

Making the Business Case for Breastfeeding:
An Experimental Test of Self-Interested and Other-Regarding
Gain- and Loss-Framed Health Appeals

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ABSTRACT

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(Under the direction of Jane D. Brown, Ph.D.)

Breastfeeding has demonstrable benefits for children, mothers, the community, and businesses. Despite significant increases in breastfeeding initiation and duration in recent decades, infant feeding practices in the United States still fall short of recommendations. Research indicates that many women have been persuaded of breastfeeding's benefits but may not initiate breastfeeding or may wean early due to the difficulties of maintaining paid employment while breastfeeding.

This post-test only 2 (Appeal: Self-Interest vs. Other-regarding) X 2 (Frame: Gain vs. Loss) between-subjects factorial field experiment tested persuasive messages designed to encourage business owners and managers to support lactating mothers in the workplace. The self-interest and other-regarding appeals manipulation explored whether business owners and managers are more persuaded by messages about the

benefits breastfeeding can bring to their business, or messages about the benefits of breastfeeding for their employees and society at large. The gain- and loss-framing manipulation concerned the relative effectiveness of messages emphasizing potential gains from supporting breastfeeding, or potential losses incurred by failing to support breastfeeding.

Participants (n=123) were business owners and managers, 49.6% male, 50.4% female, with a mean age of 68 years old ($SD = 12.8$ years), and a median age of 50 who responded to an online survey. Participants were well distributed among 20 industry categories from across the United States. Participants were randomly exposed to stimulus materials adapted from the U.S. Department of Health and Human Services *Business Case for Breastfeeding*. Participants were assessed on attitudes and behavioral intentions regarding workplace support for lactating mothers, manipulation checks, and control variables. Participants were also asked if they were willing to receive more information regarding corporate lactation programs.

This study found that the combination of other-regarding, gain-framed messages had a persuasive advantage in terms of attitude and intention concerning workplace support for breastfeeding. In light of previous findings that have found no significant advantages for gain-framed messages, the current study's findings suggest that gain-framing is more effective when used to promote social issues for the greater good than when it is used to promote actions that accrue benefits to the individual.

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Scholars often talk about standing on the shoulders of giants. Of course, we are referring to the long line of scholars who came before, and carved a path of knowledge into the wilderness of ignorance. This dissertation represents, I hope, one more step along that path, and I owe much to the scholars that came before me, many of whom I have never met, and never will.

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TABLE OF CONTENTS

LIST OF TABLES.....	ix
LIST OF FIGURES.....	xi
Chapter	
I. INTRODUCTION AND THEORY.....	1
Literature Review.....	5
Breastfeeding in the Social Ecological Framework.....	5
Appeals: Processing Self-Interest.....	11
Framing: Accentuating Potential Gains or Losses.....	15
Extensions of Current Theory	23
II. METHODS	26
III. FINDINGS	36
IV. DISCUSSION AND CONCLUSION.....	51
APPENDICES	
Appendix A: Measures.....	61
Appendix B: Profile of Study Participants.....	67
Appendix C: Welcome and Consent Form.....	70
Appendix D: Stimuli.....	71

Appendix E: Debrief for Those Who Answered “Yes” to Behavioroid Item...	75
Appendix F: Default Debrief.....	76
Appendix G: Workplace Accommodations Responses.....	77
Appendix H: General Survey Responses.....	80
REFERENCES.....	84

LIST OF TABLES

Table

1.	U.S. Breastfeeding Rates in 1998 and 2005 Compared to 2010 Goal.....	6
2.	Check for Gain/Loss Manipulation: This message showed the negative things that can happen if workplaces don't support breastfeeding	37
3.	Check for Gain/Loss Manipulation: This message showed the positive things that can happen if workplaces support breastfeeding....	37
4.	Check for Gain/Loss Manipulation: This message focused on the disadvantages of not supporting breastfeeding in the workplace.....	37
5.	Check for Gain/Loss Manipulation: This message focused on the advantages of supporting breastfeeding in the workplace.....	38
6.	Check for Self-interest/Other-regarding Manipulation: This message focused on whether supporting breastfeeding in the workplace would be <i>personally</i> costly or beneficial.....	39
7.	Check for Self-interest/Other-regarding Manipulation: This message focused on whether supporting breastfeeding in the workplace would be costly or beneficial to other people, or to society in general.....	40
8.	Check for Self-interest/Other-regarding Manipulation: This message focused on whether supporting breastfeeding in the workplace would be costly or beneficial to my business.....	40
9.	Attitude Toward Workplace Support for Breastfeeding by Treatment..	41
10.	Effect of Frame, Appeal, Involvement, NFC, Empathy, Elaboration and Current Practices on Attitude toward Workplace Support for Breastfeeding.....	42
11.	Intention to Support Breastfeeding in the Workplace by Treatment....	44
12.	Effect of Frame, Appeal, Involvement, NFC, Empathy, Elaboration and Current Practices on Intention to Support Breastfeeding in the Workplace	45
13.	Effects of Appeal, Frame, Involvement and Current Practices on Attitudes and Intentions about Breastfeeding in the Workplace.....	49

14.	Highest Educational Level of Participant.....	61
15.	Educational Level of Youngest Child.....	61
16.	Industry.....	62
17.	Number of Employees in Participant's Company.....	63

LIST OF FIGURES

Figure

1. The Social Ecological Framework for Breastfeeding.....7
2. Attitude Toward Workplace Support for Breastfeeding
by Appeal and Frame.....43
3. Intention to Support Breastfeeding in the Workplace
by Appeal and Frame.....46

