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Mum or Bub? Which Influences Breastfeeding Loyalty
Joy Parkinson, Rebekah Russell-Bennett and Josephine Previtte

Abstract

The need for social marketing research in the area of breastfeeding is highlighted by the failure of campaigns to increase breastfeeding rates over the past two decades in developed countries. This is despite evidence of the health benefits of longer breastfeeding duration to both baby and mother, and the high levels of expenditure on these campaigns. Whilst past campaign approaches typically focus on baby-oriented factors, breastfeeding is a complex behaviour that for many women involves barriers that influence their commitment to continued breastfeeding. Using social marketing, this research investigates the role of mother-centred factors on loyalty to breastfeeding. A sample of 405 Australian women completed an online survey. The data were analysed using structural equation modelling, which revealed that mother-oriented, rather than baby-oriented, factors influence attitudinal and behavioural loyalty to breastfeeding.

Keywords: Social marketing; Breastfeeding; Loyalty; Social support; Self-efficacy; Structural equation modelling

Mum or Bub? Which Influences Breastfeeding Loyalty

1. Introduction

Decision makers in the public sector and non-profit organisations are increasingly turning to a social marketing approach to achieve socially desirable goals in health, wellbeing and sustainable enterprises (see Brennan & Binney, 2008; Zainuddin, Previte, & Russell-Bennett, 2011). Recently, national and international health decision makers have embraced social marketing strategy to address the social challenges of breastfeeding (Department of Health and Ageing, 2009a, 2009b). In this article we argue that a social marketing approach is needed because despite evidence supporting the health benefits to both baby and mother from longer breastfeeding duration (ABS, 2003; Booth & Parsons, 2001; Newcomb et al., 1994; WHO, 2001), sustained breastfeeding rates in Australia remain low (ABS, 2006).

In the past, a range of health interventions have been used by government departments and non government organisations around the world to address the challenges of breastfeeding. Evidence from systematic reviews of breastfeeding interventions, however, indicate that the majority of programs have had limited success in increasing the duration of breastfeeding (see Fairbank, O'Meara, Renfrew, Snowden, & Lister-Sharp, 2002; Fairbank, et al 2000; King, Hector & Webb, 2005; South Australian Government, Public Health Research Unit, 2006;). Many of these earlier programs and health campaigns have focused on education and the promotion of health benefits. These health approaches have been successful in raising awareness about breastfeeding and providing factual information on the health benefits for the baby, including decreased risk of gastro-intestinal illnesses and reduced incidence of asthma. Many of these campaigns have not acknowledged the barriers women experience when breastfeeding, such as physical difficulties (e.g., nipple pain and attachment problems), embarrassment and lack of milk supply (DiGirolamo et al., 2005), which are almost always mother-related (mother-centred).

Recent research indicates that women are already knowledgeable about the benefits of breastfeeding (Alikassifogglu et al., 2001; Mitra, Khoury, Hinton, & Carothers, 2004). This is where social marketing provides an alternative approach to influencing and changing behaviour. Marketing adds choices, whereas education informs and persuades within an existing range of choices (Rothschild, 1999). Endeavouring to influence behaviour change by focussing solely on factual information, or promotional messages to individuals that are too narrow in their approach, underestimates the complex environments in which individuals live (Wymer, 2011). This is the case with breastfeeding. Women's behaviour is influenced by multiple internal factors (e.g., a woman's confidence in being able to breastfeed - self-efficacy- and attitudes to breastfeeding) (Papinczak & Turner, 2000) and external influences (e.g., social relationships, social norms and access to breastfeeding-friendly public spaces) that all impact capacity to breastfeed (Shaker, Scott & Reid, 2004).

Many past promotional campaigns encouraging breastfeeding portray the behaviour as normal and easy (Horswill, 2009), however, this is far from reality for many women. The day-to-day challenges of breastfeeding for some outweigh the benefits and so the best intentions go astray, with women turning to formula feeding. Marketing insights, from a loyalty framework and exchange theory perspective, can be used to inform and guide a better understanding of the complexity of breastfeeding behaviour. We propose that a loyalty framework, which includes both attitudinal loyalty (i.e., intentions and commitment to breastfeed) and behavioural loyalty (i.e., the act of breastfeeding), can help explain sustainable behaviour. With the addition of exchange theory, a social marketing approach can thus be used to further investigate the balance of costs and benefits assumed by women when they engage in and extend their commitment to breastfeeding.

