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1 **Title**

2 Understandings of Cervical Screening in Sexual Minority Women: A Q-Methodological Study

3
4 **Abstract**

5 Discursive perspectives argue that cervical screening carries social and moral meaning. Overlooked
6 by research into the health needs of sexual minority women, previous literature that has examined
7 uptake of cervical screening has instead targeted increasing attendance via information and service
8 provision. In order to explore the diversity of meanings that British sexual minority women have
9 about cervical screening, the Q-sorts of 34 sexual minority women were factor analysed by-person
10 and rotated to simple structure using Varimax. The five factors are interpreted and discussed relative
11 to competing discourses on information provision within cervical screening. The five accounts are
12 labelled 'cervical screening is': an essential health check that women have the right to refuse; a
13 woman's health entitlement; a vital test but degrading experience; a sensible thing to do; and an
14 unnecessary imposition for some women. Critical approaches to informed choice are explored with
15 attention to recent developments in cervical cancer prevention. Findings highlighting the need for
16 affirmation of diversity within healthcare are considered in relation to existing criteria for UK national
17 screening programmes.

18

19 **Key words**

20 cervical screening, informed choice, Q-methodology, sexuality, social constructionism

21

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37

38 **Introduction**

39 An example of secondary prevention, cervical screening aims to detect and monitor pre-cancerous
40 cells at an asymptomatic stage in order to provide treatment where necessary, thereby preventing
41 cancer developing. Guidelines vary internationally, with most industrialized countries recommending
42 screening between every one and five years within a target age range (approximately 20 to 69 years).
43 Unlike many countries where cervical screening comprises part of women's routine health
44 examinations, the UK has a national cervical screening programme (NHSCSP), delivered in the
45 context of the National Health Service (NHS). Established in 1988, the NHSCSP followed demands
46 for wider access to screening, partly by feminist and women's health activists. Current NHSCSP
47 guidelines based on effectiveness and cost-effectiveness data 'call and recall' women every three to
48 five years between the ages of 25 and 64, unless commencing earlier via opportunistic screening
49 (Department of Health (DOH), 2007). Prior to 2003 when the guidelines were amended, the lower age
50 parameter was 20 years of age. The programme's estimated success relies upon uptake by 80 percent
51 of the population, reflected by its introduction alongside general practitioner contracts whereby the
52 government offers target-based financial incentives to deliver screening within primary care (DOH,
53 1989). Consequently, research has targeted increasing 'attendance', primarily by investigating uptake
54 differences associated with age, socioeconomic status and ethnicity (e.g. Orbell and Sheeran, 1993).

55
56 Sexual minority women (SMW)¹ have traditionally been overlooked in this area (Farquhar et al.,
57 2001). Invisibility is likely further attributable to the role of sexual risk factors in the aetiology of
58 cervical cancer, where 'sexual activity' is presented as synonymous with 'heterosexual activity' and,
59 moreover, tantamount to coitus (for further discussion of the 'coital imperative', see McPhillips et al.,
60 2001). However some SMW, including those that self-identify as 'lesbian', will have been or continue
61 to be heterosexually active (e.g. Rankow and Tessaro, 1998). Moreover, sexual activity is simply the
62 distal risk factor; Human Papilloma Virus (HPV) infection constitutes the necessary, but insufficient,
63 cause of cervical cancer (Trottier and Franco, 2006). Crucially, HPV infection can be passed directly
64 between women as transmission occurs via genital skin-to-skin contact, rather than bodily fluids
65 (Franco and Harper, 2005), thus explaining HPV presence regardless of history of heterosexual
66 intercourse (Marrazzo et al., 2000).

67
68 Reported comparable abnormal smear rates for sexual minority and heterosexual women (Bailey et
69 al., 2000) in the UK has raised concern about lesbian women's risk around cervical cancer; however,
70 these authors compared data from lesbian sexual health clinics with national data, rather than other
71 sexual health clinics. Comparable rates of abnormal smears have been linked to less frequent
72 attendance in SMW (Matthews et al., 2004), yet such studies often fail to control for potentially
73 confounding factors that may facilitate opportunistic screening (e.g. antenatal care and oral
74 contraceptive prescription) for 'straight' women.

75

76 Although it is not clear that SMW are as *at risk* as straight women, apparent lowered attendance has
77 been attributed to risk perceptions, with some SMW self-reporting perceiving heterosexual women to
78 be at greater risk of cervical cancer, perhaps reflecting advice from health professionals and screening
79 guidelines (Fish and Anthony, 2005). Women-centred approaches to improve information and service
80 provision have highlighted the impact on health-seeking behaviours of experience of healthcare,
81 attitudes of health professionals, ability to disclose sexuality and heterosexism within society and the
82 healthcare system (Fish and Anthony, 2005; McNair, 2003). Consequently, recognition of SMW in
83 the NHSCSP guidelines has been demanded (Bailey et al., 2000) but remains unacknowledged (DOH,
84 2007; NHS, 2008).

85

86 Such women-centred approaches arguably tackle social exclusion and health inequalities, consistent
87 with positioning by some feminist and women's health activists of cervical screening as a right for all
88 women and source of empowerment for greater insight and control regarding women's own bodies
89 and health (Bush, 2000; Howson, 2001). However, other commentators have insisted that feminists
90 engage with science to question whether cervical screening, particularly via a national programme, is
91 genuinely beneficial; both in epidemiological and psychosocial terms (Oakley, 1998).

92

93 Alternative feminist challenges originate from discursive proponents demanding attention to the social
94 and moral meanings of cervical screening, alongside possible ulterior motives behind the NHSCSP
95 (Foster, 1995, cited in Bush, 2000; Howson, 1999). Discourse analysis of medical literature, focus
96 groups and semistructured interviews with women has alternatively positioned cervical screening as a
97 form of social control, surveillance and regulation of female sexuality, carrying social obligation to
98 comply (Bush, 2000; Howson, 1999; McKie, 1995). However, such meanings have not been explored
99 in SMW, with studies either omitting any comment on sexual identity (Bush, 2000), or being limited
100 to participants presenting a public statement of heterosexuality (Howson, 1999; McKie, 1995). This
101 highlights research challenges where inherent heterosexism and risk of homophobic social
102 stigmatization increases the chance of heterosexual misclassification (Brogan et al., 2001; McNair,
103 2003).