CHAPTER ONE

INTRODUCTION AND THEORY

In 2005, LaNisa Allen got a job as a general laborer in a warehouse for the Tones/Isotoner Corporation. After her new employee orientation, she informed a supervisor that she was a nursing mother of a five-month-old, and would need space with an electrical outlet and time during her shift to express milk. The supervisor informed her that she could express milk during her lunch break, five hours into her shift, or during her ten-minute break, three hours into her shift. She soon found that ten minutes was not enough time for her to use her breast pump, but that waiting five hours left her with painfully engorged, leaking breasts. She started taking an unscheduled break four hours into her shift to express milk in the restroom. Two weeks later, the supervisor told her she was violating work rules by failing to wait until her lunch break. Allen asked if her ten-minute break could be extended to fifteen minutes to allow her to express milk then. Later that day, the supervisor informed her that the company no longer needed her services. Allen received no reply when she asked if her termination was related to her need to express milk (LaNisa Allen v. Totes/Isotoner Corp., Oral Argument Previews, March 11, 2009).

Allen filed suit against the Tones/Isotoner Corporation, claiming that she was wrongfully terminated from her job because she was lactating, which, as a condition related to pregnancy, should have been protected under Ohio law. Tones/Isotoner claimed that Allen was terminated for “failure to follow instructions.” The trial court ruled that Tones/Isotoner was justified in firing Allen, because “Allen’s extra break time was not a necessary result of pregnancy or childbirth, because women who give birth but choose not to breastfeed their child are no longer lactating five months after giving birth.” On August 27, 2009, the Ohio Supreme Court upheld the lower court decision in the case of *Allen v. Totes/Isotoner Corporation*, in favor of the employer (*Allen v. Totes/Isotoner Corp.*, 2009).

This case illustrates that promotional efforts aimed at encouraging women to breastfeed have been largely successful, as women such as Allen have been persuaded that breastfeeding is the healthiest choice for both mother and baby. Rates of breastfeeding initiation increased from 27% in 1970 (Ryan, Wenjun & Acosta, 2002) to 74% in 2006 (Center for Disease Control National Immunization Survey, 2009). However, some women, particularly women with less education and lower socioeconomic status (Heck, Braveman, Cubbin, Chavez, & Kiely, 2006), encounter logistical barriers in the workplace, making continuing breastfeeding difficult or impossible. Only 43.4% of new mothers are still breastfeeding when their children reach six months of age, and only 22.7% are still breastfeeding at one year (CDC National Immunization Survey, 2009). Returning to work is one of the strongest predictors of failure to breastfeed (Roe, Whittington, Fein, Teisl, 1999) for the full six months to one year recommended by the American Association of Pediatrics (AAP,

2005). In one recent study, 21% of new mothers reported that they stopped breastfeeding before their child was six months old because they returned to work or school (Dabritz, Hinton & Babb, 2009). For this reason, the Draft Objectives for the U.S. Department of Health and Human Services Healthy People 2020 report calls for increasing the percentage of workplaces with lactation support.

This study rests on the premise that one of the next steps for increasing breastfeeding rates in the United States should be persuading employers to support breastfeeding employees. Additional legal protections for lactating mothers would be welcome, but even in states where such protections exist, weak enforcement results in non-compliance in up to 22% of workplaces (Dabritz et al., 2009). Health campaigns urging employers to accommodate lactating mothers could result in better logistical and social support for women in states with fewer legal protections, and increase compliance in states that have such regulations.

Redirecting health communication to the structural supports for individual health behavior involves shifting emphasis from asking people to change their own behavior for their own good to asking people to change their behavior for the good of someone else, which may require new appeal strategies. This dissertation focuses on the theoretical implications of the shift from individual persuasion to persuasion at broader levels of the social ecological framework, using the example of breastfeeding promotion. Specifically, this dissertation tests theoretically-based persuasive strategies designed to encourage business owners and managers to support lactating mothers in the workplace. The premise of this research project is that ethical health promotion must balance recommendations about health-related individual behavior with advocacy

for the community and institutional support that individuals need to safely and confidently engage in the target behavior.

Because persuasion is typically more effective when appeals match the audience members' motivations (Clary, Snyder, Ridge, Miene, & Haugen, 1994) the first research question is whether the business owners would be more motivated to make changes in the way they run their business based on their self-interest - that is, their business's bottom line - or whether they would be more motivated by other-regarding appeals – that is, appeals that stress the interests of third parties, such as their employees' families and society in general. Based on evidence that self-interest does indeed influence the valence of attitudes (Crano, 1997; Darke & Chaiken, 2005) this study tests the hypothesis that self-interest appeals will be more persuasive than other-regarding appeals in terms of business owners' attitudes, intentions, and willingness to receive more information about breastfeeding support in the workplace.

A second research question regards the way appeals should be framed: is it more effective to accentuate the potential benefits to be gained from the proposed change (gain-frame), or to emphasize the potential losses that could occur if the change is not adopted (loss-frame)? Prospect theory (Rothman & Salovey 1997; Tversky & Kahneman 1992) offers useful insights into the way framing of factually equivalent messages leads individuals to make different decisions in the face of risk or uncertainty. Typically, individuals who perceive a given behavior to be risky or uncertain are more persuaded by loss-framed messages. Conversely, individuals who perceive a given behavior to be relatively risk-free, or are more certain of a positive outcome are more persuaded by gain-framed messages. This study hypothesizes that loss-framed

messages will be more persuasive than gain-framed messages, because changing workplace policies to accommodate breastfeeding involves short-term investment (risk) to achieve uncertain long-term gains.

