, in the end, though we recognized the reasons for the long-standing critique of Western views of Africans and the essentializing of Western feminism, we also felt there were threads of community that crossed through North and South, male and female, old and young, and that the possibility of knitting together various viewpoints in order to share knowledge and create change was real and valuable, even if imperfect.

Conducting this research required building a system of support throughout Ghana and brought us new relationships we were hesitant to cast aside. Our partners in the field were now highly sensitized to the issue and keen to take some action. Communities we visited wanted to know what the next steps would be. So, as the study wound down, we decided to try an experiment. We were able to get emergency funding from our university to quickly set up a short trial of free sanitary pads and an all-female sex education module. We intended to learn more about the potential effects of knowledge as well as the impact of pads. The quantitative study section that follows reports the findings from that undertaking.

QUANTITATIVE STAGE

The second study, conducted from February through July 2009, was a pilot test in four Ghanaian sites: two treatment villages in which pads as well as reproductive education were provided; one treatment village in which education was given; and one control village where no intervention occurred and data were collected only once. Economically deprived sites were selected; one village where the girls were given pads was in an isolated rural area, while all others were comparable periurban villages.

All schoolgirls 12 years and older, a total of 183, were included. In the treatment sites, a baseline assessment, consisting of a survey and a semi-structured interview, was conducted in February. At this time, a reproductive health education module was administered. Two interim visits to the treatment sites, with semi-structured interviews, occurred in March and May. A final assessment in July included a survey and a semi-structured interview, but was given in a control village as well as in the treatment sites. Attendance data was provided by the schools and accessed with the permission of the Ministry of Education.

Questionnaires were translated into the relevant local languages (Fante and Twi) through collaboration with the same personnel who assisted with the qualitative research. For the baseline and final assessments, semi-structured interviews were conducted by public health nurses, NGO staff, and Ghanaian graduate students, all females, with UK researchers present. Monthly interviews were conducted by local NGO personnel and Ghanaian graduate students, using the same team at each visit in hopes that familiar faces would make the girls more comfortable. After each interview in the pads treatment sites, each girl was given a dozen pads for her period, a number based on reports of usage from the qualitative study.

The reproductive education module was given in the local language. A pharmacist and former senior staff member of the International Labor Organization, who had extensive experience with gender issues in Ghana, adapted the Ghanaian sex education curriculum. She had been the primary local collaborator through the qualitative stage and she trained those who delivered the module, all female nurses or teachers, in the quantitative stage. The module itself was rehearsed before field agents of a major NGO in order to ensure intelligibility and, within limits, cultural acceptability. Because this education contained references to menstruation, intimate hygiene, impregnation, and sexual diseases, it necessarily crossed topics that are taboo in Ghana, just as elsewhere in the world. In the pads treatment sites, local graduate students also demonstrated the use of the pad. All this was delivered in a females-only setting (boys being held at a distance by cooperating teachers and elders, mostly men), with girls over 12 present, whether they had yet menstruated or not. The atmosphere was purposefully kept light, even jocular, to avoid intimidating the girls or further mystifying the topic.

Survey responses were recorded on paper, while attendance records were photographed on site. Both data sets had to be entered by hand, then cleaned and checked, after being shipped to the UK. The semi-structured interviews were also recorded on paper, but most were also audiotaped

and later translated and transcribed. The challenge of data cleaning and analysis was massive, so grant requests were written for further emergency funding. As some of the qualitative stage transcriptions were becoming available as the quantitative data were being analyzed, and the second stage data set had considerable qualitative elements, our statistical analysis was informed by tacking back and forth between qualitative and quantitative input. Statistical analysis was done using PASW. Though some initial findings could be shared with partners during 2009, the process was slow and full analysis was not completed until December, 2010.

Findings

We present our findings here grouped into four segments: the conditions we found at the baseline measurement, the consumer response to the pads, the impact of the intervention at the final assessment, and the reception of the study experience by the respondents.

Conditions at baseline. The relative wealth of each village was estimated using a battery of questions about ownership of land, homes, autos, radios, and the like. The result showed that the rural village was poorer than the periurban sites. There was no workable toilet facility in any school nor water or electricity, but the average distance between schools and home was significantly greater in the rural setting, 1.3 hours' walk, than the periurban ones, which were about a half hour or less ($H= 32.137, df= 3, p<0.001$). Cloth usage was also concentrated in the rural community (48.8% of the total and all the girls in that site).