104

105 Attention to wider meanings of cervical screening may also inform criteria that all national screening
106 programmes must meet. The criteria against which the NHSCSP was judged at its introduction
107 specified that the test be 'acceptable to the population' (Wilson and Jungner, 1968: 27), yet this
108 appears to be neglected, with the emphasis instead on biomedical procedures and cost-effectiveness.
109 Since having been updated, the criteria now specify that 'there should be evidence that the complete
110 programme (test, diagnostic procedures, treatment/ intervention) is clinically, socially, and ethically
111 acceptable to health professionals and the public' (Gray, 2004: 293). However these expanded criteria

112 have not translated into a fruitful research agenda that aims to examine existing programmes. To
113 tackle these research gaps, the current study uses Q-methodology to address the research question:
114 what alternative standpoints do SMW adopt towards cervical screening?
115

116 Q-methodology enables these research gaps to be tackled through exploring and describing the
117 diverse population of meanings and understandings that SMW have about cervical screening, rather
118 than treating SMW as a homogenous group, defined only by their sexuality. The methodology is ideal
119 for feminist inquiry, and where a particular discourse has previously dominated, given its social
120 constructionist ontology, based on the premise that people construct alternative accounts, embedded
121 in sociocultural and historicopolitical context (Kitzinger, 1987; Stainton Rogers, 1991, 1995). Q-
122 methodology further fits with the epistemological aim to explore variability, rather than reduce it. In
123 practical terms, the approach is compatible with small sample sizes, advantageous for sexual minor-
124 ity research due to inherent recruitment challenges (Kitzinger, 1999; Lee and Crawford, 2007) and
125 also for the resources available to this study as a master's project.
126
127

128 **Method**

130 *Q-Methodology*

131 Q-methodology requires participants (referred to as the P-set, equivalent to the variables) to
132 physically sort a series of items (referred to as the Q-set, equivalent to the sample). Unlike traditional
133 attitudinal research, items are assigned meaning through the contextuality of a participant's response
134 pattern (McKeown and Thomas, 1988), uncovering subjective viewpoints and understandings not
135 clearly characterized as predefined attitudes. An intercorrelation matrix of the resulting 'Q-sorts' is
136 subjected to by-person factor analysis to generate a factor structure that is qualitatively interpreted,
137 providing accounts of understandings of the social object of interest.
138

139 *Q-Set (The Item Sample)*

140 The Q-set was derived through sampling what is 'sayable' about cervical screening. This cultural
141 analysis was limited to literary sources (including academic journals, media and health promotion
142 texts), informal conversation and quasi-naturalistic items adapted from interview transcripts reported
143 in studies external to this research; this strategy is synonymous with other Q-methodological research
144 (see Snelling, 1999). Rather than being theory-driven, statement generation encompassed all
145 identified aspects (e.g. risk factors, reasons for attendance, barriers to screening, patient-professional
146 interactions, experience of the procedure, experience of waiting for results, the call-recall system,
147 discursive perspectives), provided that statements remained accessible to all participants by being
148 jargonfree.

149

150 Following standard procedures (see Stainton Rogers, 1995), the initial statement selection was
151 reduced to a Q-set comprising 63 items (see Table 3 later). A pilot study ($n = 5$) allowed statements to
152 be checked for clarity, appropriate terminology and ability to discriminate between participants,
153 leading to revision of 19 items. The majority concerned clarification of referents (e.g. item 11 was
154 piloted as, 'People who are close to me would want me to go'), which also had the effect of the
155 revised items being less informal. Five items were revised from absolute positions ('only/not
156 important if ...') to less extreme positions ('less/ more important if ...') in order to discriminate
157 between participants. The pilot study also led to minor revisions of the instructions to improve clarity.

158

159 *Participants (P-Set)*

160 The sampling focus is the Q-set. While attempts should be made to facilitate diversity of accounts,
161 participants need not comprise a random group, instead aiming to describe a population of ideas rather
162 than people (Stainton Rogers, 1995). Following ethical approval by the host university research ethics
163 committee, research packs were posted to 76 prospective participants approached via personal
164 contacts, local community groups (either by email advertisement or visiting in person, according to
165 the groups' preferences) and a snowballing technique. Completed packs were returned from 39
166 participants by the deadline, of which 34 were analysable,² providing an adequate number to attain
167 stability in the resulting factor structure ($n \geq 30$; Brown, 1980). This response rate 29.6 percent has
168 been reported elsewhere as common given that participation is time intensive (in excess of an hour;
169 Aldrich and Eccleston, 2000).

170

171 *Procedure*

172 Data collection was achieved by independent completion of the Q-sort, and delivered via the post.
173 This process of completing the Q-sort has been undertaken in other studies (e.g. Eccleston et al.,
174 1997) and does not appear to be limited as a result of the absence of the researcher. Prospective
175 participants received research packs including information concerning the nature and purpose of the
176 study, informed consent, debriefing and study withdrawal, detailed instructions, and data collection
177 materials. Informed consent was asked of participants via the return of a signed informed consent
178 form with the completed Q-sorts. Participants were then asked to sort the Q-set statements, which
179 were randomly numbered and printed onto separate labels, into piles of most disagree, neutral and
180 most agree. Participants then sorted the statements onto the response grid, configured with a 13-point
181 quasi-normal distribution (see Table 1). This was appropriate because the Q-set exceeded 60 items
182 (Brown, 1980). Once satisfied with the positions, participants affixed the adhesive labels, securing the
183 Q-sort. Finally, participants completed the comments booklet (Eccleston et al., 1997), recording
184 information concerning sorting choices and reactions to the statements alongside a duplicate of the Q-
185 set, before completing the participant background information form. Participants also completed a

186 brief questionnaire on background characteristics concerning: sexual identity, sexual behaviour
187 (current and previous, with women, men, both, neither), age, and screening history (number of
188 screens, if any; age first screen; ever abnormal/inconclusive result; ever treatment required).
189 Participants were also asked to comment on their own (perceived) risk of cervical cancer; and factors
190 affecting risk. Cervical screening history did not form part of the inclusion criteria, which were
191 limited to current UK residence and self-identification as a sexual minority woman.

192
193
194 [Table 1 around here]
195
196

197 Findings

198 199 *Descriptive Data*

200 The 34 participants offered the following terms in self-labelling their sexual identity: lesbian ($n = 26$),
201 bisexual ($n = 9$), queer ($n = 3$), dyke ($n = 2$), gay ($n = 2$), fluid ($n = 1$), open ($n = 1$), an individual ($n =$
202 1), 'I'm just me' ($n = 1$), '80%gay/20% straight' ($n = 1$). Current sexual behaviour (with women ($n =$
203 29), men ($n = 2$), both ($n = 1$), neither ($n = 2$)) differed markedly from previous sexual behaviour
204 (with women ($n = 8$), men ($n = 1$), both ($n = 25$), neither ($n = 0$)). Participants ranged in age from 22
205 to 41 years ($M = 27.4$ years, $SD = 4.74$) and reported experience of between zero and six screens ($M =$
206 2 screens; $SD = 1.70$), with the majority having previously attended ($n = 26$). Age of first screen
207 ranged from 16 to 25 years of age ($M = 20.4$ years, $SD = 2.34$), attributable to opportunistic screening
208 and the NHSCSP change in target age group from 20–64 to 25–64 in 2003. Of the 25 reporting test
209 results, nine had received abnormal or inconclusive results, of which two required treatment.
210 Participants were predominantly White British and educationally privileged.

211
212 Participants commented on their own risk of cervical cancer, which were subsequently coded as: low
213 ($n = 10$), lower than average ($n = 3$); average or 'normal' ($n = 8$); higher than average ($n = 6$); high (n
214 = 0); don't know ($n = 6$); not answered ($n = 1$). Of the six women reporting higher than average, two
215 cited existing gynaecological conditions, two cited familial (maternal) experience of cervical cancer,
216 and two cited multiple sexual partners and/or unprotected sex.