Finally, the possibility of an interaction between self-interested and other-regarding appeals and gain/loss-framing will be examined. It may be that some combinations of appeal and frame will have a synergistic effect, either multiplying the main effects of the appeals strategies, or resulting in reversals of expected persuasive effects. The first interaction hypothesis is that there will be a persuasive advantage for messages that combine self-interest and loss-framing. Self-interested appeals tend to encourage more careful processing of messages. This careful processing is expected to make participants more aware of short-term costs, hence more risk-averse in the face of potential long-term gains, but relatively more willing to take risk to avoid loss. In the other-regarding appeals conditions, the competing hypotheses are more exploratory, due to the lack of extensive prior research on this type of appeal. On the one hand, participants may process other-regarding appeals with less scrutiny, which may make them more responsive to the positive slant of gain-framing. On the other hand, participants may be even less willing to incur a short-term cost in hopes of accruing potential benefits for others, while potential losses for others may seem more compelling, giving a persuasive advantage to loss-framing.

Literature Review

Breastfeeding in the Social Ecological Framework

Currently, the American Academy of Pediatrics (2005) recommends six months of exclusive breastfeeding, and continued breastfeeding along with complementary

solid food for at least one year, as the baseline for optimal infant feeding. This recommendation is based on a scientific consensus that breastfeeding has significant salutary effects on the health of the child, the mother, and the community. A recent cost analysis indicates that if 90% of babies were exclusively breastfed for the first six months, the United States could save \$13 billion in health care costs and more than 900 infant deaths could be prevented annually (Bartick & Reinhold, 2010). The U.S. Department of Health and Human Services Healthy People 2010 report singles out increasing the proportion of mothers who breastfeed their babies as the number one goal under the title “Breastfeeding, Newborn Screening, and Service Systems.” Despite significant increases in breastfeeding initiation and duration, the Center for Disease Control National Immunization Survey (2007) data show that actual infant feeding practices in the United States still fall short of meeting these modest recommendations (Table 1). Early postpartum initiation rates are quite close to meeting Healthy People 2010 goals, but breastfeeding rates at six months, especially for exclusive breastfeeding, are much lower, and twelve-month figures also lag behind the objectives.

Table 1.

U.S. Breastfeeding Rates in 1998 and 2005 Compared to 2010 Goal

	1998 Baseline	2005 Data	Healthy People 2010 Goal
Early Postpartum	64%	74%	75%
Six Months (Exclusive)	29%	43% (12%)	50%
One Year	16%	21%	25%

Source: Centers for Disease Control National Immunization Survey, 2007

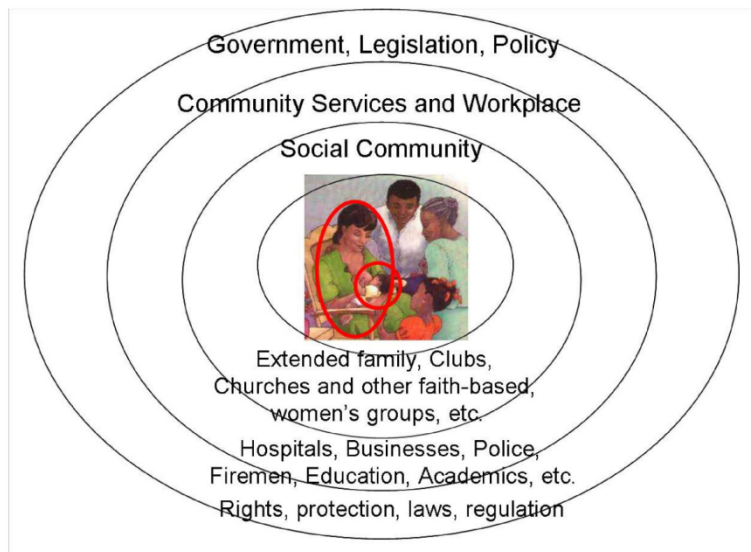
At the most basic level, a new mother is the person who is directly responsible for breastfeeding her child, or opting for another method of infant feeding, so she is the

one who must be persuaded to breastfeed. However, new mothers do not make infant feeding decisions in a vacuum. Rather, they are informed, supported, and constrained by multiple levels of interpersonal, institutional, and community factors.

The ecological perspective (McLeroy et al. 1988) is a useful tool for examining socioeconomic factors that play into health related behaviors. According to the social ecological perspective (see Figure 1), the individual is in the center of a series of concentric circles of influence, with interpersonal relationships, community norms, institutional regulations, and public policies all playing a role in constraining or supporting an individual's choices and behaviors. With those determinants in mind, the health advocate can begin to think about audiences and messages to address the breastfeeding goal.

Figure 1

The Social Ecological Model for Breastfeeding (Labbok, 2008)



Applying the social ecological perspective to the issue of breastfeeding allows us to think about the determinants at each level that might have an impact on a

woman's infant feeding decision. The Healthy People 2010 report implicitly acknowledges the importance of the social ecological perspective by noting that, in addition to education of new mothers, their partners, and health care workers, "social support, *including support from employers*; and greater media portrayal of breastfeeding as the normal method of infant feeding are needed to increase breastfeeding rates among those at highest risk (47) (emphasis added)." Previous studies have shown that infants' fathers (Arora, S., McJunkin, C., Wehrer, J, & Kuhn, P., 2000; Pisacane, Continisio, Aldinucci, D'Amora, & Continisio, 2005; Wolfberg, Michels, Shields, O'Campo, Bronner, & Bienstock, 2004), grandmothers (Bentley, Dee, & Jensen, 2003; Ingram & Johnson, 2004), and health care workers (Philipp, Merewood, Miller, Chawla, Murphy-Smith, Gomes, et al., 2001) are all influential in the feeding decision, and promotional campaigns aimed at these stakeholders can increase breastfeeding initiation and duration.