The starting attendance levels, despite the difference in pads accessibility and distance to school, were similar. In fact, attendance was good across all sites, ranging from 77% in the rural village to 85% in the control site, and there was no significant difference between menstruating versus pre-menarcheal girls. However, school enrollment records for all sites suggested puberty

was negatively related to girls' retention in school. In the chart below, one line representing the percentage of girls in each grade who were menstruating is laid over another showing the gender parity of enrolment for boys and girls by grade. The picture confirms what teachers, NGO personnel, and health workers everywhere had told us: once menarche occurred, it was hard to keep girls in school.

Insert Figure 2 About Here

Between Primary 4 and JHS 3, girls' enrollment in these sites dropped 66 percent, so it is likely that more than half of the girls of this age living in the community were no longer in school—and therefore not in our study. We were worried, of course, that our data was right censored and had discussed the problem with our partners in the field. Unfortunately, there was no way to identify and locate the rest of the cohort. The distances to villages where we would have had to seek them out were simply too great and too daunting for our budget. Therefore, we proceed with this analysis, giving the caveat that the girls who are still in school post-puberty are probably somehow different from the majority. It may be that these girls are extraordinarily motivated or that they are getting an unusual level of family encouragement. For whatever reason, they are still in school and their attendance is pretty good.

Something about this difference may be discernible in answers to questions we asked about the girls' hopes and their parents' attitudes toward school. At the baseline, more than 90% of girls reported that they believed they would have more opportunities with an education, that it was important for them to get an education no matter where they lived, and that both their parents and teachers encouraged them to be in school. These reports did not vary significantly across sites, nor by menstrual status or pads/cloth use. However, about 30% of the girls in each site agreed that “education is more important for boys than for girls.”

There were indications of the negative impact of menstruation. Of all menstruating girls, 40.2% reported that their families treated them differently after menstruation and 43.6% said they felt isolated during their period. Menstruating girls were significantly more likely to agree that “I feel sad all the time” than the pre-menarcheal girls ($p=.003$, Fisher’s exact test) and less likely to agree that “I feel happy most of the time” ($p=.006$, Fisher’s exact test).

Menstruating girls also told us that their period interfered with a variety of activities (Table 2). Girls who were primarily using cloth or toilet roll were significantly more likely

Insert Table 2 About Here

to report missing school and work, as well as other activities, than were pads users. Further, cloth/toilet roll users reported that they lacked confidence in their method for a variety of contexts involving movement, distance from home, and mixed sex social settings. Across all menstruating girls in all sites, about 40% reported that they avoided male company during their period and that they worried about giving off a scent. About 30% reported they usually just stayed indoors.

Consumer experience of pads. Twelve pads a month was enough for most girls. None had pads stolen or experienced pressure to give them up, as we feared they might, and few had felt the need to conserve by using cloth at night or when at home. Many girls reported having pads left over. This usage pattern represented an average of about three pads a day: one for school, one for home, one for night. As in the qualitative study, these girls reported a late start to menstruation (nearly 14 years of age) compared to girls in the rich nations, but the length of their period, at 4-5 days, was about the same. Their reports of going all day with only one pad made us wonder if their flow was particularly light, perhaps for the same reason their menarche came later, poor nutrition.

In any case, it became clear that one eight-pack a month, available for about a dollar, would last most girls through their period.

In the periurban pad test, 62.2% did not change pads at school. We suspect this was because they lived nearby enough to go home to do it. In the rural village, however, 70.8% of girls did change at school. They ran into the forest for cover, quickly swapped out one pad for the other, and returned to school. Girls expressed concern that someone might see them in the bush, which posed a danger, but the speed of changing was quick, much less cumbersome and messy than cloth. Girls in all sites said their primary concern was for privacy when changing.

Insert Table 3 About Here

Girls dramatically preferred pads to cloth or toilet roll. When asked what they liked about the pads, no differences emerged between past and new pads users, except former cloth/toilet roll users emphasized the greater ease of changing. Only one girl ticked a box that expressed a “dislike” about the pads: she said they were hot and the plastic rattled. Habitual cloth users particularly noticed the reduced incidence of soiling outer garments and the consequent relief from embarrassment, probably because they were significantly more likely at the baseline to have experienced soiling ($p=.001$, Fisher’s exact test) and embarrassment ($p=.001$, Fisher’s exact test) during their last period. There was also a significant decrease in the number of reports of odor experiences among cloth/toilet roll users after the introduction of pads ($z=5.58$, $p<.001$), probably because the hygiene problems presented by cloth lead to scent.