217
218 Risk factors for cervical cancer were suggested by 27 participants, 17 of which included some
219 reference to sex. Risk factors were subsequently coded as: sexual activity (unspecified; $n = 5$); sex
220 with men ($n = 10$); number of partners (male/ female unspecified; $n = 6$); age first had sex
221 (male/female unspecified; $n = 4$); sexually transmitted infections (STIs)/unprotected sex (male/female
222 unspecified; $n = 2$); genetics ($n = 7$); smoking ($n = 6$); lifestyle (including diet and exercise; $n = 6$);

223 existing gynaecological conditions ($n = 2$); hormone treatment ($n = 1$); not attending for smears ($n =$
224 1); age ($n = 1$); and chance ($n = 1$).

225

226 *Statistical Overview*

227 The 34 Q-sorts were entered into SPSS (version 13.0; manufacturer: SPSS Inc.), subjected to principal
228 components factor analysis and rotated to simple structure using Varimax. A five-factor structure
229 (accounting for 67.2% of the total variance) was selected as generating interpretable accounts
230 consistent with the open-ended comments and hearing ‘many voices’ (Stainton Rogers, 1995),
231 fundamental to Q-methodology. The decision was not limited to statistical significance; however
232 these factors were consistent with standard criteria of each factor presenting an Eigenvalue greater
233 than unity ($EV > 1.00$) and at least two factor exemplars (participants loading significantly and
234 exclusively onto the factor; Brown, 1980). Factor loadings of $> \pm 0.33$ were statistically significant at
235 the 0.01 level;³ however, this was increased to a more stringent level of $> \pm 0.49$, maximizing the
236 number of factor exemplars (see Watts and Stenner, 2005: note 9) and corresponding open-ended
237 comments. The 27 resulting factor exemplars (Table 2) were weighted based on their factor loadings
238 (cf. Brown, 1980) to generate factor arrays (or composite sorts, Table 3), illustrating the Q-sorts of
239 hypothetical respondents with 100 percent loadings on the respective factors.

240

241

242 [Table 2 around here]

243

244 [Table 3 around here]

245

246

247 *Factor Interpretation*

248 Factor arrays were interpreted qualitatively based on positioning of items to explore conceptual
249 similarities and differences between accounts. This included identification of distinguishing
250 statements (Table 3) where a score on one factor differed from all the other factors by at least 3
251 (Brown, 1980). Open-ended comments provided by participants regarding sorting choices
252 supplemented the factor arrays. Factor scores denoting sorting positions are provided in parentheses
253 after the items (e.g. 16:+3). For illustrative purposes, open-ended comments are also provided in
254 parentheses, with ‘p’ and ‘q’ used respectively to denote the participant and item concerned.

255

256 *Factor 1: Cervical screening is an essential health check that women have the right to refuse.*

257 Eight participants’ Q-sorts exemplified this factor. A defining feature of this account was the
258 perception of cervical screening as no different from any other health check (16:+3). This was
259 accompanied by a strong resistance to feeling judged about sexuality (32:-4), displaying a candid

260 approach to sex with sexuality largely considered irrelevant to all aspects of cervical screening ('Sex
261 is sex regardless of gender esp[ecially] if there is penetration', p17, q20). This appeared linked to
262 wider understandings of health provision being devoid of moral meaning ('Maybe not disapprove as
263 [health professionals] are not there to judge', p16, q62) and rejecting any notion of cervical screening
264 as female oppression ('If a male cancer could be diagnosed in a similar way they wouldn't have to do
265 it. Ridiculous statement', p1, q8). Women who loaded onto this factor reported markedly different
266 experiences of the procedure from exemplars on all other factors (items 6, 17, 57), consistent with
267 comments illustrating the clinical nature of the procedure ('Disagree – it's functional', p1, q6).

268

269 Importantly, although cervical screening was understood as a vital health check ('I think screening is
270 essential!', p17, q3) offering a source of control (42:+2) and peace of mind (37:+4), it was felt that
271 women must retain autonomy (12:-3; 'Though I believe [compulsory screening] would be of benefit
272 to the health of the nation, I feel women must have the right to refuse', p2, q12). Empowerment was
273 further suggested with this being the only factor where exemplars positioned attendance as their
274 decision (43:-2), driven by their own health needs rather than external sources ('my doctor's
275 disapproval is not what motivates me to have my smears!', p2, q62).

276

277 *Factor 2: Cervical screening is a woman's health entitlement.*

278 The Q-sorts of seven participants exemplified this factor. Factor 2 was most distinguished by its
279 stance against choice, being the only factor where the women who loaded onto it entertained
280 compulsory screening (12:+2) and felt more strongly than exemplars on any other factor that
281 attendance was 'Just something you have to do' (41:+4). This account also assigned the highest rank
282 to cervical screening as a right for all women (33:+6).

283

284 The NHSCSP was viewed positively as providing advice, encouragement and ensuring that women
285 were not deprived of a health entitlement. This account appeared consistent with faith in the power of
286 the medical system, with women wanting directive healthcare provision and appearing to desire
287 emphasis on risk ('It's good they're strong about the cancer risk', p27, q39).

288

289 Factor 2 shared with factor 1 alone an objection to cervical screening being viewed as a sexualized
290 procedure (item 45). Interestingly, women who loaded onto factor 1 reported very different
291 experiences, however, with the endorsement of items 6, 17 and 57 suggesting complexity of meaning
292 beyond whether the procedure felt sexualized, or involved sexuality disclosure. Rather for factor 2,
293 experience appeared linked to the health professional, with factor exemplars preferring a female
294 screen taker more so than any other factor exemplars (47:+2) and offering several comments ('[Very]
295 emotionally distressing if [the] doctor/ nurse doesn't have good manner and skill', p27, q9;
296 'Sometimes abrupt or too clinical', p6, q19). There appeared ambiguity about meanings of lesbian

297 health clinics and the role of sexuality in healthcare access with some participants not wanting to
298 disclose sexuality, possibly to avoid feeling judged ('I would never come out to [a] nurse or doctor',
299 p29, q32) but reflecting that disclosure may improve the experience ('I feel that if not honest about
300 sexual identity then feel uneasy about asking questions', p28, q10). This again highlighted differences
301 between factors 1 and 2, with exemplars of the former perceiving and preferring a clinical
302 environment.