The purpose of this current research is to investigate key mother-centred factors and the effect they have on sustained breastfeeding behaviour as a base for informing social

marketing theory and future social marketing campaigns. To this purpose, the following research question will be addressed: *What influence do the mother-centred factors of personal social support and self-efficacy have on breastfeeding duration in a social marketing context?*

2. Literature Review

The marketing process aims to stimulate demand for products and services. In social marketing, the focus is to stimulate demand for positive behaviour change, for example, increased exercise or increased breastfeeding duration. In both contexts, demand is operationalised through the application of exchange theory (Bagozzi, 1975). In the context of this current study of breastfeeding, the marketing exchange is concerned with offsetting the barriers to breastfeeding (which are typically mother-oriented) against the benefits of breastfeeding (which are typically baby-oriented). To achieve an exchange in favour of breastfeeding loyalty, an understanding of these barriers and benefits is required. When applying social marketing thinking to breastfeeding, government decision-makers typically attempt to reduce costs and enhance the benefits. We suggest that this is done without an understanding of the role and relative impact of these factors. This can be achieved through stronger focus on the price element of the social marketing mix (Kotler & Lee, 2008).

2.1 Mother-Oriented and Baby-Oriented Factors

The aim of this research is to investigate key factors that influence loyalty to breastfeeding, in particular, two mother-oriented factors: self-efficacy and social support. Prior research has shown that baby-oriented factors, such as positive attitudes towards breastfeeding, which are based on knowledge of the benefits of breastfeeding (Chezem, Friesen, & Boettcher, 2003; Shaker, Scott, & Reid, 2004), and the opinions of others towards

breastfeeding (Sciacca, Dube, Phipps, & Ratcliff, 1995), influence breastfeeding loyalty (Russell-Bennett, Gallegos, & Drennan, 2009).

Subsequently, many government campaigns, to increase breastfeeding rates, focus on achieving positive attitudes amongst women and key-influencers by communicating the benefits of breastfeeding for the baby (e.g., Queensland Government's 2009 'Happy, Healthy, Normal' campaign). Other research has indicated that it is mother-oriented factors which are the barriers to breastfeeding (Ekström, Widström, & Nissen, 2003). We suggest that the lack of breastfeeding loyalty is also due to the challenges mothers experience after breastfeeding initiation, which include fear of failure, perceived difficulty, painfulness, embarrassment and lack of support (Johnston-Robledo & Fred, 2008; NSMC, 2009). The first four reasons cited relate to self-efficacy and the latter to social support: the two key mother-oriented factors examined in this research.

2.2 Theory of Planned Behaviour

Prior research shows that health behaviour change occurs slowly and is often a deliberated, planned behaviour. The Theory of Planned Behaviour [TpB] (Ajzen & Fishbein, 1980) is a widely applied framework for understanding behaviours as it summarises key drivers of attitudes and behaviours. When applying the TpB framework to breastfeeding loyalty, some adaption of the constructs is required in order for them to be behaviour specific. Attitude and behaviour have previously been adapted to loyalty as attitudinal and behavioural loyalty (Dick & Basu, 2004; Russell-Bennett, McColl-Kennedy, & Coote, 2007), where attitudinal loyalty consists of intentions and commitment to the behaviour and behavioural loyalty is share-of-category. The antecedents in the TpB can be categorised as either baby-oriented (attitudes and subjective norms) or mother-oriented (perceived behavioural control and social support), with perceived behavioural control typically operationalised in

breastfeeding research as self-efficacy (Dennis, 1999). Social support (Cohen, Mermelstein, Kmack, & Hoberman, 1985) was also included in the proposed model, as extant research in breastfeeding indicates the importance of support (Ingram, Rosser, & Jackson, 2004).

2.3 Attitudinal and Behavioural Loyalty to Breastfeeding

Attitudinal loyalty to breastfeeding indicates that a woman intends to continue the breastfeeding behaviour and is emotionally and cognitively committed to this act (Härtel & Russell-Bennett, 2010; Rundle-Thiele & Bennett, 2001). Behavioural loyalty is mainly expressed in terms of revealed behaviour, that is, the pattern of past purchases in a commercial sense (Uncles, Dowling, & Hammond, 2003). In breastfeeding, this is expressed as breastfeeding duration or the length of time a mother breastfeeds her child. A person will usually intend to perform a behaviour when they are cognitively and emotionally committed to it (Ajzen & Fishbein, 1980), and they positively evaluate the behaviour. Previous research has empirically linked attitudinal loyalty to behavioural loyalty (Bandyopadhyay & Martell, 2007; Bennett et al., 2007; Taylor, Hunter, & Longfellow, 2006). Dick and Basu (1994) proposed that loyalty is the result of psychological processes and has behavioural manifestations, therefore, components of both attitudinal and behavioural loyalty should be included when assessing loyalty. Previous research shows that when women intend to breastfeed and are committed to breastfeeding prior to giving birth, they are more likely to actually breastfeed than those who do not make a breastfeeding decision prior to birth (Mitra et al., 2004). Thus, the following hypothesis is proposed:

H1: Attitudinal loyalty is likely to be positively associated with behavioural loyalty to breastfeeding.