Disposal was usually effected by dropping the pad into the pit or latrine at the time of changing. Most wrapped the used pads back in the pink plastic wrapping before disposal because they feared the blood being seen by someone else. More than 20% were so anxious about discovery that they buried the used pads, whether at school or at home.

Impact of treatment. In the sites that received pads, school attendance increased about 9% during the five-month trial, thus recovering about 6 days per 65-day-school-term, which was consistent with the World Bank's estimate of the impact of the problem (World Bank 2005). In the education only treatment, attendance went up also, but much more slowly, and eventually improved as much as the pads treatment sites (Table 4). Attendance in the control did not change.

Insert Table 4 About Here

Pre-intervention attendance did not vary between sites ($F(3,116)=1.508, p=.216$). Changes in attendance were significant by site over time. A mixed between-within subjects analysis was conducted to assess the impact of the interventions at the four sites on participants' absenteeism, across three time periods (pre-intervention, midpoint of intervention, post intervention) Wilk's $\lambda=.81, F(6,186)=3.40, p=.003$. [For the mixed-between-within subjects analysis, there were only 98 girls with attendance records for all three terms and thus could be included in the analysis.] When analyzed within subjects by site over time, this positive result is further supported Huynh-Feldt $F(5.21,155.78)=3.31, p<.01$. The partial Eta squared for time was .084, suggesting a moderate effect size. The attendance results were not different between the rural and periurban sites ($t=1.34, df=65, p=.186$).

Given the short length of the study, we were not able to measure performance or retention. However, in the pad sites, the menstruating girls reported a significant improvement in their ability to concentrate between the baseline and the final assessment ($z=3.95, p<.01$, binomial test). There was no difference reported in the education only site. In the pads treatment sites, the attitude that education was more important for boys than girls fell significantly ($z = 5.047, p<.01$, binomial test) from 33.3% to 6.4%; the education only site also experienced a decline in this attitude (from 30.2% to 14%), though clinically a smaller decrease, it was significant ($z= 2.457, p<.01$, binomial test). In

questions addressed only to the pads intervention participants, 98.4% reported that they were better able to perform in school when using pads. Other activities were also positively affected by pads intervention: more than 95% said they were better able to participate in sports, play, and helping out at home with the pads.

Menstruating girls in both pads and education sites reported being more self-confident during their periods ($p < .01$). Respondents were asked again about feelings of sadness and insecurity: among the menstruating girls, binomial tests revealed that both indicators were significantly reduced in pads treatment sites, among both cloth and pads users (all p values $< .01$). In the education site, a similar change occurred, but the significance level was borderline ($p = .045$ for sadness and $p = .057$ for insecurity). Further, 76.9% of menstruating girls in the pads treatment sites said they felt less ashamed about menstruation as a result of the intervention, a significant difference as compared to the education only site (44.9%), ($p < .000$, Fisher's exact). Most girls continued to honor taboos, however, though several told us they did not believe in them. They feared disapprobation if caught violating the taboo.

Impact of the study experience. Execution of the study unavoidably brought unusual attention to these girls. Indeed, a reasonable inference from the attendance measures would be that attention was the driving force behind improvements under both conditions. However, the topic of menstruation is an embarrassing one and the girls normally try to avoid anyone's attention in this domain. It was easy to imagine how much teasing might have been unleashed by our presence. So, we anticipated that the attention could have been received negatively. Also, the interviews were long and conditions hot, sometimes requiring the girls to stay long after school, waiting patiently for their turn. Though we tried to ameliorate the experience with juice boxes and biscuits during wait times, we thought it possible that the study had been a burden, perhaps seen as having little benefit. During the education module delivery, though, it sometimes seemed as if the very action of

pulling all the girls together to share and explain this secret was building their sense of belonging to a group, rather than being isolated in shame. So, we asked a short string of questions in the final assessment that sought to gauge how the girls had received the study itself (Table 5).