Employers play a key role in determining whether a woman will have the economic support to spend the time with her baby, or with her breast pump, that is necessary to establish and maintain the breastfeeding relationship. As such, persuasive campaigns aimed at business managers may also have positive effects on breastfeeding rates in the United States. Employers can support breastfeeding by making sure that mothers have a private, on-site space for breastfeeding, allowing flexibility to take breaks to express milk, providing educational materials about balancing lactation with work requirements, and by having "a positive, accepting attitude from upper management, supervisors, and coworkers" (U.S. Department of Health and Human Services, 2008, p.16).

Workplace support for breastfeeding mothers has demonstrable benefits for businesses in terms of cost-saving, reduced employee absenteeism, and recruitment and retention. As a part of a package including other prenatal and postpartum care, lactation consulting increases group insurance premiums by 0.1% (Campbell, 2007, p. 69). This cost, however, is more than offset by direct savings from fewer sick baby visits to the pediatrician, and indirect cost savings from reduced absenteeism, improved retention, and increased productivity. One corporate lactation program reported returns on investment of \$4-5 per dollar spent, largely as a result of reduced employee absenteeism (Major, Cardenas, & Allard, 2004). In a quasi-experimental study comparing breastfed and formula-fed infants in two corporations, 86% of the babies who were never sick were breastfed, and women who breastfed reported only 28% of the absences (Cohen, Mrtek, & Mrtek, 1995). Lineberry & Trumble's (2000) survey data indicated "non-traditional" benefits that enhance work-life balance "show that management cares about personal and family needs, which is the most significant driver of employee commitment" (p. 14).

Data from two focus groups conducted with human resource professionals from large (more than 150 employees) and small (fewer than 150 employees) firms (Brown, Poag, & Kasprzycki, 2001) indicate that employers may be knowledgeable about the health benefits of breastfeeding for mother and child, but have not placed a high priority on supporting breastfeeding in the workplace. In the study, some employers had met the needs of breastfeeding mothers on a case-by-case basis. Another had made the commitment to incorporate rooms for nursing mothers into plans for new facilities. Some of the human resource professionals in the study thought that positioning

themselves as industry leaders in this area could be an effective recruitment and retention tool, and that others would follow suit once the practice was established.

The human resource professionals recommended emphasizing the “employee wellness” aspect of breastfeeding that helped working mothers deal with the stress and separation anxiety of returning to work. Participants thought financial arguments about reduced employee absenteeism among parents of healthier breastfed babies and reduced group insurance premiums could be persuasive arguments in favor of breastfeeding support, especially if accompanied by government financial incentives for establishing nursing mother rooms. Space and time both represented barriers to workplace support of breastfeeding, as well as jealousy of other employees, lost productivity in time-sensitive fields, and possible liability issues with regards to storing milk.

In any case, all of these limitations would be easier to overcome in the presence of the sort of “positive, accepting attitude,” that promotional efforts targeting business managers would aim to produce. One of the strategies for promoting this attitude would be to stress the benefits that a business could reap from implementing breastfeeding friendly workplace policies. Another strategy would be to emphasize the health benefits new mothers and their infants would enjoy, as well as societal benefits like reduced cost for entitlement programs and reduced environmental waste from formula production, shipping, and disposal.

The theoretical basis and hypotheses generated from these two appeal strategies will be explored in the next section of this literature review. Subsequently, the literature pertaining to the relative merits of framing these appeals in terms of the benefits of

adopting breastfeeding friendly workplace policies or the harms incurred by failing to adopt these policies will be explored, and interaction effects will be hypothesized.

Appeals: Processing Self-Interest

Social psychological research into the role that self-interest plays in persuasion has tended to examine self-interest as a component of personal relevance of an issue. This research has shown that self-interest tends to influence the magnitude of processing rather than the valence of the attitude. That is, participants in an experiment who are given a personally relevant proposition typically scrutinize the message more carefully, but do not necessarily base their decisions on self-interest (Boniger, Krosnick, & Berent, 1995; Petty & Cacioppo, 1986). One meta analysis of survey data indicated that there was a very low correlation ($r=0.07$) between self-interest and attitude on a wide range of issues (Sears & Funk, 1991). Sears (1997) suspected that this was due to the fact that the sociopolitical attitudes explored in surveys are more influenced by social values than by material self-interest. Crano (1997) argued that the low correlation was more likely a methodological artifact. Researchers had been assuming respondent's self-interest based on "proxy factors" such as class standing, in the case of tuition increases that would take place immediately or in several years. Crano's recommendation to overcome this shortcoming was to explicitly measure participants' own perceived self-interest.

Miller and Ratner (1998; Ratner & Miller, 2001) were intrigued that most "lay" people have a strong belief in the power of self-interest. Although they demonstrated and acknowledged that self-interest does play some role in attitude formation (e.g., smokers are less favorable toward smoking restrictions than non-smokers), they also

showed that individuals consistently over-estimate the power of self-interest on others' decision-making. In their studies, this tendency to over-estimate other people's reliance on self-interest was as prevalent among people whose own attitudes contradict self-interest (whether it be financial or based on group membership) as it was for those whose attitudes and self-interest are congruent.