2.4 Attitude towards Breastfeeding and Attitudinal Loyalty to Breastfeeding

Attitudes towards breastfeeding in general is the first of two baby-oriented factors in this research and is the person's favourable or unfavourable feelings towards performing that behaviour, determined by behavioural beliefs about the outcome of the behaviour and evaluation of the outcome (Ajzen & Fishbein, 1980). When women form a positive attitude towards breastfeeding, it is expected that they will be more likely to have stronger intentions to adopt the behaviour, thus, they are more likely to participate in the behaviour (Ajzen 1991; Russell-Bennett et al., 2007). For instance, previous research shows that possessing a positive attitude towards diet and exercise influences intention to engage in the behaviour (Perugini & Bagozzi, 2001). Thus, the following hypothesis is proposed:

H2: Attitude toward breastfeeding is likely to be positively associated with attitudinal loyalty to breastfeeding.

2.5 Subjective Norms and Attitudinal Loyalty

Subjective norms refer to the individual's perceptions of social pressure to perform or not perform a given behaviour. These norms are determined by normative beliefs which assess the social pressures in the individual about a particular behaviour (Ajzen & Fishbein, 1980). Subjective norms provide reasons that influence a person's intentions and commitment to an act (Perugini & Bagozzi, 2001). Personal, cultural, social and environmental factors are common influencing factors in the decision to breastfeed (Johnston-Robledo & Fred, 2008; Kong & Lee, 2004). The mother's knowledge and attitudes, followed by the husband/partner's attitudes, have been identified as important in influencing infant feeding choice (Kong & Lee, 2004; Rousseau Lescop, Fontaine, Lambert, & Roy, 1982; Scott, Binns, & Aroni, 1997). Likewise, a woman's choice to breastfeed is associated with the feeding method of her own mother (Jones, 1987), which highlights the role of other people in the decision process. The TpB suggests that a woman's overall perception of what important

others (friends and family) think she should do will impact her intentions to breastfeed (Ajzen and Fishbein, 1980). When others' opinions about breastfeeding are positive, a woman is more likely to intend to breastfeed on a continued basis (attitudinal loyalty). Thus, the following hypothesis is proposed:

H3: Subjective norms are likely to be positively associated with attitudinal loyalty to breastfeeding.

2.6 Self-Efficacy and Loyalty to Breastfeeding

Self-efficacy is the first of two mother-oriented factors to be discussed and is an adaption of the TpB variable: perceived behavioural control. Self-efficacy has been identified as an important component of perceived behavioural control (Bandura, 1977) and is an individual's confidence in their perceived capacity to control their motivation, thought processes, emotional states and social environment in performing specific behaviours (Dennis, 1999).

Extant research reveals that breastfeeding confidence is a significant factor related to duration of breastfeeding (Buxton et al., 1991; Ertem, Votto, & Leventhal, 2001). Women who lack confidence in their ability to breastfeed are significantly more likely to cease breastfeeding within two weeks of giving birth than those who have greater confidence in their ability to breastfeed (Ertem et al., 2001). The more confidence a woman has in her ability, and perceived control of breastfeeding her child, the more likely she is to breastfeed (Gregory, Penrose, Morrison, Dennis, & MacArthur, 2008). Confident mothers are also more likely to choose to breastfeed, persist when confronted with difficulties, use self-encouraging thoughts and perceive difficulties as a positive challenge (Gregory et al., 2008). Furthermore, since the TpB posits a direct relationship between attitude (attitudinal loyalty) and behaviour (behavioural loyalty), the following hypotheses related to loyalty are proposed:

H4: Self-efficacy is likely to be positively associated with attitudinal loyalty to breastfeeding.

H5: Self-efficacy is likely to be positively associated with behavioural loyalty to breastfeeding.

2.7 Social Support and Self-efficacy

Social support usually refers to roles performed for an individual by significant others, such as partners, family members, friends, relatives and neighbours (Thoits, 1985) and is distinct from support from professionals. In recent times, support programs for breastfeeding have been developed, however, these programs have often used professional support rather than personal support. A systematic review of 13 such programs reveals failure to improve breastfeeding outcomes beyond two months duration (Sikorski & Renfrew, 1999). The failure of such programs is an indication that although professional support is important, it is insufficient to improve breastfeeding outcomes. Conflicting advice from different health professionals may also be a contributing factor.