Insert Table 5 about here

As the results in Table 5 show, the levels of embarrassment about the study itself were surprisingly low across the board, with no differences between treatments nor between menstruating and premenarcheal girls. This was true even though half the menstruating girls, particularly in the pads treatment sites, said they were teased a lot, significantly more so than the girls in the education only sites and more than the girls who had not yet menstruated. We speculate that the dispensation of the pads was a noticeable event at those schools, calling attention to the recipients in a way that did not happen to those not receiving pads. Note, however, that the pads recipients—those in the pads treatment sites and who were post-pubescent—were significantly less likely to see being in the study as a burden and also significantly more likely to feel they had learned something. These findings suggested to us that the pads made an important enough difference to those who received them that the burden and embarrassment were mitigated, and the sense of personal benefit heightened.

Perhaps most encouraging was the last finding, which showed that the vast majority of girls who received pads felt they became closer to other girls as a result of being in the study, at a significantly higher level than occurred with either the education only girls or those who had not yet menstruated. We were touched to learn, on our last visit, that the girls in the rural village had formed a club, named after our team and dedicated to higher education for girls.

Discussion. We conclude tentatively that giving pads to girls in addition to delivering education had a positive impact on them in several ways. They came to school more often, but not in greater numbers than in the education only site. However, pads recipients reported better ability to concentrate and perform, as well as more confidence and less insecurity or sadness, participated in more activities during their periods, and felt less shame. Importantly, they saw themselves as more deserving of education than before and felt closer to other girls as a result of the experience. These tentative conclusions are further shored up by internal evidence related to use of the pads. The reports of reduced soiling, odor, and the resulting anxiety certainly would point to greater levels of confidence and, potentially, better ability to concentrate and perform. The higher levels of participation in a wide range of activities seems likely linked to the reported better reliability of the pads in action, as well as their ease of changing.

Early signs of community among pads users are also important. If we posit that an essential condition for emergence of pro-woman change is creation of “clubs” sharing a vision, a language, and practices, then this may be the most hopeful outcome. The fact that this felt community was stronger in the group adopting new consumer practices is consistent with other work in our literature that locates community with ownership of certain objects.

LIMITATIONS

This study was limited in many ways. Though it involved a large and varied number of people as informants in the first stage, there were only 183 girls in the actual intervention, which is a weakness. Though we were in the field for nearly a year, the kinds of changes needed to support policy decisions would require a longer period. Observation should probably follow several cohorts through the risk years, reaching out to any girl who quits to find out the reason. Otherwise, only an

enormous effort to locate and talk to the entire cohort, a very expensive proposition, would be required to correct the right censorship. There is clearly the possibility that the second stage of the study was affected by both the increased attention to the girls and the novelty of the pads. Further research is required to determine whether the effects would hold up over time and whether the education and pads outcomes would eventually diverge. A larger sample would be needed, as would research in other locations besides Ghana.

CONCLUSION AND DIRECTIONS FOR FUTURE RESEARCH

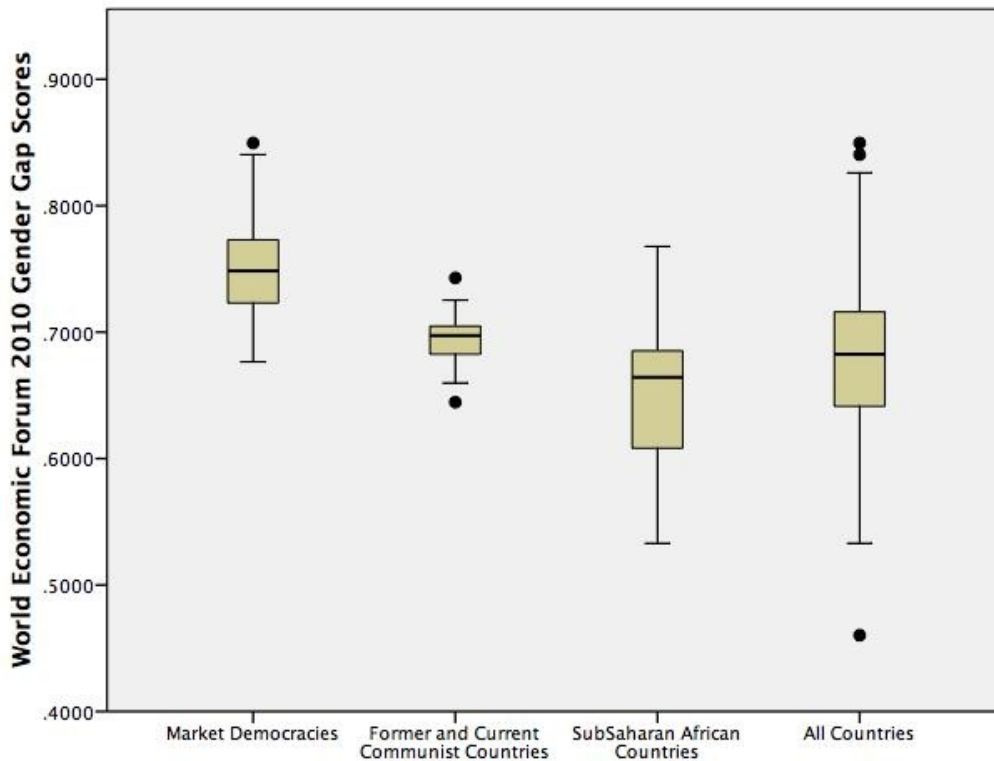
The international policy community already knows that girls' education and reproductive health are important factors to address if world conditions are to improve. The way in which material conditions connect these two important influences, causing them to work toward opposite ends, has been less clear. By taking a consumer perspective in this study—a detailed, close-up look at the many minute conditions surrounding menstrual management—we believe we have shown that these seemingly trivial matters sum to a large obstacle that pits continuing education against reproductive vulnerability, leading to further gender inequality.