Reviews of the experimental data (Eagly & Chaiken, 1993; Petty & Wegener, 1999) indicated that increasing personal relevance influenced attitudes by increasing message scrutiny. Increased scrutiny meant that individuals responded more favorably to strong arguments, and less favorably to weak arguments. However, there was no evidence that self-interest (personal relevance) resulted in main effects on attitude valence. Eagly and Chaiken (1993) concluded that personal relevance led to accuracy-motivated, objective processing because when the topic is more personally relevant, it is more important to pay close attention to the issues. Lack of personal relevance led to bias-motivated heuristic processing because, in the absence of clear personal relevance, individuals are safe in making judgments that confirm positive implications for the self. The interpretation was that self-interest moderated the intensity of thought given to an issue (either the amount of elaboration or the extent to which the argument was processed systemically) but not the valence of the attitude itself.

In a series of four experiments, Darke and Chaiken (2005) integrated the findings of these two paradigms and found that self-interest does in fact bias attitude valence beyond the contribution it makes to higher-level processing. They found that when individuals expected to pay the costs of a proposal, they scrutinized the message carefully, weighed the benefits against the costs, giving significantly more positive

weight to benefits to themselves. When individuals did not expect to pay the costs, however, they tended to engage in more heuristic processing of the benefits.

In the first experiment, undergraduate students completed an opinion poll regarding whether a new school policy to standardize test formats should require multiple choice or essay style exams. Self-interest was measured in terms of which test format the student thought he/she would perform better on. Symbolic concerns, which have to do with abstract values rather than self-interest, were measured according to which format they believed provided the most accurate knowledge assessment. In two conditions, confederates stated that they would vote in favor of their own self-interest or in favor of their symbolic concerns; in a control condition, no such statement was made. This manipulation was designed to make social norms about self-interest or symbolic concerns especially salient in the decision-making process. Results showed that self-interest was a stable and significant predictor of attitude valence in all conditions, while the influence of symbolic concerns were present only in the control and symbolic concern salience conditions.

The second experiment was designed to replicate and extend the findings from Liberman and Chaiken (1996) using the insights from Crano (1997). Liberman and Chaiken had manipulated personal relevance of the persuasive issues (tuition increases, the institution of comprehensive exams) by describing the changes as occurring in the near (vs. distant) future. For participants in the near future condition, the changes would affect their own tuition prices and graduation requirements, which was not true for participants in the distant future conditions. While the findings were consistent with the hypothesis that higher relevance would have an impact on perceptions of self-interest

and thus influence attitude valence, the earlier studies had not directly measured participants' perceived self-interest. In the replication study, perceived self-interest was directly measured, and supported the hypothesis that self-interest has a direct effect on attitude valence.

The third and fourth experiments were designed to explore the self-interest directional bias hypothesis in the context of persuasive appeals. Previous expectancy-value analysis (Eagly & Chaiken, 1993; Petty & Wegener, 1991) hypothesized that individuals calculate the desirability of outcomes in persuasive messages relatively objectively, with little distinction between the desirability of the outcomes accrued to the self or to others. By contrast, Darke and Chaiken (2005) found support for the hypothesis that individuals' cognitive processing and post-message attitudes are biased in favor of self-interested desirable outcomes. Using a tuition increase scenario, the authors manipulated the onset of the costs (immediate vs. delayed) and the onset of the benefits (immediate vs. delayed) as well as the strength of arguments (strong vs. weak). They found that participants exhibited more favorable attitudes to the proposal when others would pay the costs and they themselves would accrue the benefits.

These findings suggest the hypothesis for the appeals main effects in the present study. In the case of workplace support for breastfeeding, business managers can anticipate immediate costs in terms of financial investment and logistical challenges. On the other hand, any benefits (e.g., employee retention) are likely to be delayed. Further, while the business will pay the costs, at least some of the benefits may be accrued by others (the lactating mothers). Darke and Chaiken's findings would suggest that the immediacy of the costs to the business are likely to motivate careful processing

of the persuasive messages in all conditions. This observation leads to the first hypothesis:

Hypothesis 1: Self-interest appeals messages will have a persuasive advantage over other-regarding appeals, as measured by (a) attitude toward support for breastfeeding in the workplace, (b) intention to implement supportive measures in the workplace, and (c) interest in receiving more information about workplace support for breastfeeding.

Framing: Accentuating Potential Gains or Losses

Health-related decisions can be conceived as a choice between acts with perceived outcomes (Tversky & Kahneman, 1981). In the present case, the managers' decision is whether to support breastfeeding in the workplace. Supporting breastfeeding in the workplace involves risk in the short-term, in terms of financial investment (increased health benefits costs for lactation consulting, providing task coverage during employees' additional break time) and logistic complications (finding space and allowing time for breast milk expression). A key outcome is return on investment: can the manager feel confident that by supporting breastfeeding, the business will reap the long-term benefits of decreased employee absenteeism, increased retention, and lower overall health care costs?

Prospect theory (Tversky & Kahneman, 1979, 1981, 1992), with its emphasis on gain and loss, is particularly well-suited to addressing the kind of cost/benefit analysis in which business managers might be expected to engage. Prospect theory postulates that the framing of outcomes in otherwise factually equivalent situations can result in

different decisions. Specifically, individuals seek risk to avoid losses but avoid risk when it comes to gambling on gains.