An emerging trend in health care is the use of personal social support, for example, diabetes management (Kwon et al., 2004), hypertension management (Giorgino, Laviola, & Eriksson, 2005), and smoking cessation (Moldrup, 2007). There is also evidence linking social support to breastfeeding duration (Mitra et al., 2004; Phipps, 2006; Rempel, 2004). Prior research has found that peer, social support can increase women's self-efficacy when breastfeeding (Fairbank et al., 2002). Thus, we hypothesise in this study that:

H6: Social support is likely to be positively associated with self-efficacy towards breastfeeding.

3. Method

In order to investigate the influence of mother-centred and baby-centred variables on breastfeeding loyalty, an online survey of Australian women was conducted. The use of online surveys facilitates the transmission and receipt of information faster and with less

expense than any other mode (Best & Krueger, 2004). Sending the survey URL link also allows respondents to complete the questionnaire at a time most convenient to them (Best & Krueger, 2004). This was an important consideration in the design of this research as the sample was widely dispersed geographically and had children less than 18 months of age, making other survey methods, such as a telephone survey, inconvenient. Women who were over 18 years old and had a child less than 18 months old (this was to ensure that the recollection of the experience was still current) were selected. Potential respondents were identified using a research list from the Australian Breastfeeding Association containing those who indicated willingness to participate in further research, women known personally to the research team and through posting messages on websites and Facebook sites that would be visited by mothers, such as www.huggies.com.au, www.bubhub.com.au and www.breastfeeding.asn.au. Where there were email addresses available to contact potential participants, women were asked to pass on the survey link to other women with a child under 18 months. Efforts were made to contact women of varying socio-economic and demographic backgrounds to achieve variety in the sample.

The sample consisted of 405 Australian women with children under the age of 18 months. Of the sample, 75.9% were currently breastfeeding and 54.6% were first time mothers. Almost all the women in the sample had attempted breastfeeding (98.5%), which is consistent with the Australian breastfeeding initiation rates of between 80 and 90% (NHMRC, 2008). The mean age was 31 years, which is consistent with the Australian mean age of women giving birth, 30.7 years (ABS, 2007), and the mean age of their youngest child was 9 months. In addition, 97.4% of the sample stated that they were in a married/de facto relationship, with 1.8 % stating that they were single. The mode income level of the sample was \$50,000 to \$100,000 per annum, with only 2% of the sample earning less than \$25,000. The majority of the sample had attained a university qualification (57.1%), which is not

representative of the Australian population with only 25% of women aged 18-44 years having a university qualification (ABS, 2007). Thus, the sample was skewed towards well-educated, middle class women. The demographic information of respondents is shown in Table 1.

Table 1
Sample Characteristics

Demographic Features	Percent
Household Income	
Less than \$25, 000	2
\$25-50, 000	15.8
\$50-100, 000	53.6
Over \$100, 000	28.7
Relationship status	
Never married	1.8
Widowed	0.2
Married/de-facto	97.4
Separated	0.7
Divorced	0
Education Qualification	
University	57.1
TAFE or other post-high school qualification	26.9
Year 12	10.9
Year 10	4.6
Less than Year 10	0.4
Baby Gender	
Male	53.2
Female	46.8
Breastfed current baby at all	98.5
Currently breastfeeding	
Yes	75.9
No	24.1
First baby	
Yes	54.6
No	45.4
Breastfed previous children	93.4%

Validated items used by other researchers were adapted for the six constructs. The measures for the baby-oriented factors were attitude to breastfeeding (Perugini & Bagozzi, 2001) and subjective norms (Ajzen, 1991), with the measures for the mother-oriented factors being self-efficacy (Bandura, 1977) and social support (Cohen et al., 1985). Behavioural loyalty is often measured as share of category where data is either self-report or actual sales data (East, Gendall, Hammond, & Lomax, 2005). In the context of breastfeeding, share-of-category was calculated as the amount of actual breast milk given to the baby in the last

consumption period. To obtain the amount of breast milk that the child received in the prior 24 hour period, an online slide rule was used that measured between 0% and 100%, allowing the respondent to move the slide to the actual amount visually. Attitudinal loyalty was measured using repeat purchase intention and commitment (Rundle-Thiele & Bennett, 2001). The wording of the specific measurement items is given in the Appendix.

