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British women's attitudes to surrogacy

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BACKGROUND: There has been little interest in the research literature on public opinions regarding assisted conception and surrogacy, particularly in European countries, despite the growing evidence showing that problems in adaptation and coping may be related to perceived normative values. This study investigated British women's attitudes to surrogacy using components of the theory of planned behaviour (TPB).

METHODS: Questionnaires on attitudes to surrogacy and reasons for parenthood were completed by 187 women from the general public.

RESULTS: Significant socio-demographic differences were found between women who were possibly willing (n = 76) and those who were unwilling (n = 111) to become surrogate mothers. General attitudes to surrogacy also differed between groups (P = 0.000). This study supported the predictive utility of components of the TPB, and differentiated adequately between groups on attitudes to recruitment for surrogacy (P = 0.000), the consequences of surrogacy (P = 0.000), factors that induce people to become surrogates (P = 0.000), social support (P = 0.000), having personal control (P = 0.002) and reasons for parenthood (P = 0.000). Age (P = 0.000), attitudes to advertising (P = 0.02) and the consequences of surrogacy (P = 0.05) predicted (un)willingness to become a potential surrogate mother.

CONCLUSIONS: Further research is needed with larger sample sizes of potential surrogates to determine whether the predictive attitudes reported here translate to actual behaviours. The larger group which was not interested in considering becoming a surrogate scored significantly more negatively on all attitudes towards surrogacy. The negative attitudes reported by the 'unwilling to consider being a surrogate' group may reflect attitudes held by the majority of the population and are likely to be influenced by reports of stigma associated with surrogacy.

Key words: surrogacy / parenthood / surrogate mother / gestational surrogacy / genetic surrogacy

Introduction

Infertility is estimated to occur in one in seven couples and thought to be on the increase among young couples in the West (Edelmann, 2004). The psychological impact of infertility is believed to be as widespread as the incidence. It has been described as a stressful and threatening experience; a life crisis (Menning, 1975) and the reaction to infertility have been compared with grief (Menning, 1980). Despair (Berger, 1977, 1980), anxiety (Harrison *et al.*, 1984), depression (Link and Darling, 1986), decreased self-esteem, mourning, feelings of guilt and frustration (Pfeffer and Woollet, 1983; Bresnick, 1984; Keye, 1984) and impotence following diagnosis (Berger, 1980) have also been reported. Consequently, treatment seeking is common and treatment options are comprehensive (van den Akker, 2002). However, treatment for infertility is marked by genetic link, stigma, perceived normative perceptions of parenthood and population attitude issues. For example, van Balen et al. (1996) found that the majority of people (86%) suffering from fertility problems sought medical help with a minority choosing adoption. van den Akker (2005a, b, 2006) confirmed that options with a full or partial genetic link appear to be preferred. Surrogacy, which can offer the full or partial genetic link, is nevertheless a controversial option (Edelmann, 2004).

Non-commercial surrogacy has been legal in the UK since 1985 (Edelmann, 2004), and by 1998, around 8000 women had considered

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surrogacy as an option through contacting surrogacy agencies (van den Akker, 1998). The two separate methods of surrogacy offering a full or partial genetic link are gestational and genetic. Gestational surrogacy takes place when both the intended mother and father use their own gametes (usually) and the genetically related embryo is transferred into the surrogate mother via IVF, whereas in genetic surrogacy, baby is genetically related to the surrogate mother and intended father (i.e. the surrogate mothers are inseminated with the intended fathers' sperm).

Although (genetic) surrogacy has likely been practiced for centuries (van den Akker, 2006), views surrounding surrogacy and infertility have changed over time. Furthermore, Miall (1994) suggested that motherhood tends to be perceived as biological, whereas fatherhood can be learned. van den Akker (2006) conducted a review of the literature on surrogacy and motherhood and suggested that the fertile population appears to respond cognitively consonant as they have not had to redefine 'parenthood' as genetic, gestational or social. Fertile people's attitudes to traditional and non-traditional parenthood are therefore likely to differ from those of infertile people. Langridge *et al.* (2005) delineated a number of factors that predicted intentions *to have* children in a normal population. Reasons for parenthood included the desire for a family with a genetic child, whereas reasons for *not* wishing to have a child included parenthood as restricting careers/freedom and parenthood not being the most important goal in life.