From bank accounts to mobile phones, a number of consumer goods and services are thought to be having a measureable effect on women's freedoms in the developing world. Like sanitary pads, these goods and services go into complex circumstances and will engage with deep-rooted, entangled gender practices. There is potential for both great harm and great good to be done as consumer culture diffuses rapidly around the world. Feminist scholars in several arenas of the academy undoubtedly stand ready to criticize, but if the past is prologue, few will entertain these as empirical questions and even fewer will stop to consider the possible benefits this moment might have for women. We believe it is a path-breaking opportunity for the special expertise of consumer

behavior researchers to bring their understanding of the many and subtle effects of goods on their users to the attention of the world community.

Further development of pragmatist feminism as a theory will be needed. Though feminist scholars in philosophy are already working to adapt the American Pragmatist thinking to 21st century challenges, the emphasis so far is on retrieving and refitting the past, rather than building the future. The particular need to articulate the role of consumption is unlikely to be taken up outside our own field. Yet, as this very pragmatic moment in gender policy unfolds, it will be crucial to marry the instruments to the intention, the means to the end-in-view.

Figure 1
Comparison of Country Classifications



Source: World Economic Forum Gender Gap Report, 2010.

Countries included as market democracies were: Iceland, Norway, Finland, Sweden, New Zealand, Ireland, Denmark, Switzerland, Spain, Germany, Belgium, UK, Netherlands, United States, Canada, Luxembourg, Austria, France, Greece, and Italy. Countries included as former and current communist countries were: Latvia, Cuba, Moldova, Lithuania, Kazakhstan, Slovenia, Poland, Russian Federation, Estonia, Bulgaria, Kyrgyz Republic, Croatia, China, Ukraine, Czech Republic, Romania, Slovak Republic, Hungary, Georgia, Tajikistan, and Azerbaijan. Countries included as subSaharan African countries were: Lesotho, South Africa, Mozambique, Namibia, Uganda, Botswana, Tanzania, Malawi, Ghana, The Gambia, Madagascar, Angola, Zimbabwe, Kenya, Senegal, Zambia, Burkina Faso, Cameroon, Nigeria, Ethiopia, Benin, Cote d'Ivoire, Mali, and Chad.