Structural equation modelling was used to analyse the data, which is an appropriate technique given that some of the variables are both exogenous and endogenous simultaneously (in this case, attitudinal loyalty and self-efficacy) (Hair, Black, Babin, Anderson, & Tatham, 2006). A two-step approach to the analysis was undertaken (Anderson & Gerbing, 1988). The first step, the measurement model, assessed the proposed constructs to ensure internal consistency and convergent and discriminant validity of the constructs (Anderson & Gerbing, 1988). The second step was the structural model which simultaneously tested direct and mediating (indirect) effects.

4. Results

The results indicate high levels of positive attitudes towards breastfeeding (M=6.84), subjective norms (M=5.52), self-efficacy (M=5.95), perceived social support (M=5.53), attitudinal loyalty (M=5.56) and behavioural loyalty (69.89%). These scores indicate that this sample is positively disposed to breastfeeding and has achieved breastfeeding levels higher than the Australian national average of 48% of infants receiving *any* breast milk at six months (ABS, 2006).

Breastfeeding intentions are important predictors of behaviour and 94.6% of women surveyed indicated that they had planned to breastfeed their child prior to giving birth. Social support was accessed through a variety of sources, with 75.8% of respondents indicating they receive a high level of support from their partner, whereas only 24% indicating they received

any support from their GP. Interestingly, 79% of respondents said they use Facebook as their preferred social networking site, while 19.7% do not use social networking sites at all.

4.1 Measurement Model

Before assessing model fit and hypothesis testing, the construct validity of all five latent constructs in the proposed model was assessed using Confirmatory Factor Analysis (CFA) in Amos 17.0. Each scale item was modelled as a reflective indicator of its hypothesised latent construct. These five latent constructs were allowed to covary in the CFA measurement model and the maximum likelihood approach was used to estimate the model. Several items with low item loadings were removed after initially running the model. A scale validity assessment was then conducted on the modified CFA measurement model by examining the goodness-of-fit statistics for the overall measurement model. The results indicate that the measurement model fitted well with the data ($X^2 = 260.40$, $df = 94$, $p < 0.001$; RMSEA = 0.06, CFI = 0.97) (Byrne, 2004). All of the composite reliabilities exceeded the minimum value of 0.60 and the variance extracted met the recommended threshold of 0.50 (Anderson & Gerbing, 1988). The individual item loadings on the constructs were significant ($p < 0.001$: t -value > 25) with values ranging from 0.77 to 0.99. This demonstrates convergent validity and reliability of the constructs. As shown in Table 2, all of the latent variable correlations are below 0.70. The squared correlation between each of the constructs is less than the average variance extracted from each pair of constructs, which constitutes discriminant validity (Fornell & Larcker, 1981).

Table 2

Factor Correlations and Square Root AVEs

	Attitude	Subjective Norms	Self-efficacy	Social Support	Attitudinal Loyalty	Behavioural Loyalty
Attitude	.79					
Subjective Norms	.29**	.59				
Self-efficacy	.37**	.46**	.78			
Social Support	.28**	.42**	.33**	.74		
Attitudinal Loyalty	.25**	.30**	.55**	.18**	.94	
Behavioural Loyalty	.24**	.35**	.55**	.21**	.86**	
Mean	6.84	5.52	5.95	5.53	5.56	69.89
SD	.55	1.51	1.61	1.51	2.41	39.84

**Correlation is significant at the 0.01 level(2 tailed)

Off diagonal shows the square root AVE for each respecting construct

Behavioural loyalty was measured using a single item, therefore there is no AVE value.

4.2 Hypotheses Testing

Structural equation modelling was used to test the six hypotheses. This study tests simultaneously the direct and indirect effects. To test indirect effects or mediators, this study uses the general path analysis framework for indirect effects (Edwards and Lambert, 2007) justified for latent variables. For example in the model, self-efficacy is suggested to have an indirect effect on behavioural loyalty via attitudinal loyalty. Thus, it calls for a significant effect of self-efficacy on attitudinal loyalty and a significant effect of attitudinal loyalty on behavioural loyalty (Baron & Kenny, 1986). Finally, the product of these two direct effects must be significant (Edwards and Lambert, 2007). Therefore, the results indicate full mediation by attitudinal loyalty of attitude and self-efficacy. However, attitudinal loyalty only partially mediated subjective norms, as the relationship between subjective norms and behaviour did not become insignificant with the addition of the mediating variable, attitudinal loyalty, into the model.