Since a proportion of Langridge et al.'s (2005) population reported no desire or need for children, it is clear that social factors are as important as biological factors. Bartholet et al. (1994) argue that the desire for a biological child is also based on societal pressures, not biological drives. van den Akker (2001) suggested therefore that since the cultural norm is to have a biological family, when infertility causes biological childlessness, adults having non-biological (or non-genetically linked) offspring are failing to conform to this societal norm. Edelmann et al. (1994) found that biological parenthood is strongly linked with femininity and masculinity. Therefore, when biological parenthood is threatened by infertility, men's masculinity and women's femininity are also threatened adding to increased distress, discomfort and stigma, and dissipating again following the arrival of children (Abbey et al., 1994).

However, achieving parenthood using unconventional methods adds another layer of issues which infertile populations have to deal with. Previous attitude surveys (Dunn et al., 1988) found that surrogacy was the least acceptable way to have a child. This study took place in the USA where the legal status surrounding financial gain in surrogacy is different (women are not prohibited from gaining financially from surrogacy). Dunn et al.'s (1988) study took place in the late 1980s when surrogacy was still a relatively new option, therefore public opinion on this was in its infancy. Subsequent research (Halman et al., 1992) reported that surrogacy and artificial insemination were the least acceptable forms in both fertile and infertile US populations. Genius et al. (1993) surveyed 455 men and women in Canada, for their opinions regarding various reproductive technologies including 'social' surrogacy (where the surrogacy was used for convenience). They found that 85% of the public opposed social surrogacy, and 31% believed that surrogate mothers were entitled to rights regarding the child. This study made an important contribution to our understanding of the publics' views, regarding the acceptable use of reproductive technologies.

Research into public opinion of surrogacy which reflects the underlying normative beliefs about surrogacy is minimal (Brook et al., 1992; Wiess, 1992; ICM Research, 1994; Chliaoutakis et al., 2002). Murphy et al. (2002) surveyed fertile people's opinions of the acceptability of different methods of overcoming infertility which they would either use themselves, or find acceptable for use by others, and found that those practicing a religion were less accepting of surrogacy, particularly as a hypothetical option for themselves. Chliaoutakis et al. (2002) confirmed that church attendance is negatively related to intention to use gamete donation or surrogacy. Others have reported that commercial surrogacy is unacceptable (Krishnan, 1994), but non-commercial gestational surrogacy is perceived as relatively acceptable compared with genetic surrogacy (Appelton, 1990; Bromham, 1991; Frasier and Chapman, 1994; BMA, 1996; Suzuki et al., 2006). Unfortunately, any general population survey on surrogacy reflecting normative beliefs is likely to be shaped by negative portrayals of surrogacy in the media (Appleton, 2001) and beliefs about parenthood.

Studies of attitudes to oocyte donation, using the theory of planned behaviour (TPB), are becoming increasingly available (Sweden: Skoog-Svanberg et al., 2003 and UK: Purewal and van den Akker, 2008a,b). The Swedish study reported that women who were willing to donate were less likely to have children of their own and thought the genetic tie between parent and child was not important and the UK studies confirmed that. The latter UK studies also reported that perceived normative social support, positive attitudes towards egg donation and to the consequences of egg donation and less conventional reasons for parenthood coincided with believing parenthood was important. This shows potential donation (or surrogacy) is cognitively consonant with beliefs about parenthood.

The TPB (Ajzen and Madden, 1986) proposes that behavioural intentions are predicted by attitudes, perceived behavioural control and perceived social norms. A meta-review of 185 studies investigated the predictive utility of the TPB and found that the theory accounted for 27% of variance in behaviour and 39% of variance in behavioural intentions (Armitage and Conner, 2001). It is noteworthy that there is a much criticized behaviour-intention gap (Conner and Norman, 2005) and intention only predicts 47% of the variance in behavioural outcomes (Armitage and Conner, 2001). The present study investigates a general population; therefore, while a behavioural outcome is measured (past surrogacy rates), it is the participants' willingness to become a surrogate mother in the future which is the most important aspect, i.e. their intention. The aims of this paper, therefore, were to investigate the views of women from the general public on surrogacy and their potential willingness to become surrogate mothers, using components of the TPB, and their views of parenthood.