Figure 2
Menstruation and Enrollment in Test Sites

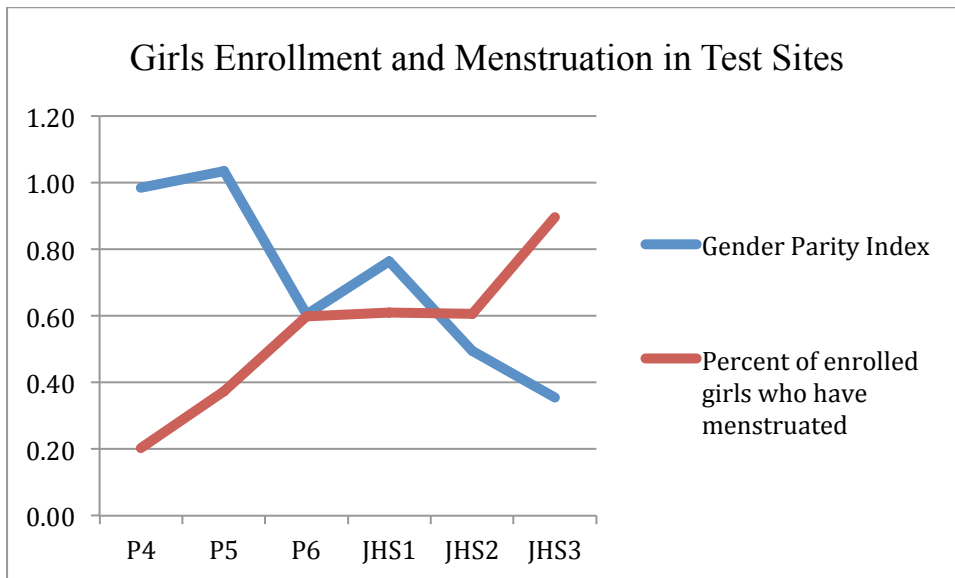


Table 1
Fieldwork Summary

CODE	METHOD	PLACE	DATE	DESCRIPTION	N
Interviews with Girls					
G1	Interviews	Accra	02-Oct-08	Schoolgirls	14
G2	Interviews	Accra	02-Oct-08	Young prostitute	1
G3	Interviews	Accra	03-Oct-08	Schoolgirls	12
G4	Interviews	Beposo	08-Oct-08	Schoolgirls	11
G5	Interviews	Adidwan	09-Oct-08	Schoolgirls	10
G6	Interviews	Akansie West	10-Oct-08	Schoolgirls	6
G7	Interviews	Akraman	14-Oct-08	Schoolgirls	6
G8	Interviews	Mankessim	14-Oct-08	Schoolgirls	15
G9	Interviews	Accra	17-Oct-08	Schoolgirls	1
G10	Interviews	Nyorgbare	27-Jan-09	Schoolgirls	9
G11	Interviews	NR Bolga	28-Jan-09	Schoolgirls	10
G12	Interviews	Bolgatanga	28-Jan-09	Runaways	3
G13	Interviews	Accra	01-Feb-09	Schoolgirls	5
Total Girls Interviewed					103
Focus Groups with Girls					
G14	Focus Group	Accra	02-Oct-08	School girls	10
G15	Focus Group	Aframano	22-Sep-08	School girls	15
G16	Focus Group	Aframano	07-Oct-08	Recent dropouts	4
G17	Focus Group	Akansie West	10-Oct-08	School girls	12
G18	Focus Group	Beposo	08-Oct-08	School girls	10
G19	Focus Group	Beposo	08-Oct-08	School girls	10
G20	Focus Group	NR Bolga	27-Jan-09	School girls	43
G21	Focus Group	Mankessim	13-Oct-08	School girls	15
G22	Focus Group	Mankessim	25-Sep-08	School girls	12
G23	Focus Group	Mankessim	13-Oct-08	Recent dropouts	5
Total Girls in Focus Groups					136
Parents					
P1	Meeting	Beposo	22-Sep-08	Mothers and Fathers	26
P2	Meeting	Aframano	07-Oct-08	Mothers	20
P3	Meeting	Beposo	08-Oct-08	Mothers	20
P4	Focus Group	Beposo	08-Oct-08	Mothers	6
P5	Meeting	Adidwan	09-Oct-08	Mothers and Fathers	25
P6	Meeting	Adidwan	09-Oct-08	Mothers	25
P7	Meeting	Mankessim	13-Oct-08	Mothers and Fathers	19
P8	Meeting	Nyorgbawe	27-Jan-09	Mothers and Fathers	75
P9	Meeting	NR Bolga	28-Jan-09	Mothers and Fathers	30
Total Parents					246
Educators					
E1	Meeting	Accra	17-Sep-08	Ministers	2
E2	Interview	Beposo	22-Sep-08	Headmistress	1
E3	Interview	Mankessim	24-Sep-08	JHS Teachers	2
E4	Interview	Mankessim	24-Sep-08	Girls' Education Coordinator	1
E5	Focus Group	Akraman	25-Sep-08	Primary	6
E6	Meeting	Mankessim	25-Sep-08	Primary and JHS	105
E7	Meeting	Accra	02-Oct-08	District Administrator	1
E8	Interview	Aframano	07-Oct-08	JHS Teacher	1
E9	Interview	Beposo	08-Oct-08	Headmistress	1
E10	Focus Group	Adidwan	09-Oct-08	Teachers	6
E11	Focus Group	Adidwan	09-Oct-08	Teachers	3
E12	Interview	Mankessim	13-Oct-08	Headmaster	1
E13	interview	Akraman	14-Oct-08	District Coordinators	2
E14	Meeting	Aframano	22-Jan-09	Headmaster and JHS Teacher	2