Prospect theory conceptualizes decision-making as the result of a two-step process of editing and evaluation. In the first step, the individual engages in strategies intended to make sense of the available alternatives. These strategies include coding possible outcomes as gains or losses, eliminating extremely unlikely outcomes and clearly losing propositions, and discarding components that are shared by all alternatives. Gain-framed messages can either accentuate the potential benefits that might be accrued, or costs that might be avoided. For example, “Employees whose companies provide breastfeeding support consistently report improved morale, better satisfaction, and higher productivity,” and “Adults who were breastfed as babies are less likely to develop Type I and Type II diabetes, asthma, and certain cancers,” are each gain-framed messages. Conversely, loss-framed messages may either emphasize losses that might be incurred, or benefits that might be lost. For example, “Increased health care costs for formula-fed babies translate into higher medical insurance claims for business,” and “Mothers who do not breastfeed recover from childbirth more slowly, and have increased risk for breast and ovarian cancer,” are each loss-framed messages.

Once the alternatives have been framed, the individual is able to make an evaluation of which alternative offers the best outcome. However, the calculation is not a linear function of probability multiplied by possible rewards or losses, aiming for the maximum final utility. Rather, individuals typically evaluate outcomes in terms of positive or negative deviations from a neutral reference outcome, rather than

calculating absolute utilities. They tend to be more aggrieved by loss than cheered by corresponding gain, though the effect of incremental increases in gain or loss diminishes the farther it moves away from the neutral reference point. Individuals base their decisions on perceptions that tend to overweight certainty and underweight lesser probabilities, especially as probability approaches the natural boundaries of impossibility and absolute certainty.

For example, Meyerowitz & Chaiken (1987) applied prospect theory to health persuasion, finding that a loss frame was more successful in persuading young women to engage in breast self-examination (BSE). Based on pilot data, they knew that their target audience, female undergraduates, tended to view BSE as a risky behavior, because in the short-term it may detect cancer, which is clearly an undesirable outcome. Thus, they hypothesized that loss-framed promotional materials would be more effective at inspiring compliance with BSE. They exposed 90 female undergraduates to one of three pamphlets designed to be similar to those distributed by the American Cancer Society and the National Cancer Institute, or assigned them to a no-pamphlet control group. All groups expressed strong intentions to engage in BSE in the laboratory follow-up. However, at a four-month follow-up, all of the groups' intention to engage in BSE had diminished, except for the loss-frame treatment group.

However, after these promising findings regarding loss frames, other scholars' applications of prospect theory to health communication were inconsistent. Health behaviors have been successfully promoted using both gain frames (e.g., Rothman, Salovey, Antone, Keough, & Martin, 1993) and loss frames (e.g., Banks, Salovey, Greener, Rothman, Moyer, Beauvais & Epel, 1995), while some studies have found no

advantage for either frame (e.g., Lauver & Rubin, 1990). Rothman and Salovey (1997) suggested that one explanation for the inconsistencies is that health-related decision-making is not typically experienced as mathematical outcomes and probabilities printed in black and white as in Tversky and Kahneman's tightly controlled experiments. Rather, individuals make subjective judgments about whether certain behaviors are risky or uncertain, and whether certain outcomes are desirable. Also, health communication usually presents arguments about a choice between engaging in one behavior or not, rather than a choice between two different options, as was the case in Tversky and Kahneman's studies.

Rothman and Salovey (1997) were particularly concerned with the function of the health behavior under consideration. Health behaviors can be broadly classified as serving a detection, prevention, or recuperative function. Because individuals tend to focus on short-term outcomes, detection behaviors may be perceived as risky, since one possible outcome is to learn about an illness; the long-term positive outcome of being cured is contingent on successful treatment, which may be unavailable for some diseases (such as HIV). In contrast, prevention behaviors (such as using sunscreen to prevent skin cancer) aim to maintain the healthy status quo, and recuperative behaviors (such as surgery to remove a cancerous tumor) aim to restore a healthy state, so both may be seen as safe options.

To the extent that a given health recommendation is perceived by the individual as risky, as in the BSE example (Meyerowitz & Chaiken, 1987), loss-framed messages would be predicted to be more effective. To the extent that a given health behavior is seen as safe, gain-frame messages would be predicted to be more effective. The key is

to understand or measure whether a given behavior is more likely to be subjectively perceived as risky or safe in the social context.

A number of scholars have explored the specific social context variables that influence subjective risk perception. Block & Keller (1995) found support for a partial *perceived treatment efficacy*-frame interaction in their two-phase study involving the issues of sexually transmitted disease and skin cancer. They found that low-efficacy behaviors (behaviors with lower likelihood of producing the desired health outcome) are best advocated using loss-framed messages. On the other hand, high-efficacy behaviors (behaviors with higher likelihood of producing the desired outcome) showed no statistically significant difference in attitude or behavioral intention between gain- and loss-framed messages. Using an open-ended elaborative response item, they showed that individuals who were exposed to messages advocating low-efficacy behaviors engaged in more effortful processing compared to those exposed to messages advocating high-efficacy. Given prospect theory's postulate that individuals overweight negative information, individuals engaged in more effortful processing appear to be more persuaded by loss-framed messages, while the distinction between gain- and loss-framed messages appears to be lost on those who are engaged in less effortful processing.