Materials and Methods

Participants

A total of 187 female participants were recruited from within two workplace settings via opportunity sampling. The workplaces were chosen as they were known to be the largest (Council) employer in the county offering a range of job roles with a strong record of equal opportunities, educational, cultural, marital status, gender and age backgrounds. Written permission from the managers was obtained. The study was advertised either via an internal internet bulletin board or via internal e-mail. All employees at both workplaces were assigned e-mail addresses and therefore are provided with access to the internet and the bulletin boards. No reward was received for participation, and inclusion criteria were that all participants were required to be female and fluent in English. Exclusion criteria were men and women unable to read or write English. As is the case with internet-based research, it is impossible to determine the exact response rate because we were unable to tell how many women saw the invitation.

Measures

The attitudes to surrogacy questionnaire was adapted from the one published in *Human Reproduction* by Skoog-Svanberg *et al.* (2003) (adaptation available upon request from the authors). The questionnaire contained 71 target items and 14 socio-demographic questions. Fifty-two items were adapted attitudes to surrogacy items; three questions were added to ask about willingness to be a genetic or a gestational surrogate, and willingness to be a surrogate for a relative, friend or stranger, and the reasons for parenthood scale (16 items) (Langridge *et al.* 2005). All participants answered all questions and no distinction was made between gestational and genetic surrogacy with the exception of two items (see above), which specifically enquired about willingness to be either a genetic surrogate mother or a gestational surrogate mother.

The 52 attitudes towards surrogacy questionnaire included 11 variables (subsections of numbers of items making up the subsections are shown in brackets) as previously described by Skoog-Svanberg et al., (2003). Each item was rated on a five-point Likert-type scale that ranged from strongly agree (5) to strongly disagree (1) and included a 'cannot form an opinion' (6) option. Five variables (italicized) are theoretical components of the TPB: attitudes towards children (6), attitudes towards the importance of a genetic link between parent and child (4), attitudes towards surrogacy in general (5), attitudes towards disclosure to offspring (6), attitudes towards specific circumstances of surrogacy (6), attitudes towards recruitment (4), willingness to become a surrogate ('yes', 'maybe/do not know', 'no'), attitudes towards the consequence of surrogacy (7), perceived social support (1), behavioural control (1) and attitudes towards factors that would induce women to become a surrogate (12). The reasons for parenthood scale (Langridge et al., 2005) included six reasons for parenthood (fulfilment, please partner, make family, part of both of us, good home and bio drive) and five reasons against (other things, restrict freedom, partner's wishes, interfere with career and over population). After reviewing the literature (Purewal and van den Akker, 2008a), a further four items were included in the reasons for parenthood (carry on family name, religious beliefs, genetically part of me and confirm femininity) and one item was included in reasons against parenthood (unwanted changes). The respondents rated each item on a five-point Likert-type scale that ranged from relevant (5) to irrelevant (1). All 10 reasons for and 6 reasons against parenthood were added to create a total score for reasons for and reasons against. A high score was indicative of supporting normative and conventional reasons for wanting to have children, whereas a low score was indicative of supporting non-normative and less conventional reasons.

All items required a response from the participant, that is, they could not complete the questionnaire without selecting an option; however, all questions allowed the participants to report that they had no opinion on this matter. The questionnaire was accessed online on personal or works computers with the option to complete a paper copy which was requested by 2 of the 187 participants.

Procedure

Ethical approval was sought from the local University Ethics Committee. The questionnaire was made available to participants within workplace settings via an internal internet-based bulletin board or an internal e-mail via a hyperlink. Once the participant had accessed the link, they were directed to a standardized consent form containing a detailed description of the study and surrogacy, contact details of the Investigators and instructions to complete all questions. Participants were informed that completion of the questionnaire implied consent. Participants read a description of the way in which surrogacy works (treatment options and length as well as basic information regarding the legal issues surrounding surrogacy) and a brief glossary of terms including 'surrogacy', 'surrogate mother', 'intended parents', 'genetic surrogacy' and 'gestational surrogacy' (available on request).

The next page contained 14 socio-demographic items and the 71 questionnaire items. All participants received the same format of the questionnaire, whether it was paper or internet based, and were required to click on the response which best reflected their opinion.

Data analysis

Some of the items were reversed to ensure that low scores always implied a positive response, that is a score which was previously I became 5 etc., others were recoded so that 'neutral' and 'cannot form an opinion', 'indifferent' and 'n/a', and 'maybe' and 'do not know' were merged.