303

304 *Factor 3: Cervical screening is a vital test but degrading experience.*

305 Six participants' Q-sorts exemplified this factor. Here, distinguishing statements clearly contrasted
306 with factor 1, with women instead perceiving cervical screening as markedly different from other
307 health checks (16:-4) and questions too embarrassing to ask (10:+3), despite feeling unknowledgeable
308 about the process (items 2, 7). Central to this account regarding the experience of the procedure, was
309 its 'invasive', 'intrusive' and 'personal' nature in terms of emotional rather than physical
310 consequences (6:+4; 15:+4; 17:0; 57:+2). This was compounded by women feeling under scrutiny or
311 inspection (18:+2), judged about sexuality (32:+2; 'Definitely, because I wouldn't lie & say I'm
312 straight', p18, q32) and the procedure viewed as potentially sexualized (45:+2). Perhaps
313 unsurprisingly, this account was most in favour of lesbian health clinics (30:+2). While sexuality was
314 clearly central to meanings of the procedure, it did not appear associated with perceived risk of
315 cervical cancer or need for attendance.

316

317 Factor 3 was thus characterized by women understanding cervical screening as a difficult, drawn-out
318 and stressful decision-making process, balancing the experience with the need for attendance ('It's
319 making a choice but also making yourself vulnerable – difficult', p8, q42; '[Cervical screening gives
320 peace of mind] once I have the result – not going through the process itself', p14, q37; 'I do feel
321 strongly that it is important but that it is awful', p22, q50).

322

323 *Factor 4: Cervical screening is a sensible thing to do.*

324 The Q-sorts of four participants exemplified this factor. The distinguishing statement for this factor
325 appeared to suggest some doubt regarding the screening results (4:+2); however, women's comments
326 instead indicated the possibility of error was seen as expected, simply warranting a repeat test ('I've
327 heard of people who had abnormal results, had to have another done, but there was no problem', p11,
328 q4).

329

330 This account was characterized by a degree of indifference towards cervical screening, further
331 suggested by both the nature and lack of open-ended comments. Cervical screening was understood as
332 a holistic gynaecological check that could detect other health problems (55:+6). Unlike factors 1 and

333 3, women who loaded onto this factor were not concerned with risk of cervical cancer (27:-3; ‘Don’t
334 even think about it’, p10, q27) and did not view attendance as carrying meaning about risk (25:-4).

335

336 There was no suggestion of feeling coerced into attendance; however, there seemed no reason not to
337 go (‘Never really thought about not doing it’, p11, q40), being the only factor where screening was
338 refuted as a hassle (‘No it’s only every 3 years!’, p5, q31). Normative behaviour was also suggested
339 by reactions to pain experienced during screening (‘Yes but I’ve only had one – maybe it was just a
340 bad experience as it was the first time’, p13, q17). Although experience was rated as more distressing
341 than by exemplars of other factors (57:+3), women who loaded onto this factor did not elaborate.
342 Similarly, despite feeling the need to pluck up the courage (15:+4), this seemed minimized (‘Yes but
343 feel that it’s just something everyone does’, p5, q15). Sexuality did not appear linked to
344 understandings of risk (items 29, 35) or experience, with attending a lesbian sexual health clinic
345 viewed unnecessary (30:-3).

346

347 *Factor 5: Cervical screening is an unnecessary imposition for some women.*

348 Two participants’ Q-sorts exemplified this factor. Factor 5 was stable across possible factor structures,
349 presenting numerous distinguishing statements. Unlike other factors, the characterizing statements
350 (assigned extreme ranks) also distinguished the account. Positioned as an invasion of privacy (51:+6)
351 the NHSCSP was a central feature, whereas all other factors shared consensus regarding the call–
352 recall system (items 36, 39, 59).

353

354 Item 12 highlighted the opposing nature of accounts 2 and 5, presenting a distinguishing statement for
355 both. The two women who loaded onto factor 5 vehemently resisted suggestion of compulsory
356 screening (12:-6; ‘No, no, no’, p21, q12), emphasizing personal choice and control over one’s body
357 (53:+5). Rather than entitlement being viewed a rights issue, there was suggestion of screening
358 comprising a form of female oppression (8:+2; 41:-2; 60:-2; 61:-4).

359

360 The other defining feature was the overt recognition of sexuality in the need for cervical screening.
361 Sexual activity was understood as presenting potential risk; however, heterosexual activity was
362 interpreted as presenting even greater risk. Exemplars reported feeling personally at low risk of
363 cervical cancer because of the nature of their sexual practices. Unlike other factors, screening was not
364 viewed as offering diagnosis of other health conditions (55:0), reinforcing that cervical screening was
365 not seen as relevant to the women who loaded onto this factor (44:+2). While acknowledging
366 controversy with such understandings, cervical screening was positioned as more important for
367 heterosexual women (29:+2; ‘I can’t quite believe I’ve put this where I have but yes I think so!’, p21,
368 q29), for whom it was deemed valuable (54:+5).

369

370

371 **Discussion**

372 This study has highlighted the potential of Q-methodology in exploring diversity of meanings and
373 understandings that SMW have about cervical screening, and the need to explore this diversity rather
374 than treating SMW as a homogenous group. Self-labelling of participants supported the use of the
375 term SMW. Descriptive data regarding sexual identity and sexual behaviour were consistent with
376 demands for sexual minority research to encompass both dimensions (e.g. Brogan et al., 2001).

377

378 With the exception of one account (factor 5 – screening as imposition), consensus existed in rejecting
379 cervical cancer and screening as more important for ‘heterosexual’ women. Accounts varied,
380 however, regarding whether the cancer risk presented a personal threat, and whether cervical
381 screening offered a way to tackle this risk, highlighting the need to consider both the understandings
382 of the procedure and target condition.

383

384 Although half of the women cited sexual risk factors for cervical cancer, only two identified STIs or
385 ‘unprotected sex’. No exemplars explicitly identified HPV, arguably reflecting its omission from
386 current information provision. For example, the nationally produced leaflet sent when women are
387 invited for screening as part of the NHSCSP (DOH, 2007) lists (hetero)sexual risk factors but omits
388 mention of HPV. Conflict over withholding of (hetero)sexual risk factors, including the role of HPV,
389 in cervical screening information provision has previously been considered through ‘protectionist’ and
390 ‘right to know’ discourses (Braun and Gavey, 1999). The former is characterized by the belief that
391 such information may deter screening, for example through reinforcing links between promiscuity and
392 cervical cancer, despite it being in the interest of women to be screened. The latter emphasizes that
393 women are entitled to information that may affect them, with a view to making informed choices.
394 Accounts identified in the current study will now be considered within this framework.

395

396 A protectionist commitment prioritizes the biomedical emphasis of attendance as a desirable outcome,
397 such that ‘The “best interests” of women as a group are prioritized over the potential interests of
398 individual women who may be in a position to use such information to reduce their risk of contracting
399 HPV’ (Braun and Gavey, 1999: 1466). This could be interpreted as disciplinary power (Bunton et al.,
400 1995) and a form of health fascism, prioritizing collectivism and identity as part of a group (i.e.
401 women) ‘attempting to impose a certain lifestyle on us whether we want it or not’ (Downie et al.,
402 1996: 144). Non-attendance may therefore be interpreted using a deficit model, such that failure to
403 attend is seen as resulting from a lack of knowledge or concern about one’s own health. Thus factor 5
404 (screening as imposition) may be interpreted through concepts such as ‘unrealistic optimism’
405 (Weinstein, 1984), rather than considering whether risk perception may accurately reflect lowered

406 risk. Indeed discursive work has identified screening as constituting ‘doing femininity’, given its
407 association with feelings of normalcy (being a woman) and correctness (as a result of ‘professional
408 discourse’ of deviance surrounding non-attendance; Bush, 2000). However, these themes still remain
409 to be explored in SMW.