Like the CFA measurement model, each indicator was modelled in a reflective manner and the six constructs were linked as hypothesised as shown in Figure 1. Maximum

likelihood was chosen as the model estimation technique. The estimation of the equation structural model indicates an acceptable fit with the data ($X^2 = 7.34$, $df = 3$, $p < 0.001$, $RMSEA = 0.06$, $CFI = .99$).

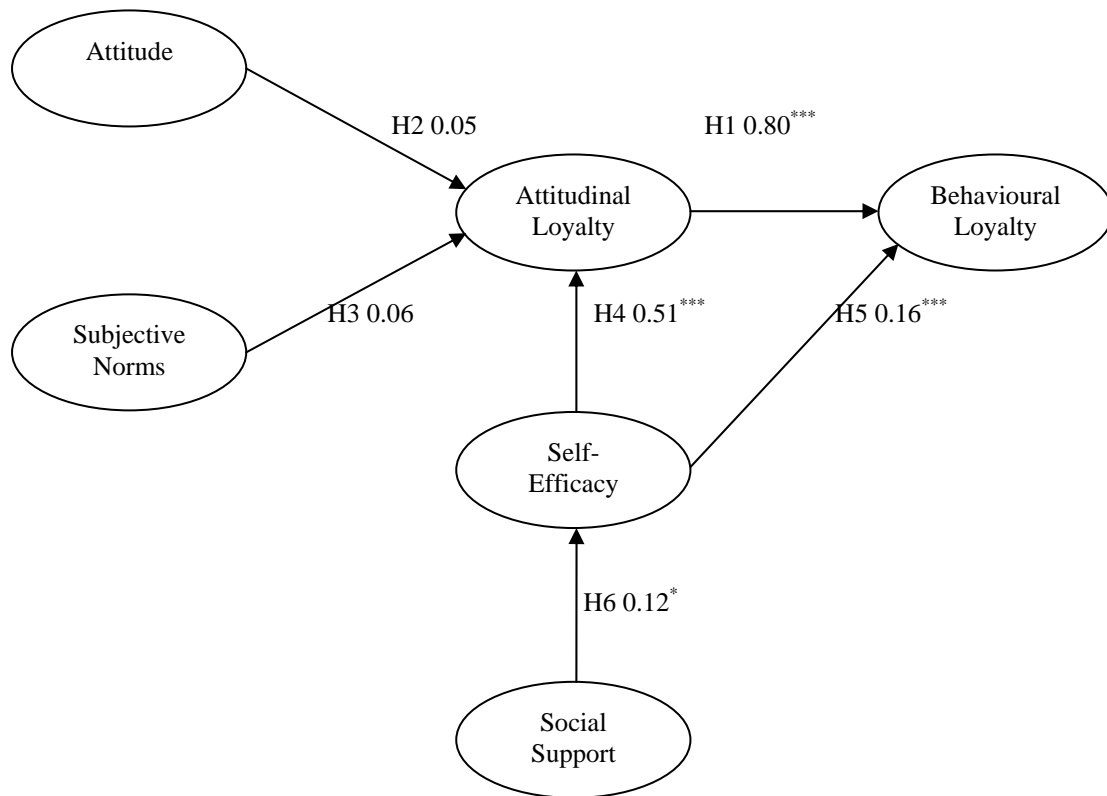


Fig. 1 Analysis of path model. * Significant at the 0.05 level, ***Significant at the 0.001 level

Standardised (β) estimates and t -statistics for the direct effects involving the proposed hypotheses, as well as the explained variance in the dependent variables are shown in Table 3. The results indicate that the baby-oriented hypotheses (H2 and H3) were not supported, whilst the mother-oriented hypotheses (H4, H5 and H6) and H1 were supported.

Table 3

Structural Parameter Estimates

Relationships	Conclusion	Estimates(β)	t-values
H1 Attitudinal loyalty and behavioural loyalty <i>Baby-oriented</i>	Supported	.80***	27.18
H2 Attitude and attitudinal loyalty	Not Supported	.05	1.08
H3 Subjective norms and attitudinal loyalty <i>Mother-oriented</i>	Not supported	.06	1.26
H4 Self-efficacy and attitudinal loyalty	Supported	.51***	10.45
H5 Self-efficacy and behavioural loyalty	Supported	.16***	3.90
H6 Social support and Self-efficacy	Supported	.12*	2.52
Variance Explained			
R ² Self-efficacy		.28	
R ² Attitudinal loyalty		.31	
R ² Behavioural loyalty		.76	

* Significant at the 0.05 level (2-tailed)

***Significant at the 0.001 level (2-tailed)

5. Discussion

The purpose of this research was to investigate key mother-centred factors and the effect they have on sustained breastfeeding behaviour. Specifically, to address the research question: *What influence do the mother-centred factors of personal social support and self-efficacy have on breastfeeding duration in a social marketing context?* The overall results of the research indicate that not only are the mother-oriented factors of self-efficacy and social support an important influence on breastfeeding loyalty, they are the only significant antecedents in the model and accounted for a high level of explained variance in behavioural loyalty. This is unexpected given prior research supporting the relationship between the baby-oriented factors of attitudes and subjective norms and breastfeeding duration.