Apanovitch, McCarthy & Salovey (2003) found support for *certainty* as an important social context variable. Because HIV is an infectious disease with known behavioral risk factors, individuals can make judgments about their own infection risk based on knowledge about themselves and their sexual partners (although, in fact, the authors found that perceived and objective risk were only mildly correlated). In their

study of HIV testing behavior among low-income, ethnic minority women, those who viewed HIV testing as a behavior with a certain (no infection) outcome were more likely to report having been tested in a 6-month follow-up. For those who viewed HIV testing as a behavior with an uncertain outcome, the observed advantage for loss-framed messages did not achieve statistical significance – perhaps because women who perceived their risk to be high had an especially high self-reported testing rate overall.

In their study regarding anti-drug ads targeting adolescents, Cho & Boster (2008) hypothesized that loss frames would be more persuasive for adolescents whose friends use drugs, because those adolescents would feel social pressure to engage in drug use, and perceive that *not* using drugs was risky in terms of peer approval. Conversely, they expected gain frames to be more persuasive for adolescents whose friends did not use drugs, because in the absence of social pressure to engage in drug use, avoiding drug use would seem health enhancing. They further predicted loss frames would be more effective for adolescents who report prior or present substance use, and gain frames would be more persuasive for adolescents who report no prior or present drug use.

Both hypotheses were partially supported, and while there was a main effect in favor of loss frames, the gain frame showed no advantage in this study. Both attitudes and intentions of adolescents whose friends used drugs were more influenced by loss frames than by gain frames. Among those who reported having used these substances, attitudes toward marijuana and intentions to use tobacco changed more in response to loss frames than to gain frames, but other outcome measures were non-significant. The

authors speculated that “ever use” might have been too broad a measure for prior or current substance use.

The overall thrust of these findings suggests a persuasive advantage for loss-framed messages in the presence of risk, low perceived treatment efficacy, or uncertainty. Under risky or uncertain conditions, individuals are motivated to scrutinize messages more carefully. Individuals also tend to overweight the importance of negative information, so the higher cognitive elaboration that results from risky or uncertain conditions will yield higher levels of message-congruent attitudes, intentions, and behaviors. However, under low-risk, high treatment efficacy, and more certain conditions, individuals appear less motivated to engage in careful scrutiny. As a result, the differential weighting of negative and positive information does not take place, and the slight advantage for the gain-framed messages fails to reach statistical significance in the preponderance of studies.

This pattern of findings in previous studies leads to the main effects hypotheses for framing in the present study. Supporting breastfeeding in the workplace involves short-term monetary cost for an uncertain long-term return on investment. For managers who perceive this investment to be risky, loss-framed messages would be predicted to be more persuasive. Though managers who do not perceive this investment to be risky may show a tendency to be more persuaded by gain-framed messages, this is not expected to reach significance, thus an overall persuasive advantage for loss-framed messages is predicted.

Hypothesis 2: Loss-framed messages will have a persuasive advantage over gain-framed messages, as measured by (a) attitude toward support

for breastfeeding in the workplace, (b) intention to implement supportive measures in the workplace, and (c) interest in receiving more information about workplace support for breastfeeding.

The appeals main effect hypothesis was that self-interest appeals would lead to more careful processing of the messages. This increased scrutiny should lead participants in the self-interest conditions to be more averse to certain short-term risk in the face of potential long-term gain, but relatively more willing to invest to avoid potential loss. This observation leads to the third and fourth hypotheses.

Hypothesis 3: Self-interest appeals will interact with loss-framing for an additive persuasive advantage over self-interest appeals coupled with gain-framing, as measured by (a) attitude toward support for breastfeeding in the workplace, (b) intention to implement supportive measures in the workplace, and (c) interest in receiving more information about workplace support for breastfeeding.

The literature addressing other-regarding or symbolic values appeals is considerably weaker, with hypothesized effects typically not reaching significance. On the one hand, other-regarding appeals may result in less elaborated cognitive processing, in which case participants should be more responsive to the positive persuasion of gain-framed messages. On the other hand, individuals may be even more risk-averse when considering acting for others' benefit, but relatively more willing to act to avoid harming others, in which case loss-framed messages would be expected to

be more effective. Therefore, the corollary to Hypothesis 3 for other-regarding appeals is more exploratory, and is expressed as competing hypotheses.

Hypothesis 4a: Other-regarding appeals will interact with gain-framing for an aggregate persuasive advantage over self-interest appeals coupled with gain-framing, as measured by (1) attitude toward support for breastfeeding in the workplace, (2) intention to implement supportive measures in the workplace, and (3) interest in receiving more information about workplace support for breastfeeding.

Hypothesis 4b: Other-regarding appeals will interact with loss-framing for an aggregate persuasive advantage over self-interest appeals coupled with gain-framing, as measured by (1) attitude toward support for breastfeeding in the workplace, (2) intention to implement supportive measures in the workplace, and (3) interest in receiving more information about workplace support for breastfeeding.

Extensions of Current Theory

This study extends extant theory in several ways. As previously discussed, there is a consensus that public health advocacy needs to focus on the removal of environmental barriers to healthy behavior so the healthy choice can become the easy, affordable choice. However, most persuasion research has been focused on changing the behavior of the individual who would engage in the target behavior, rather than changing the attitudes and behaviors of the individuals in the environment who can support that behavior. The focus of this study is different in that the target audience for

the health promotion consists of the individuals – business owners and managers – who are in the position to be able to support the behavior of the individuals – new mothers – that the promotion aims to address.

In terms of behavior, too, this study represents a shift from most health communication research. Typically, the health issue in question is an outcome – HIV or breast cancer, to use two examples from the literature – and the health communication interventions aim to encourage some combination of preventative or diagnostic behavior. In the case of HIV, for example, health communication interventions may consist of encouraging individuals to use condoms (prevention) or to get tested (diagnosis). Health communications interventions designed to encourage breastfeeding are different, in that the health behavior is the issue. To put it a different way, most interventions communicate information about one of several means to a single end (for example, different ways to halt the spread of HIV infections), whereas the current study focuses on one behavior that can result in a large number of health benefits, for mother, child, and society.