The two items enquiring about the type of surrogacy participants were willing, unsure or unwilling to consider were combined across type of surrogacy ('willingness to be a *genetic* surrogate mother' (item 30) or a '*gestational* surrogate mother' (item 31)). Chi-square tests were performed for the three combined groups on the socio-demographic variables as well as item 32 'would you rather be a surrogate for a stranger; relative/friend, both, neither' to investigate the relationship between socio-demographic factors and willingness to become a surrogate mother. 'Reasons for parenthood' and 'Reasons against parenthood' were calculated as described above following Langridge *et al.* (2005).

Logistic regression was performed for the variables that were significant in the initial analyses, including age, numbers of previous pregnancies, live births and the TPB components; 'general statements about surrogacy' and 'consequences of surrogacy', 'social support' (item 41) and 'perceived behavioural control' (item 42) and 'attitudes to recruitment', 'factors that induce one to become a surrogate' and 'positive attitudes to wanting children' on the parenthood scale. A value of P < 0.05 was considered significant.

Results

Eight of the 187 participants were willing to be a genetic surrogate mother (136 said 'no' and 43 'maybe/do not know'), and 9 of the 187 a gestational surrogate mother (121 'no'; 57 'maybe/do not know'). The sample was initially collapsed into three groups, women who were willing (n = 15), unsure (n = 61) and unwilling (n = 111) to consider becoming (genetic and/or gestational) surrogate mothers. Significant socio-demographic differences were found in age [(F(2, 184) = 16.04, P < 0.000) with younger women significantly more likely to be willing to become a surrogate], and parity ($X^2 =$ 12.05, P < 0.01; Table I). Most respondents were white. The majority of respondents who were 'unsure' were nulliparous and had never been pregnant. Occupational, educational and marital status did not differ significantly between groups.

Table I also shows the other socio-demographic details; miscarriages and terminations were more common in the willing group and about half in each group identified with a religion. There was a bias towards participants in lower managerial and higher managerial positions. This, however, is a fairly accurate representation of employment status within Warwickshire due to a number of large redundancy Table I Socio-demographic characteristics of the women whose attitudes towards surrogacy were categorized as 'willing', 'unsure' and 'unwilling'

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Variable	Willing group (n = 15)	Unsure group (n = 61)	Unwilling group (n = 111)	Р
White	13 (87%)	59 (97%)	108 (97%)	
Live births	6 (40%)	15 (25%)	56 (50%)	0.01
Pregnancies	6 (40%)	17 (28%)	61 (55%)	0.01
Miscarriages	4 (27%)	5 (8%)	19 (17%)	_
Terminations	4 (27%)	6 (10%)	20 (18%)	_
Religion	7 (47%)	30 (49%)	67 (60%)	—
Employment	11 (73%)	54 (89%)	104 (94%)	—
Higher education	9 (60%)	39 (64%)	72 (65%)	—
Married	6 (40%)	29 (48%)	36 (32%)	_
Fertility problen	n			
Yes	l (7%)	l (2%)	10 (9%)	_
Do not know	8 (53%)	21 (34%)	36 (32%)	—
Partner problen	n			
Yes	0	0	4 (4%)	
Do not know	7 (47%)	27 (44%)	30 (27%)	
Past surrogacy	0	I	0	_
Surrogate for relative/friend	9 (60%)	41 (67%)	36 (32%)	
Surrogate for stranger	I (7%)	9 (15%)	4 (4%)	
Surrogate for both	5 (33%)	7 (12%)	9 (8%)	
Surrogate for neither	0	3 (5%)	62 (56%)	

schemes in the car industry prevalent in Warwickshire (Warwickshire County Council, 2006). Participants also reported high proportions of graduate and postgraduate qualifications. Across groups, 17% of participants and 4% of participants' partners identified themselves as having a fertility problem. There was no significant difference between groups in marital status and one participant in the 'unsure' group had been a surrogate mother in the past. In general, 60% of the willing, 67% of the unsure and 32% of the unwilling groups would consider being a surrogate for a relative or friend, with few considering doing that for a stranger, or for both or neither. Since this question showed the willing and unsure groups to be similar in willingness to be a surrogate, the groups were merged to form the possibly willing (n = 76) versus unwilling (n = 111) to consider being a surrogate groups for all subsequent questionnaire analyses.