5.1 Theoretical Implications

The results indicate that self-efficacy is a better predictor of attitudinal loyalty than either attitude or subjective norms. The findings from this research are consistent with the conceptual argument that a woman's breastfeeding self-efficacy influences her breastfeeding intentions (Dennis, 1999; Dennis & Faux, 1999). Similar results have also been reported in

studies of exercise behaviour (Jones, Courneya, Fairey, & Mackey, 2005) and healthy eating (Astrom & Rise, 2001).

In our study, self-efficacy is significantly and positively related to intentions (attitudinal loyalty) and sustained breastfeeding behaviour (behavioural loyalty). While there is a significant, direct relationship between self-efficacy and behavioural loyalty, the effect is not as strong as the mediated path through attitudinal loyalty. This finding reveals the important role of attitudinal loyalty in the relationship between self-efficacy and behaviour. As such, breastfeeding appears to be a deliberate, planned decision that occurs prior to the behaviour. Furthermore, this attitude-behaviour relationship is iterative throughout the first six months of a baby's life. It also highlights that during any iteration, a woman can reverse her breastfeeding decision. Thus, an understanding of the critical role of self-efficacy in influencing intentions and commitment is necessary for understanding the nature of the breastfeeding decision process and its impact on sustained breastfeeding.

The results of this study support the findings from health researchers who have also undertaken inquiries into the positive influence of social support on intentions to engage in healthy, sustainable behaviours (Carlson, Goodey, Hahn-Bennett, Taenzer, & Koopmans, 2002; Klatt, Berg, Thomas, Ehlinger, Ahluwalia, & An, 2008; Murray, Johnston, Dolce, Wondra-Wong, & O'Hara, 1995). Social support has a significant indirect relationship with intentions, while subjective norm does not. This finding is interesting considering both encompass social contact, an interaction with another person (Lawton, Silverstein, & Bengston, 1994) including partners, friends, mothers, sisters, nurses and other health professionals. The role of others does impact breastfeeding behaviour, but clearly the active assistance of others in supporting the mother's choice has more impact on her intentions and commitment, than passive, critical judgement and expectations stemming from breastfeeding norms. Examples of these norms include the acceptability of breastfeeding in public, the

appropriateness of enacting breastfeeding in social settings (e.g., at a restaurant) and the suitability of breastfeeding friendly work practices.

The lack of significant relationships between the baby-oriented factors of attitudes and subjective norms and breastfeeding loyalty is in contrast with prior marketing research using TpB (e.g., weight loss (Bagozzi & Kimmel, 1995), diet (Armitage & Conner, 2001; Beal & Manstead, 1991; Lien, Lytle, & Komro, 2002), exercise (Armitage, 2005; Blue, 1995), condom use (Corby, Schneider-Jamner, & Wolitski, 1996; Rannie & Craig, 1997) and alcohol use (Marcoux & Shope, 1997).

Drawing from the results in this study, we argue that baby-oriented factors are less influential than mother-orientated factors in determining attitudinal and behavioural loyalty to breastfeeding. An explanation for this is that women are knowledgeable about the benefits of breastfeeding (Mitra et al., 2004) and while this translates into initiation of the behaviour, positive attitudes towards breastfeeding do not lead to ongoing intentions to breastfeed, and breastfeeding duration. We argue that it is the barriers and costs to the mother that shift the value proposition against being loyal to breastfeeding. A marketing exchange lens reveals the importance of reducing the social price of breastfeeding behaviour and points to the need for social marketers to extend their exchange theorizing (see Bagozzi, 1975). Furthermore, social price needs to be a central consideration when conceptualising loyalty in the social marketing context.

5.2 Implications for Social Marketers

A survey conducted by the South Australian Breastfeeding Program (Government of South Australia, 2006) identified that 75% of women surveyed were already aware of the importance of breastfeeding their baby. Interestingly, this positive attitude towards breastfeeding does not translate into continued breastfeeding behaviour. Women can

experience unexpected problems such as depression, attachment difficulties and sick babies, all of which they cannot control (Dennis & Faux, 1999). Opportunities and resources must support the behaviour in order for it to be performed. Interventions and programs that address self-efficacy should be investigated and developed to increase intentions, but more importantly, social support should be offered as a means of influencing sustained breastfeeding behaviour.