CODE	METHOD	PLACE	DATE	DESCRIPTION	N
Educators continued					
E15	Focus Group	Brofoyedru	23-Jan-09	Teachers	5
E16	Focus Group	Nsuase	23-Jan-09	Teachers	6
E17	Meeting	Bolgatanga	27-Jan-09	School Health Coordinators, District Girls' Education Minister	3
E18	Meeting	Bolgatanga	27-Jan-09	Girls' Education Coordinators	2
E19	Meeting	Northern Region	27-Jan-09	Regional Directors, Health and Girls' Education	2
E20	Focus group	Nyorgbawe	27-Jan-09	Teachers	8
E21	Focus group	NR Bolga	28-Jan-09	Teachers	5
E22	Interview	Chochoe	30-Jan-09	Headmistress and teacher	2
E23	Interview	Winneba	30-Jan-09	Headmistress and deputy	2
E24	Ongoing conversations	Ashante Region	9/08-7/09	Girls' Education Coordinator--Mampong	1
E25	Ongoing conversations	Ashante Region	9/08-7/09	School Health Coordinator--Mampong	1
E26	Meeting	Bolgatanga		School Health--Mampong	2
E27	Interview	Winneba	Jul-09	Former teacher	1
Total Educators					40
NGO, Health Care, Government, and Others					
O1	Meeting	Washington DC	Feb-08	USAID Headquarters	8
O2	Meeting	Dakar	16-Sep-08	USAID--West Africa	4
O3	Ongoing conversations	Accra and Mankessim	17-Sep-08	Western Region Director, Plan	6
O4	Meeting	Accra	18-Sep-08	Health ministers	2
O5	Meeting	Accra	18-Sep-08	Health administration	1
O6	Meeting	Kumasi	18-Sep-08	CARE Accra	6
O7	Meeting	Accra	18-Sep-08	CARE Accra	3
O8	Meeting	Accra--Plan	18-Sep-08	Plan, Girls' Welfare	1
O9	Meeting	Accra--Plan	18-Sep-08	Water and Sanitation, Plan, Accra	1
O10	Meeting	Kumasi	21-Sep-08	CARE Kumasi	6
O11	Meeting	Kumasi	22-Sep-08	CARE Kumasi	10
O12	Interview	Mankessim	24-Sep-08	Head of Adolescent Health Clinic	1
O13	Meeting	Mankessim	24-Sep-08	Water and Sanitation, Plan, Mankessim	2
O14	Meeting	Mankessim	25-Sep-08	Health inspector	1
O15	Meeting	Mankessim	25-Sep-08	Doctor	1
O16	Meeting	Mankessim	25-Sep-08	Head Nurse--Public Health	1
O17	Meeting	Mankessim	25-Sep-08	Community Action Leader, Plan, Mankessim	1
O18	Interview	Accra	26-Sep-08	Seller of ritual Amon Sen	1
O19	Meeting	Accra	29-Sep-08	CARE Accra	3
O20	Meeting	Accra	29-Sep-08	USAID--Accra	1
O21	Interview	Accra	03-Oct-08	Prostitute	2
O22	Meeting	Accra	04-Oct-08	Doctor	1
O23	Meeting	Bolgatanga	26-Jan-09	Health ministry staff	4
O24	Meeting	Bolgatanga	26-Jan-09	Afrikids Staff	3
O25	Meeting	Bolgatanga	26-Jan-09	CENSUDI Staff	3
O26	Meeting	Bolgatanga	27-Jan-09	Public health nurses	5
O27	Meeting	Bolgatanga	28-Jan-09	Afrikids Staff	4
O28	Interview	Bolgatanga	n 27-28, 20	Co-Director, CENSUDI	1
O29	Ongoing conversations	Accra and Mankessim	et12 -16 ,20	University professor	1
O30	Ongoing conversations	Accra	9/08-7/09	Health clinic worker	1
O31	Ongoing conversations	Ashante Region	9/08-7/09	CARE Girls' Education Leader	1
O32	Ongoing Conversations	Accra	9/08-7/09	Founder, FURDEV	1
O33	Ongoing conversations	Accra	9/08-7/09	Founder, Shepherd's Home	1
O34	Ongoing conversations	Mankessim	9/08-7/09	Girls' Health Worker, Plan, Mankessim	1
O35	Interviews	Bolgatanga	28-Jan-09	Three runaways	3
Total Other					92