Table II shows the results for the possibly willing (n = 76) and unwilling (n = 111) groups and their general attitudes towards surrogacy [t = -4.30, degrees of freedom (df) = 185]; consequences of surrogacy (t = -5.75, df = 185); perceived behavioural control [Mann–Whitney *U*-test (MWu) = 3143.50]; and social support

Table II Mean (SD) and significance of attitudes tosurrogacy and reasons for parenthood components ofthe 'possibly willing' and 'unwilling' groups

Variable	Possibly willing (n = 76) Mean (SD)	Unwilling group (n = 111) Mean (SD)	Ρ		
Age	27.68 (8.64)	36.33 (11.18)	0.000		
General statements about surrogacy	1.78 (0.58)	2.21 (0.76)	0.000		
Consequences of surrogacy	2.50 (0.73)	3.37 (1.30)	0.000		
Social support	2.36 (1.16)	3.45 (1.54)	0.000		
Control	2.29 (1.45)	3.15 (1.84)	0.002		
Attitudes to advertising	3.28 (1.23)	4.09 (1.18)	0.000		
Factors that induce one to become a surrogate	2.45 (0.60)	3.27 (1.28)	0.000		
Statements about surrogacy	3.08 (0.56)	3.13 (0.61)	ns		
Want children	1.63 (0.45)	1.85 (0.51)	0.000		
Do not want children	2.46 (0.60)	2.53 (0.61)	ns		
General feelings about children	2.83 (0.70)	2.87 (0.71)	ns		
Importance of a genetic link	3.00 (1.09)	2.91 (1.00)	ns		
Origin	2.52 (0.78)	2.36 (0.83)	ns		

(MWu = 2542.50)—all TPB components, which differed significantly between groups. For all (significant) results, those possibly willing to consider becoming a surrogate rated each component more positively. Attitudes towards recruitment for surrogates (t = -4.45, df = 185, P = 0.000); and factors that induce you to become a surrogate (t = -5.90, df = 185, P = 0.000) also differed between groups, as did positive reasons for wanting to become parents themselves (on the parenthood scale: t = -3.11, df = 185, P < 0.002)—in all cases, the possibly willing to consider being a surrogate group scoring more positively than those not willing to consider becoming surrogates (Table II). General attitudes towards surrogacy, Reasons against parenthood, attitudes towards children, genetic link and disclosure did not differ between groups, but age did (t = 5.95, df = 185, P < 0.000).

In order to determine which of the variables predicted possible willingness and unwillingness to be a surrogate, logistic regression analyses showed that age [odds ratio (OR) = 0.10, β = 0.101, P = 0.001], 'recruitment' (OR = 0.39, β = 0.391, P = 0.02) and the TPB component 'consequences of surrogacy' (OR = 0.63, β = 0.633, P = 0.05) significantly predicted (un)willingness to be a surrogate mother (Table III), although this association was marginal. The remaining three TPB components (perceived subjective norms, behavioural control and attitudes toward surrogacy) did not predict (un)willingness to become a surrogate mother.

Discussion

A small proportion of participants were willing to consider becoming a surrogate mother. Most did not differentiate between genetic or

Table III Factors contributing to 'possibly willing' and 'unwilling' to be a surrogate mother groups

Variable	Odds ratio	95% confidence interval	P-value
Age	0.10	1.04-1.17	0.001
Attitudes to advertising	0.39	1.05-2.07	0.02
Consequences of surrogacy	0.63	0.99-3.57	0.05

gestational surrogacy, and only numbers of live births and pregnancies distinguished this group from the unsure or unwilling groups. However, the willing group was small and further analyses on them independently would not have been meaningful. Since the willing and unsure groups were similar in many respects and since they scored similarly on willingness to be a surrogate for a relative or friend, this group was merged to ensure more meaningful analyses would be possible. Tests of differences in attitude components of the TPB revealed significant differences between women possibly willing and unwilling to be a surrogate mother for general attitudes towards surrogacy, consequences of surrogacy, and social support and control. Participants who were possibly willing to become surrogate mothers also scored positively on their attitudes towards recruitment for surrogates, on factors that would induce one to become a surrogate and they also scored more positively on wanting children on the reasons for parenthood scale.