410

411 The protectionist stance is illustrated by several statements (items 40, 41, 60, 61) found to
412 differentiate factors 3 and 5 from the remaining factors. These two factors did not appear consistent
413 with the protectionist stance, albeit for different reasons. Women exemplifying factor 3 (degrading
414 experience) perceived cervical cancer as a salient health threat. However, the need for cervical
415 screening had to be weighed against their centrality of experience of the procedure, compounded by
416 issues surrounding sexuality. In contrast, factor 5 (screening as imposition) appeared more focused on
417 resistance to the NHSCSP because of disciplinary power and surveillance, compounded by perceived
418 irrelevance linked to sexuality. Such findings highlight the need to consider diversity when evaluating
419 acceptability as part of the national screening criteria, as well as the need to extend acceptability
420 beyond the test procedure to encompass wider meanings of the NHSCSP.

421

422 Although factors 1 (essential health check), 2 (health entitlement) and 4 (screening as sensible)
423 appeared consistent with the protectionist perspective, interpretation attending to sorting choices and
424 open-ended comments highlighted variation between factors. While factor 2 (health entitlement) was
425 compatible with a need for regulation, wanting directive healthcare, and factor 4 (screening as
426 sensible) seemed to position cervical screening as normative behaviour, minimizing any negative
427 aspects, factor 1 (essential health check) emphasized the need for personal choice and resisting social
428 obligation to comply. A right to know position may also be congruent with wider health policy aims
429 relating to attendance, with health promoters hoping that informed choice will result in women
430 actively opting to have cervical screening and additionally engaging with primary prevention via
431 reduced HPV infection, thereby ‘increas[ing] women’s opportunity for making health-promoting
432 choices’ (Braun and Gavey, 1999: 1472). This position is therefore subject to similar critical
433 reflections concerning rational choices being seen as synonymous with healthy choices (Marks et al.,
434 2005). As well as compromising collective health, informed choice may be criticized for increasing
435 the stigma of promiscuity, and facilitating health citizenship, leading to victim-blaming for those who
436 develop the disease. Therefore, such a perspective similarly requires reflections on meanings of
437 attendance and careful consideration of how such information is communicated.

438

439 Informed choice has been advocated by the National Screening Committee (Gray, 2004) and appears
440 more consistent with addressing the criterion of acceptability to the population. Although informed
441 choice in cervical cancer screening has previously been discussed in relation to ethnic minority
442 women (Chiu, 2004), invisibility of SMW has continued in that literature. Therefore, employment of

443 an informed choice approach will be a fruitful framework to use in order to explore issues such as
444 HPV transmission between women and acknowledging diversity in sexual practices. But whether
445 women want informed choice is also an important question to explore. Consistent with factors 2
446 (health entitlement) and 4 (screening as sensible), a recent UK qualitative study (Jepson et al., 2007)
447 exploring informed choice with cancer screening (breast, cervical and colorectal) identified that
448 participants attending for cervical screening more commonly viewed attendance as a normative
449 behaviour than a choice and did not want to use information to make a choice. While factors 1
450 (essential health check) and 5 (screening as imposition) forcefully advocated the need for personal
451 choice, only women loading onto factor 1 in the current study felt that cervical screening was their
452 decision. Therefore, this issue of informed choice may warrant further consideration using
453 empowerment and/or decision-making models.

454
455 Future research into informed choice may benefit from a more holistic approach than information
456 provision by considering experience of the procedure, which was a prominent feature of several
457 accounts (factors 2, 3 and 4). In particular, as well as understanding the decision making as a source
458 of stress, women who loaded onto factor 3 (degrading experience) positioned the experience as
459 disempowering, possibly compounded by issues of sexuality. Indeed, future challenges
460 in developing anti-oppressive practice alongside informed choice were highlighted by several key
461 statements in the Q-set (items 13, 30, 32) and written comments emphasized the need for affirmation
462 of diversity ('It would be nice not to have my identity or ... sexual practices presumed', p3, q30; 'I
463 have been questioned about my sex life to the point where it was easier to say I'm a lesbian even
464 though I didn't want to', p30, q13). The current findings resonate with the US based research of
465 Johnson et al. (1981), published almost 30 years ago. It appears that British SMW's perceptions of
466 screening services and screening personnel are very similar despite both the intervening years and the
467 different settings in which these studies have been undertaken!

468
469 Suggestion of lesbian sexual health clinics (available in several UK cities) received a wide range of
470 responses ('Sign me up!', p30, q30; 'This is an awful suggestion. The lesbian community is
471 segregated enough', p31, q30; 'Not sure, prefer normal clinics – lesbian labels me', p6, q30). Some
472 participants felt that developing anti-oppressive practice within central provision would be preferable
473 ('[Lesbian clinics would tailor] questions more effectively and not pre-judge but equally all health
474 workers could be trained and more informed with regards to everyone's needs', p16, q30). Future
475 work may consider perceptions of such service provision and how to safeguard against contributing to
476 discrimination and heterocentric assumptions in non-specialized screening services. Issues discussed
477 here surrounding protectionist and right to know arguments warrant further investigation in light of
478 current developments in UK healthcare provision surrounding prevention of cervical cancer. For
479 example, media coverage following the proposed introduction of the HPV vaccine in the UK argued

480 that it might encourage underage unprotected (hetero)sexual activity (see Davis, 2008). Such concerns
481 were also voiced in the US (Gibbs, 2006; Udesky, 2007) and in virtually every other country where
482 the vaccine has been approved for use. It is also anticipated that HPV testing accompanying cervical
483 screening will be introduced into the NHSCSP within the next few years, with several pilot sites
484 already operational (Patnick, 2006). Critically, SMW and diversity of sexual identities, behaviours
485 and practices remain invisible in discourse surrounding HPV, even where detailed discussions exist
486 surrounding the acceptability of the vaccine (e.g. Riedesel et al., 2005; Zimet, 2005).

487

488 Social constructionist approaches would envisage that these policy and practice developments impact
489 upon wider meanings of cervical screening and cervical cancer prevention. Indeed, the Ad Hoc Group
490 on Screening Research proposed an additional principle of continually reviewing screening
491 arrangements 'in the light of changes in demography, culture, health services, technologies, and the
492 epidemiology of the target conditions' (Downie et al., 1996: 144). However this has not been adopted
493 by the National Screening Committee (Gray, 2004).