Table 2
 Effect of Menstrual Practice on Activity

Per Cent of Girls Reporting Missed Activities During Period				
	All Girls Menstruating	Users of Cloth/Toilet Roll	Users of Pads	
Work	36.9	51.2	27.9	<i>p</i> <.05
Daily activities	33.3	44.2	26.5	<i>p</i> <.05
Play	44.1	62.8	32.4	<i>p</i> <.01
Sports	44.1	51.2	39.7	
School	35.2	62.8	17.6	<i>p</i> <.01

Per Cent of Cloth/Toilet Roll Users Answering No	
Can you rely on cloth/toilet roll to. . . .	
Move quickly or strenuously	70.0
Be gone from home a long time	65.0
Be around males	62.5
Be around strangers	62.5
Go to school	62.5
Walk a long distance	60.0
Go to the farm	57.5
Sit for a long time	55.0
Go to market	55.0
Go to church	42.5

Table 3
 Reports of Pad Experience

What did you like about the pads?			
	Users of Cloth/Toilet Roll	Users of Pads	
Worked better than cloth	76.7	68.0	
Less fear of soiling	90.0	100.0	
More comfortable	83.3	76.0	
Kept period private	66.7	52.0	
Pads easier to change	70.0	40.0	<i>p</i> <.05
Don't have to be washed	56.7	60.0	
Less disgusting to use	41.4	44.0	

Did you experience any of the following during your last period? <i>Cloth users in pads treatment sites (% responding "yes")</i>			
	Baseline (before study)	Final (end of study)	
Soiling of underwear	95.5	14.8	<i>p</i> <.01
Soiling of outer garments	34.4	7.4	<i>p</i> <.01
Embarrassment	79.1	7.4	<i>p</i> <.01
Concern about odor	74.4	14.8	<i>p</i> <.01

Table 4
Percentage Attendance Across Sites Over Time

Treatment	Location	Pre intervention attendance mean percent (SD)	Midpoint of intervention attendance mean percent (SD)	Post intervention attendance mean percent (SD)
Pads-with-Education (n=32)	Periurban	82.27 (28.05)	90.58 (11.20)	90.93 (19.21)
Pads-with-Education (n=17)	Rural	80.68 (14.73)	91.91 (5.41)	91.09 (9.06)
Education only (n=22)	Periurban	78.03 (26.25)	78.96 (19.70)	91.36 (8.31)
Control (n=27)	Periurban	88.43 (13.44)	82.14 (13.62)	83.21 (13.91)

Note that the *n* for the attendance analysis only included the data for the 120 participants that were post-menarche. Only 116 of those girls had attendance records from before the intervention.

Table 5
 Impact of the Study Experience

	<i>Percent of Respondents Indicating Agreement</i>					
	Pads Treatment	Education Only		Menstruating Girls	Pre- Menarchal Girls	
It was embarrassing to be in this study.	9.0	6.0		7.6	8.2	
We girls were teased a lot about being in this study.	47.4	20.0	<.01	51.9	12.2	<.01
It was burdensome to be in this study.	0.0	28.0	<.01	2.5	24.5	<.01
I feel I have learned things from being in this study.	88.5	72.0	<.01	93.7	63.3	<.01
My family encouraged me to be in this study.	84.6	87.8		87.2	83.7	
My teachers encouraged me to be in this study.	97.4	70.0	<.01	67.3	98.7	<.01
We girls are closer now as a result of being in this study.	76.9	40.0	<.01	88.6	20.4	<.01

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