It was surprising to find that participants who would consider becoming a surrogate did not distinguish between genetic and gestational surrogacy. Previous research had shown differences between actual surrogates and their beliefs about the importance of a genetic link (van den Akker, 2003, 2005a, 2006). It is possible that this reflects the attitudes versus behaviour gap noted in other research (Armitage and Conner, 2001; Conner and Norman, 2005), and the fact that participants in this study were drawn from the non-clinical population who did not have to imagine the importance of genetics in relation to reproduction. These results are similar to Purewal and van den Akker (2008a, b) and Skoog-Svanberg *et al.* (2003) who reported a lack of distinction in their populations attitudes towards donating oocytes for research or treatment.

Since research regarding public opinion of surrogacy is limited and was published a few years ago before even more complex reproductive techniques were debated by Government and the media (Brook et al., 1992, Wiess, 1992, ICM Research, 1994; Chliaoutakis et al., 2002; van den Akker, 2006), there is a limited amount of past research which we can draw on. However, related theoretical research on attitudes towards oocyte donation (Skoog-Svanberg et al. 2003; Purewal and van den Akker (2008a, b) was carried out more recently. Purewal and van den Akker (2006, 2008a, b) used the original translated Skoog-Svanberg et al. (2003) attitudes to egg donation questionnaire to assess British women's attitudes towards oocyte donation for infertile couples (Purewal and van den Akker, 2008a) and for treatment (Purewal and van den Akker, 2008b). The theoretical component 'consequences' and younger age were predictors in both oocyte donation for treatment and research studies, confirming our predictors for surrogacy. This is reassuring because, although there is a

significant difference in the process involved in egg donation and that of surrogacy, the surrogate and both oocyte donation studies investigated attitudes towards assisted reproductive technology. Critically, the use of a theory to assist in determining variables which can predict intentions to carry out a particular behaviour has been useful as this can be used in future research and in clinical practice. The younger age and the liberal attitudes towards the recruitment of surrogates through advertising emanating from the regression analyses appear to be strong predictors for potential surrogates suggesting these in particular can be the focus within recruitment and selection drives. However, our theoretical data need to be interpreted as provisional since the predictive association of the consequences of surrogacy was marginal. Nevertheless, the fact that potential surrogates are happy to accept the consequences of, for example, the likelihood that surrogate offspring may try to contact them upon the age of 18 years is reassuring.

Significant differences on the reasons for parenthood scale (Langridge et al., 2005) were also obtained between women possibly willing to become surrogate mothers and those not willing to become surrogate mothers, with the latter more positive, also confirming the attitudes to oocyte donation studies cited above. It is possible that women who have not had to question their fertility (the relatively normal populations studied in these attitude surveys) may not attach undue importance to a genetic link between parent and child, whereas those who are confronted with infertility perceive this to be important because it is challenged (van den Akker, 2000; 2006). Importantly, the present study found that the intention to become a surrogate is influenced by a number of factors, including attitudes, perceived normative values and beliefs about parenthood. The data also concur with a recent study of surrogate mothers, and reflect the importance of perceived social support (van den Akker, 2007) and its influence on the surrogacy experience (Blyth, 1994; Edelmann, 2004).

If surrogacy takes place in a society that accepts this as a necessary practice for some (Sharma, 2006), it is possible that actual surrogates may be better supported and less stigmatized. To date, however, it appears that a majority of the population (also reflected in the larger group in this study) still do not accept the notion of a 'new reality' of parenthood as was eloquently discussed by Strathern (2002), even though this is, at least in the UK, a socially (step/gay/lesbian/half sibling through new relationships etc.) prolific phenomenon.

Conclusions

This relatively small scale study supported the predictive utility of some components of the TPB, and differentiated adequately between groups on general attitudes towards surrogacy, recruitment, consequences of surrogacy and factors that induce people to become surrogates, support and control. Those possibly willing to consider becoming a surrogate also scored significantly higher on the typical reasons for parenthood scale, indicating traditional values. The consequences of surrogate. A number of shortcomings were identified, namely the sample was relatively small and drawn from one region in the UK. Further research is needed to bridge the gap between the attitudes of a general population sample as presented here and actual surrogates as studied elsewhere (van den Akker, 2000, 2005a). A new study is currently planned to study the events which

determine whether the predictive attitudes reported here translate into actual behaviours. This could assist in targeting future recruitment drives and policy makers through the introduction of setting specific criteria for surrogates, including ensuring adequate supporting networks for their non-traditional actions.