The findings of this research reveal the importance of social support. This has implications for women who are isolated from important friends, partners and family members. The research from this study and other earlier work indicates that increases in the social support received by a woman are associated with increases in their self-efficacy (breastfeeding confidence). Given the cost of providing social support across vast distances in Australia, future social marketing interventions need to consider solutions that are cost effective for mass-markets, but facilitate personal connections. One avenue is to leverage new technologies, such as social media and SMS. These technologies are being used by social marketers in other health related areas, such as smoking and mental health, with success (Lefebvre, 2007). However, a key challenge for social marketing is balancing the need for personalised interventions with the size of the mass market being targeted. Traditionally, mass media has been used; however, interventions based on Internet and mobile technologies are providing new opportunities to overcome these dilemmas, allowing social marketers to engage with their target audiences using a relationship marketing approach (Lefebvre, 2007).

5.3 Further Research

The high levels of explained variance in behavioural loyalty and lower levels in attitudinal loyalty are interesting in that often loyalty research finds the opposite, that is, higher levels in attitudinal compared to behavioural loyalty (see Russell-Bennett et al., 2007).

This means that there are likely to be additional factors influencing attitudinal loyalty that are not included in this research. Possible other factors could be: prior experience with breastfeeding, emotional responses, physical constraints and situational factors such as return to work.

Social support from partners was found to be the most valuable in maintaining breastfeeding behaviour. Consistent with other studies conducted on peer support for breastfeeding women (i.e., Ingram et al., 2004), the result of this study implies an important role for fathers in the breastfeeding choice and further research into the role of fathers as influencers (non-users of the social product) is needed.

Future social marketing research and interventions in the area of breastfeeding therefore needs to consider not just baby-centred benefit exchanges, but also include a mother-centred relationship marketing approach that leverages the benefits of behavioural control, self-efficacy and social support from significant others – such as a women’s partner, family and friends. Combining these relationship benefits with personal benefits – acknowledgement of the emotional costs and labour attached to breastfeeding for women – will result in a more holistic approach to understanding breastfeeding and creating sustainable breastfeeding programs in Western countries.

6. Conclusion

The social marketing focus that relies upon using education and communication to emphasise benefits of breastfeeding is inconsistent with the findings of this research. The role of mother-oriented factors highlight the need to develop a marketing mix that offers social support and a social price that reduces barriers and personal costs associated with breastfeeding. The importance of other people as support networks is currently underutilised in campaigns and could provide a cost-effective and useful way of increasing breastfeeding

rates in developed countries. The ultimate aim of this support is to build confidence in mothers so that they can overcome the challenges associated with breastfeeding their baby and be role-models for other women in their family and community.

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Appendix

Items used in survey

Latent Variable Name	Items	Mean	Std Dev	Validity	Cronbach's Alpha
Attitude	Please indicate your feelings towards breastfeeding:	6.84	.55		.83
	1. Harmful/beneficial			.91	
	2. Bad/good			.80	
	3. Worthless/valuable			.95	
Subjective Norms	1. Most people who are important to me think that I should breastfeed my child	5.52	1.51	-.78	.72
	2. The people in my life whose opinions I value would approve of my breastfeeding my child.			.76	
Self-Efficacy	1. I will be able to achieve my breastfeeding goals I have set for myself.	5.95	1.61	.78	.93
	2. When breastfeeding becomes difficult I am certain I can overcome these difficulties.			.84	
	3. I am confident that I can breastfeed successfully.			.96	
	4. Even when breastfeeding becomes tough I can breastfeed quite well.			.93	
Social Support	1. There are several people I trust to help solve my breastfeeding problems	5.53	1.51	.89	.90
	2. There is someone I can turn to for advice about making very important decisions about breastfeeding			.94	
	3. I ask someone I respect for breastfeeding advice and follow it			.73	
Attitudinal Loyalty	1. I plan to breastfeed my child each day for the coming four weeks.	5.56	2.41	.98	.90
	2. I intend to breastfeed my child each day for the coming four weeks.			.99	
	3. I will try to breastfeed my child each day for the coming four weeks.			.92	
	4. I am committed to breastfeeding my child each day for the coming four weeks.			.97	
Behavioural loyalty	1. Thinking about the milk your child drank yesterday, please mark on the line how much was breast milk	69.89	39.84		

Note: Range for latent constructs was 1-7; range for behavioural loyalty was 0-100