494

495 *Study Limitations*

496 The Q-set was limited by omission of any items relating to HPV. This reflected an intention for
497 statements to be free from jargon and that the cultural analysis was conducted before HPV vaccine
498 proposals were announced in the UK. However, it would have been possible to include, for example,
499 reference to STIs. Additionally, only six of the 63 items explicitly mentioned sexuality (items 13, 20,
500 29, 30, 32, and 35). This may therefore have limited the potential for women to express salience of
501 sexuality relating to meanings, understandings and standpoints. Although not needing to be
502 representative, participant recruitment should facilitate diversity in order to access a greater
503 population of standpoints and meanings. This study appeared to achieve some diversity regarding
504 sexual identity and behaviour, particularly given the invisibility of bisexual women (Lee and
505 Crawford, 2007). However, diversity was likely limited by inherent challenges in sexual minority
506 research, for example, recruitment via community groups suggesting some public statement of sexual
507 identity. Importantly, the omission of heterosexual participants was not considered a limitation,
508 instead considering SMW without the need for comparison (Kitzinger, 2004). While caution must be
509 exercised in making a priori assumptions about demographics, the study was likely substantially
510 confounded by lack of racial, ethnic or socioeconomic diversity given the recruitment strategy
511 employed and this should be considered in future research in this area.

512

513 The study focused on the NHSCSP. However, information was not recorded on whether participants,
514 although residing in the UK, had experienced this screening programme, or indeed one in another
515 country. Also, by deciding against restricting inclusion criteria based on screening history, there is a

516 need for caution in distinguishing neutral ratings, which could be attributable to women feeling unable
517 to comment through inexperience of screening.

518

519 The aim of Q-methodology is not to be exhaustive, but to explore a general overview of accounts that
520 exist at a given point in time. It is not claimed that all possible accounts have been identified here.

521 Indeed, responses are not represented of the seven women who did not load significantly and

522 exclusively (five crossloaders and two non-loaders) onto one of the five factors. Another limitation

523 concerned the use of a fixed sort. Although common practice and considered more user-friendly than

524 a full ranking (Brown, 1980), several participants reported feeling forced to position items on the

525 opposite side of 0, again suggesting the need for caution in interpreting the more neutral ranks. It may

526 have been preferable, therefore, to employ 'free' distributions where the only requirement is at least

527 one item per rank position (Kline, 1994).

528

529 **Conclusions**

530 This exploratory study has recognized the need for affirmation of diversity within criteria for national

531 screening programmes. The accounts highlighted the complexity of meanings around cervical

532 screening, indicating that for screening to be more widely accepted it also needs to encompass wider

533 meanings of cervical screening, cervical cancer and the NHSCSP. Current demands by service users

534 for informed choice largely emphasize information provision, without attention to broader issues

535 surrounding empowerment and the experience of the procedure. There is also a need to reflect upon

536 wider values within health promotion, and to consider critical approaches to espousing informed

537 choice alongside the continued use of financial incentives within primary care (to ensure screening

538 occurs). Issues identified in this study are particularly pertinent given the prospective UK changes to

539 cervical cancer prevention around acknowledging the centrality of HPV. Continued invisibility of

540 SMW is evident within such developments, and warrants further attention.

541

542

543 **Acknowledgements**

544 We would like to thank all of the women who gave their time and shared their comments and

545 experiences for this study.

546

547

548 **Notes**

549 ¹ Health literature concerning the sexual orientation of women employs a diverse range of terms.

550 Rather than potentially implying behaviour (e.g. women who have sex with women), or self-identity

551 and community connections (e.g. lesbian or bisexual), the term SMW was adopted in recognition of

552 sexuality encompassing both sexual identity and sexual behaviour (Brogan et al., 2001) and to avoid

553 alienating potential participants. Providing women the opportunity to also record their preferred terms
554 aimed to safeguard against 'denying' or 'undermining ... self-labelling' (Young and Meyer, 2005).
555 The term SMW was additionally chosen to reflect the cultural minority status of this group (McNair,
556 2003).

557 ² It is possible to transform data from sorts that do not adhere to the quasi-normal distribution.
558 However it was deemed inappropriate to synthesize results from different procedures, particularly as
559 several participants who did adhere to our instructions reported frustrations with the fixed sort and
560 may have generated different sorts using a free distribution.

561 ³ Statistically significant factor loadings are required to exceed 2.58 times the standard error of a zero-
562 order factor loading, where the standard error is equal to $1/\sqrt{n}$, with n denoting the number in the Q-
563 set (McKeown and Thomas, 1988). In this instance, $2.58 * (1/\sqrt{63}) = 0.33$.

564
565

566 **References**

- 567 Aldrich, A. and Eccleston, C. (2000) 'Making Sense of Everyday Pain', *Social Science & Medicine*
568 50(11): 1631–41.
- 569 Bailey, J.V., Kavanagh, J., Owen, C., McLean, K.A. and Skinner, C.J. (2000) 'Lesbians and Cervical
570 Screening', *British Journal of General Practice* 50(455): 481–2.
- 571 Braun, V. and Gavey, N. (1999) "'With the Best of Reasons": Cervical Cancer Prevention Policy and
572 the Suppression of Sexual Risk Factor Information', *Social Science & Medicine* 48(10): 1463–74.
- 573 Brogan, D., Frank, E., Elon, L. and O'Hanlan, K.A. (2001) 'Methodologic Concerns in Defining
574 Lesbian for Health Research', *Epidemiology* 12(1): 109–13.
- 575 Brown, S.R. (1980) *Political Subjectivity: Applications of Q-methodology in Political Science*. New
576 Haven, CT: Yale University Press.
- 577 Bunton, R., Nettleton, S. and Burrows, R. (eds) (1995) *The Sociology of Health Promotion: Critical*
578 *Analyses of Consumption, Lifestyle and Risk*. London: Routledge.
- 579 Bush, J. (2000) "'It's Just Part of Being a Woman": Cervical Screening, The Body and Femininity',
580 *Social Science & Medicine* 50: 429–44.
- 581 Chiu, L.F. (2004) *Woman to Woman: Promoting Cervical Screening Amongst Minority Ethnic*
582 *Women in Primary Care. A Participatory Action Research Project* (2nd edition). Leeds: University of
583 Leeds.
- 584 Davis, C., (2008) 'Just the Jab', *The Guardian*, 27 May.
- 585 DOH(1989) *General Practice in the NHS: A New Contract*. London: Department of Health. DOH (in
586 association with the NHS Cancer Screening Programmes, with advice and support from the Cancer
587 Research UK Primary Research Education Group) (2007) *Cervical Screening: The Facts*. London:
588 Department of Health.

589 Downie, R.S., Tannahill, C. and Tannahill, A. (1996) *Health Promotion: Models and Values* (2nd
590 edition). New York: Oxford University Press.

591 Eccleston, C., Williams, C., De, C.A. and Stainton Rogers, W. (1997) 'Patients' and Professionals'
592 Understandings of the Causes of Chronic Pain: Blame, Responsibility and Identity Protection', *Social
593 Science & Medicine* 45(5): 699–709.

594 Farquhar, C., Bailey, J. and Whittaker, D. (2001) *Are Lesbians Sexually Healthy? A Report of the
595 'Lesbian Sexual Behaviour and Health Survey'*. London: South Bank University.