No differences in perceptions of the importance of a genetic link were obtained, although positive and typical perceptions for parenthood were also characteristic of women willing to consider becoming surrogates, compared with those unwilling. Interestingly, the group who was definitely not interested in considering becoming a surrogate scored significantly more negatively on recruitment of surrogates through advertising, on supporting factors that induce surrogacy and on the consequences of surrogacy, possibly reflecting views held by the majority of the population not involved with surrogacy. These factors are likely to influence the prevailing reports of stigma associated with surrogate motherhood. Since the group who was definitely not interested in considering becoming a surrogate also scored significantly less positive on the typical reasons for parenthood, it is possible that population educational targets could improve peoples perception of surrogacy by linking the practice with positive and traditional family values.

References

- Abbey A, Andrews FM, Halman LJ. Infertility and parenthood: does becoming a parent increase well-being? | Consult Clin Psychol 1994; 62:398-403.
- Aizen I, Madden TJ. Prediction of goal-directed behavior: attitudes, intentions, and perceived behavioral control. | Exp Soc Psychol 1986; 22:453-474
- van den Akker OBA. The function and responsibilities of organisations dealing with surrogate motherhood. Hum Fertil 1998;1:10-13.
- van den Akker OBA. The importance of a genetic link in mothers commissioning a surrogate baby in the UK. Hum Reprod 2000; 15:1849-1855.
- van den Akker OBA. The acceptable face of parenthood. The relative status of biological and cultural interpretations of offspring in infertility treatment. Psychol Evol Gender 2001;3:137-153.
- van den Akker OBA. The Complete Guide to Infertility: Diagnosis, Treatments, Options. London: Free association Books, 2002. ISBN: 1-85343-540-6.
- van den Akker OBA. Genetic and gestational surrogate mothers' experience of surrogacy. J Reprod Inf Psychol 2003;21:145-161.
- van den Akker OBA. A longitudinal pre pregnancy to post delivery comparison of genetic and gestational surrogate and intended mothers: confidence and gyneology. | Psychosom Obstet Gynecol 2005a;26:277-284.
- van den Akker OBA. Coping, quality of life and psychological symptoms in three groups of sub-fertile women. Patient Educ Couns 2005b; **57**:183-189.
- van den Akker OBA. Psychosocial aspects of surrogate motherhood. Hum Reprod Update 2006; 12:91-101.
- van den Akker OBA. Psychological trait and state characteristics, social support and attitudes to the surrogate pregnancy and baby. Hum Reprod 2007;22:2287-2295.
- Armitage CJ, Conner M. Efficacy of the theory of planned behaviour: a meta-analytic review. Br J Soc Psychol 2001;40:471-499.
- Appelton T. IVF (host) surrogacy. The British infertility counselling. Newsletter 1990;4:7-15.
- Appleton T. Surrogacy. Curr Obstet Gynecol 2001; 1:256-257.

- van Balen F. Verdurmen I. Ketting E. Choices and motivations of infertile couples. Patient Educ Couns 1996;31:19-27.
- Bartholet E, Draper E, Resnik K, Geller L. Rethinking the choice to have children. When, how, and whether or not to bear children. Am Beh Scientist 1994;37:1058-1073.
- Berger DM. The role of the psychiatrist in a reproductive biology clinic. Fertil Steril 1977:28:141-145.
- Berger DM. Infertility: a psychiatrist's perspective. Can | Psychiatry 1980; 25:553-539
- Blyth E. I wanted to be interesting, I wanted to be able to say 'I've done something interesting with my life'. | Reprod Inf Psychol 1994; 12:189-198
- BMA (British Medical Association). Changing Conceptions of Motherhood. The Practice of Surrogacy in Britain. London, UK: British Medical Association, 1996.
- Bresnick EK. A holistic approach to the treatment of infertility. In Mazor MD, Simons HF (eds). Infertility: Medical, Emotional and Social Considerations. New York, NY, USA: Human Sciences Press, 1984.
- Bromham D. Public acceptance of surrogacy: what are the limits? (Abstr: 0698) in Ratnam S et al. (eds). Proceedings of the 13th World Congress of Gynaecology and Obstetrics (FIGO) Abstr. 3. NY: , 1991, 220.
- Brook L, Hedges S, Jowell R, Lewis J. British Social Attitudes: Cumulative Sourcebook-The First Six Surveys. Aldershot, UK: Gower, 1992.
- Chliaoutakis J, Koukouli S, Papadakaki M. Using attitudinal indicators to explain the public's intention to have recourse to gamete donation and surrogacy. Hum Reprod 2002;17:2995-3002.
- Conner M, Norman P. Predicting Health Behaviour, 2nd edn. Maidenhead, UK: Open University Press, 2005.
- Dunn PC, Ryan IJ, O'Brien K. College students' acceptance of adoption and five alternative fertilization techniques. | Sex Res 1988;24:282-287.
- Edelmann RJ. Surrogacy: the psychological issues. J Reprod Infant Psychol 2004;22:123-136.
- Edelmann RJ, Humphrey M, Owens DJ. The meaning of parenthood and couples' reactions to male infertility. Br | Med Psychol 1994;67:291-299.
- Frasier L, Chapman A. Three little miracles. Mail on Sunday, 27 February, 1994, р. 49.
- Genius SJ, Chang W, Genius SK. Public attitudes in Edmonton toward assisted reproductive technology. Can Med Assoc | 1993; 150:701-708.
- Halman LJ, Abbey A, Andrews FM. Attitudes about infertility interventions among fertile and infertile couples. Am | Pub Health 1992;82:191-194.
- Harrison RF, O'Moore AM, O'Moore RR, Robb D. Stress in infertile couples. In Bunnar J, Thomson W (eds). Fertility and Sterility. Lancaster: MTP Press, 1984.
- ICM Research. Results of a Poll on Infertility Treatment Conducted for 'The Observer'. London, UK: ICM, 1994.
- Keye WR. Psychosexual responses to infertility. Clin Obstet Gynaecol 1984; **27**:760-766.
- Krishnan V. Attitudes toward surrogate motherhood in Canada. Health Care Women Int 1994;15:333-357.
- Langridge D, Sheeran P, Connolly K. Understanding the reasons for parenthood. | Reprod Inf Psycho 2005;23:121-133.
- Link PW, Darling CA. Couples undergoing treatment for infertility: Dimensions of life satisfaction. | Sex Marital Ther 1986; 12:46-59.
- Menning BE. The infertile couple: a plea for advocacy. Child Welfare 1975; **54**:454-460
- Menning BE. The emotional needs of infertile couples. Fertil Steril 1980; **34**:313–319.
- Miall CE. Community Constructs of Involuntary Childlessness: Sympathy, Stigma, and Social Support. Can Rev Social Anthropol 1994;31:392-421.

Murphy M, Jones D, Hallam Z, Martin R, Hakin R, van den Akker OBA. Infertility in focus: how far would you go? J Reprod Inf Psychol 2002;20:192.

Pfeffer N, Woollet A. The Experience of Infertility. London: Virago Press, 1983.

- Purewal S, van den Akker OBA. British women's attitudes towards Oocyte donation: ethnic differences and altruism. *Patient Educ Couns* 2006;**64**:43–49.
- Purewal S, van den Akker OBA. Attitudes towards oocyte donation and parenthood: structural equation modelling analyses. J Reprod Inf Psychol 2008a;**26**:263.
- Purewal S, van den Akker OBA. Factors Influencing Attitudes towards Potential Oocyte Donation for Research. The Psychologist Book of Abstracts. BPS Annual Conference, 2008b, 178–179.
- Sharma B. Forensic considerations of surrogacy—an overview. J Clin Forensic Med 2006;13:80–85.
- Skoog-Svanberg A, Lampic C, Bergh T, Lundkvist O. Public opinion regarding oocyte donation in Sweden. *Hum Reprod* 2003;**18**:1107–1114.

- Strathern M. Still giving nature a helping hand? Surrogacy: a debate about technology and society. J Mol Biol 2002;**319**:985–999.
- Suzuki K, Hoshi K, Minai J *et al.* Analyses of national representative opinion surveys concerning gestational surrogacy in Japan. *Eur J Obstet Gynecol Reprod Biol* 2006;**126**:39–47.
- Warwickshire County Council. Unemployment benefit claimants in Warwickshire. 2006; Economy & Employment Briefing Note 05/2006.
- Wiess G. Public attitudes about surrogate motherhood. *Mich Sociol Rev* 1992;**6**:15–27.
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