596 Fish, J. and Anthony, D. (2005) 'UK National Lesbians and Health Care Survey', *Women & Health
597* 41(3): 27–45.

598 Franco, E.L. and Harper, D.M. (2005) 'Vaccination Against Human Papillomavirus Infection: A New
599 Paradigm in Cervical Cancer Control', *Vaccine* 23: 2388–2394.

600 Gibbs, N. (2006) 'Defusing the War over the 'Promiscuity' Vaccine', *TIME magazine*, 21 June.

601 Gray, J.A.M. (2004) 'New Concepts in Screening', *British Journal of General Practice* 54(501): 292–
602 8.

603 Howson, A. (1999) 'Cervical Screening, Compliance and Moral Obligation', *Sociology of Health and
604 Illness* 21(4): 401–25.

605 Howson, A. (2001) 'Locating Uncertainties in Cervical Screening', *Health, Risk & Society* 3(2): 167–
606 79.

607 Jepson, R.G., Hewison, J., Thompson, A. and Weller, D. (2007) 'Patient Perspectives on Information
608 and Choice in Cancer Screening: A Qualitative Study in the UK', *Social Science & Medicine* 65(5):
609 890–9.

610 Johnson, S., Guenther, S., Laube, D. and Keetel, W. (1981) 'Factors Influencing Lesbian Gynecologic
611 Care: A Preliminary Study', *American Journal of Obstetrics and Gynecology* 140(1): 20–8.

612 Kitzinger, C. (1987) *The Social Construction of Lesbianism*. London: Sage.

613 Kitzinger, C. (1999) 'Researching Subjectivity and Diversity. Q-Methodology in Feminist
614 Psychology', *Psychology of Women Quarterly* 23(2): 267–76.

615 Kitzinger, C. (2004) 'Afterword: Reflections on Three Decades of Lesbian and Gay Psychology',
616 *Feminism & Psychology* 14(4): 527–34.

617 Kline, P. (1994) *An Easy Guide to Factor Analysis*. London: Routledge.

618 Lee, I-C. and Crawford, M. (2007) 'Lesbians and Bisexual Women in the Eyes of Scientific
619 Psychology', *Feminism & Psychology* 17(1): 109–27.

620 Marks, D.F., Murray, M., Evans, B., Willig, C., Woodall, C. and Sykes, C.M. (2005) *Health
621 Psychology: Theory, Research and Practice* (2nd edition). London: Sage.

622 Marrazzo, J.M., Stine, K. and Koutsky, L.A. (2000) 'Genital Human Papillomavirus Infection in
623 Women who have Sex with Women: A Review', *American Journal of Obstetrics and Gynaecology*
624 183(3): 770–4.

625 Matthews, A.K., Brandenburg, D.L., Johnson, T.P. and Hughes, T.L. (2004) 'Correlates of
626 Underutilization of Gynaecological Cancer Screening Among Lesbian and Heterosexual Women',
627 *Preventive Medicine* 38: 105–13.

628 McKeown, B. and Thomas, D. (1988) *Q Methodology*. Newbury Park, CA: Sage.

629 McKie, L. (1995) 'The Art of Surveillance or Reasonable Prevention? The Case of Cervical
630 Screening', *Sociology of Health and Illness* 17: 441–57.

631 McNair, R.P. (2003) 'Lesbian Health Inequalities: A Cultural Minority Issue for Health
632 Professionals', *Medical Journal of Australia* 178(12): 643–5.

633 McPhillips, K., Braun, V. and Gavey, N. (2001) 'Defining (Hetero)Sex: How Imperative is the
634 "Coital Imperative"?', *Women's Studies International Forum* 24(2): 229–40.

635 NHS (2008) *NHS Cervical Screening Programme*, accessed August 2008. Available: [http://](http://www.cancerscreening.nhs.uk/cervical/#active)
636 www.cancerscreening.nhs.uk/cervical/#active

637 Oakley, A. (1998) 'Science, Gender and Women's Liberation: An Argument Against
638 Postmodernism', *Women's Studies International Forum* 21(2): 133–46.

639 Orbell, S. and Sheeran, P. (1993) 'Health Psychology and Uptake of Preventive Health Services: A
640 Review of Thirty Years' Research on Cervical Screening', *Psychology and Health* 8: 417–33.

641 Patnick, J. (2006) *HPV Vaccination: Likely Impact on NHS Cervical Screening Programme*, accessed
642 August 2007. Available: http://www.advisorybodies.doh.gov.uk/jcvi/foi_releases.htm

643 Rankow, E.J. and Tessaro, I. (1998) 'Cervical Cancer Risk and Papanicolaou Screening in a Sample
644 of Lesbian and Bisexual Women', *Journal of Family Practice* 46: 139–43.

645 Riedesel, J.M., Rosenthal, S.L. and Zimet, G.D. (2005) 'Attitudes About Human Papillomavirus
646 Vaccine Among Family Physicians', *Journal of Adolescent Health* 18(6): 391–8.

647 Snelling, S.J. (1999) 'Women's Perspectives on Feminism: A Q-Methodological Study', *Psychology*
648 *of Women Quarterly* 23(2): 247–66.

649 Stainton Rogers, W. (1991) *Explaining Health and Illness: An Exploration of Diversity*. Hemel
650 Hempstead: Harvester Wheatsheaf.

651 Stainton Rogers, R. (1995) 'Q Methodology', in J.A. Smith, R. Harre and L. Van Langenhove (eds)
652 *Rethinking Methods in Psychology*, pp. 178–92. Thousand Oaks, CA: Sage.

653 Trottier, H. and Franco, E.L. (2006) 'The Epidemiology of Genital Human Papillomavirus Infection',
654 *Vaccine* 24S1: S1/4-S1/15.

655 Udesky, L. (2007) 'Push to Mandate HPV Vaccine Triggers Backlash in USA', *The Lancet*,
656 369(9566): 979–80.

657 Watts, S. and Stenner, P. (2005) 'Doing Q Methodology: Theory, Method and Interpretation',
658 *Qualitative Research in Psychology* 2: 67–91.

659 Weinstein, N. (1984) 'Why It Won't Happen to Me: Perceptions of Risk Factors and Susceptibility',
660 *Health Psychology* 3: 431–57.

661 Wilson, J. and Jungner, G. (1968) *Principles and Practice of Screening for Disease*, World Health
662 Organization Public Health Paper 34. Geneva: WHO.

663 Young, R.M. and Meyer, I.H. (2005) 'The Trouble with "MSM" and "WSW": Erasure of the Sexual-
664 Minority Person in Public Health Discourse', *American Journal of Public Health* 95(7): 1144–9.

665 Zimet, G.D. (2005) 'Improving Adolescent Health: Focus on HPV Vaccine Acceptance', *Journal of*
666 *Adolescent Health* 37: S17–S23.

667

668

669

670 **Table 1 Quasi-normal distribution**

671

Rank position	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
Number of items	1	2	4	5	7	8	9	8	7	5	4	2	1

672

673

674 **Table 2 Rotated factor matrix: factor exemplars by factor**

675

Participant	F1	F2	F3	F4	F5
23	.84*				
31	.70*				
1	.69*				
16	.64*				
33	.59*				
17	.52*				
12	.52*				
7	.51	.51			
2	.51*				
28		.67*			
4	.54	.60			
29		.59*			
27		.56*			
25		.55*			
24		.54*			
20		.53		.50	
9		.50*			
6		.50*			
18			.76*		
14			.67*		
22			.66*		
8			.65*		
30		.58	.58		
3			.55*		
26			.50*		
10				.69*	
13				.59*	
11				.56*	
5				.53*	
34					.87*
21					.77*
15	-.55				.57

676 Note: Significant loadings are shown, with factor exemplars denoted by *; values are reported to two
677 significant figures.

678 **Table 3 Factor arrays: scores against each item by factor**

679

Q-item	F1	F2	F3	F4	F5
1. The biggest risk for cervical cancer is not having a screen.	+3	0	+3	-2	-4
2. I don't really know what an abnormal cervical screening result means.	-2	0	+1	+1	-2
3. <i>Cervical screening is a waste of time and resources.</i>	-6	-6	-6	-5	-2
4. <i>The cervical screening results can't be trusted.</i>	-2	-2	-1	+2	-1
5. Cervical screening is more important for women who have had sex at a younger age.	+2	-1	+3	+1	+1
6. Having a cervical screen is an emotional experience.	-1	+3	+4	+2	0
7. I don't really understand the procedure.	-3	-1	0	-2	-2
8. <i>Men wouldn't be expected to do the equivalent.</i>	-1	-2	-2	-1	+2
9. Cervical screening could do more harm than good.	-5	-4	-2	-2	-5
10. <i>It's too embarrassing to ask the doctor/nurse questions about cervical screening.</i>	-2	-1	+3	0	-3
11. <i>People who are close to me would want me to go for a cervical screen.</i>	+5	+5	+5	+5	+2
12. <i>Cervical screens should be compulsory.</i>	-3	+2	-2	-1	-6
13. Cervical screening involves disclosing my sexual identity to the doctor/nurse.	-1	-3	+1	+2	0
14. The procedure is not as bad as waiting for the results.	0	+1	-2	-2	-1
15. I have to pluck up the courage to have a cervical screen.	0	+2	+4	+4	+1
16. <i>Cervical screens are no different to other health checks.</i>	+3	0	-4	0	0
17. Having a cervical screen is a painful experience.	0	+2	0	+4	+3
18. Having a cervical screen makes me feel under scrutiny or inspection.	0	0	+2	0	+1
19. The health professional could do more to put you at ease.	-1	+1	+1	+1	+3

20.	Cervical screening is more important for promiscuous women, regardless of whether they have casual sex with men or women.	+2	0	-2	+1	+4
21.	Cervical screening is more important for women who have had genital warts.	+1	-1	-1	-1	+3
22.	Using oral contraceptives lowers the need for a cervical screen.	0	-4	-2	-2	-4
23.	There is a lot of pressure to have a cervical screen.	+1	+1	0	0	+3
24.	If the test found something then it would already be too late.	-3	-2	-4	-3	-3
25.	Having a screen would mean to me that I think I am at risk of cervical cancer.	+1	-5	-1	-4	+2
26.	I am too private a person to have a cervical screen.	-3	-2	-1	-4	0
27.	Cervical cancer is something I worry about.	+2	+1	+2	-3	-3
28.	Having had children lowers the need for a cervical screen.	-1	-2	-3	-1	-2
29.	<i>Cervical screening is something that only heterosexual/“straight” women should worry about.</i>	-4	-4	-5	-4	+2
30.	Having a cervical screen would be less embarrassing at a lesbian health clinic.	-1	+1	+2	-3	-1
31.	Cervical screening is a hassle.	+1	+2	+1	-1	+4
32.	<i>The process makes me feel judged about my sexuality.</i>	-4	0	+2	-1	-1
33.	Cervical screening is a right for all women.	+4	+6	+5	+3	+1
34.	<i>Cervical screening is for your own good.</i>	+5	+5	+4	+5	+1
35.	Women who have never had sex with a man are not at risk of cervical cancer.	-4	-3	-3	-4	-1
36.	<i>The invitation system is a good way to make sure all women are reminded.</i>	+4	+4	+3	+3	-2
37.	Cervical screening gives me peace of mind.	+4	+3	+2	+2	0
38.	It is less important to go for a cervical screen if you don't feel ill.	-2	-5	-3	-6	-3
39.	<i>The letter to attend feels more like an order or</i>	+1	-2	-1	+1	+4

	<i>demand than an invitation.</i>					
40.	Cervical screening is not something I question.	+3	+3	-1	+3	-3
41.	Cervical screening is just something you have to do.	+2	+4	+1	+2	-2
42.	Having a cervical screen gives me control over my body.	+2	0	0	+2	-1
43.	It feels like cervical screening is not really my decision.	-2	0	0	0	0
44.	<i>The procedure is not relevant to me and my life.</i>	-5	-4	-4	-3	+2
45.	Cervical screening could be seen as a sexualised procedure.	-2	-3	+2	+1	+1
46.	The information in the leaflet does not reflect the experience.	0	+1	+1	0	-1
47.	It would bother me if the doctor/nurse was a man.	-3	+2	0	-1	+1
48.	Cervical cancer is just down to chance.	+1	+1	-2	-2	0
49.	<i>I know my body and don't need a cervical screen to tell me something's wrong.</i>	-4	-3	-5	-5	+4
50.	Cervical screening is not something I feel strongly about - I don't see what the big fuss is.	+1	-1	-3	0	+1
51.	<i>The cervical screening system feels like an invasion of my privacy.</i>	0	-2	-1	-1	+6
52.	Cervical screening is more important if you use tampons.	0	-1	-1	-2	-1
53.	<i>It's my body and having a cervical screen is not something I want to do.</i>	-2	-1	-4	0	+5
54.	Cervical screening can save lives.	+6	+4	+6	+4	+5
55.	<i>Cervical screening could help find another medical problem.</i>	+4	+4	+4	+6	0
56.	<i>Cervical screens should be done more frequently.</i>	+2	+1	0	+0	-4
57.	Having a cervical screen is a distressing experience.	-1	+2	+2	+3	0
58.	<i>Cervical screening is more important for younger women.</i>	0	-1	0	+1	-5
59.	<i>The invitation system is a form of harassment.</i>	-1	-3	-3	-3	+3

60.	<i>It's irresponsible not to get a cervical screen done.</i>	+3	+3	+1	+3	-2
61.	<i>Cervical screening is just part of being a woman.</i>	+3	+3	+1	+4	-4
62.	My doctor would disapprove if I didn't go for a cervical screen.	+2	+2	+3	+2	+2
63.	Cervical screening is more important for smokers to worry about.	+1	0	0	+1	+2

680 Notes: Distinguishing statements are displayed in *italics*; -6 denotes that participants disagreed most
681 with the statement on weighted average.

682