The fact that the benefits of breastfeeding extend beyond the mother and child who engage in the behavior raises new questions about self-interest. As previously discussed, businesses that support their employees' breastfeeding enjoy lowered health care premiums, reduced employee absenteeism, and improved employee retention. One of the questions addressed by the current study is whether business owners and managers are more compelled by these profit-oriented arguments, or by arguments about the welfare of their employees' families and communities. The current literature fails to address whether business owners and managers will identify their business

interest as an extension of their own self-interest. Thus, this study broadens the current understanding of the relationship between self-interest and business interest for a key population.

Finally, previous research has operationalized self-interest by asking research participants to gauge the merit of various proposals in which cost and benefit are paid by and accrued to themselves or others. For example, a typical scenario involves college students judging proposals that would involve tuition hikes that would take effect either immediately or with some delay, to pay for institutional improvements that would be made either during their university tenure or later. By contrast, in the current study, only the message is being manipulated, not the proposed behavior. The cost – resources required to support breastfeeding in the workplace – does not change according to treatment, and the benefits of the target behavior are accrued by all concerned parties. In other words, in the current study, the *proposal* – businesses should support breastfeeding – is held constant, while only the emphasis of the *message* is manipulated. This, too, represents a shift and extension from current theory.

CHAPTER TWO

METHODS

The hypotheses were tested using a post-test only 2 (Appeal: Self-Interest vs. Other-regarding) X 2 (Frame: Gain vs. Loss) between-subjects factorial field experiment. All analyses were conducted using PASW Statistics 18. All procedures and materials were approved by the University of North Carolina – Chapel Hill Institutional Review Board.

Participants. Participants (n=123) had previously responded to online advertisements and registered with the Qualtrics online survey company, and identified themselves as U.S. business owners and managers. Qualtrics' services have been widely used by government and research institutions, including universities, to provide survey instruments. Participants were compensated by Qualtrics in online currency that can be redeemed for cash or rewards that are of interest to them; Qualtrics was paid \$20 per completed questionnaire.

As part of a pre-exposure questionnaire (see Appendix A, 1-6), participants provided demographic information about gender, age, highest level of education, age of youngest children, as well as the industries in which they work and number of employees in their business establishments. The items for this section were chosen from

the Qualtrics measures library, many of which are drawn from the U.S. Census questionnaires.

Participants were 49.6% male ($n = 61$), 50.4% female ($n = 62$), with a mean age of 68 years old ($SD = 12.8$ years), and a median age of 50. Highest educational level was regularly distributed among categories ranging from “some high school” through “doctoral or professional degree” with 33.3% ($n = 41$) of participants selecting “4-Year college degree.” More than one-third of the participants (36.6%, $n = 45$) reported that their youngest children are in college, graduate/professional school or finished with their education; 30.9% ($n = 38$) had no children. Only 14.6% (18) of participants reported having children in kindergarten or younger. (See Appendix B, Tables 14-17, for the demographic profile of the study’s participants).

Participants were well distributed among the 20 industry categories (see Appendix B, Table 16), and were involved primarily in small businesses. More than half (50.4%, $n = 62$) of the participants’ businesses had fewer than four employees, 76.4% ($n = 94$) had fewer than 100; 13.0% ($n = 16$) had more than 1,000 employees (Appendix B, Table 17).

Pilot Testing. All procedures, stimulus materials, and measures were pilot tested for functionality, randomization, counter-balancing, and timing, using volunteer business owners and managers ($N = 21$) recruited through local contacts. As a result of the pilot testing, minor corrections were made to the instrument to ensure that the questionnaire flowed as intended.

Procedure. Qualtrics emailed an invitation to individuals who had previously self-identified as business owners and managers when registering to join the Qualtrics

database of approximately four million people. Within the email, a link directed participants to the online questionnaire. The first respondents to click on the link and complete the questionnaire, until the desired sample size was reached, became the sample for the current study ($N = 123$). The questionnaire began with an informed consent page (Appendix C) which participants were required to click on to continue. All the questionnaires were completed on May 17, 2010. The average time to complete the study was 12 minutes and 36 seconds ($SD = 13$ minutes and 39 seconds).

After completing the pre-exposure questionnaire, all participants were randomly assigned to one of the four conditions (Condition 1 = 29.3%, $n = 36$; Condition 2 = 22.0%, $n = 27$; Condition 3 = 25.2%, $n = 31$; Condition 4 = 23.6%, $n = 29$). Participants in each condition were exposed to a message promoting corporate lactation programs, with the arguments' appeals and frames varying according to the condition (see Appendix D for stimulus materials). Two identical blocks of stimulus materials were created, and women were directed to one block and men to another, and then their exposures to the stimuli were randomized to avoid the possibility of one gender being over-represented in any treatment condition. This was done with the rationale that female participants might identify with the messages more than male participants because breastfeeding is a behavior that, by its very nature, only women can undertake, though men and women may support or constrain the breastfeeding behavior of others. Rothman and colleagues (1997) demonstrated that individuals who identify more with a message were more persuaded by negatively framed messages.

After viewing the stimulus materials, members responded to questions assessing attitudes and behavioral intentions, manipulation checks, and control variables (see

Appendix A). Additionally, to control for a potential source of error, participants responded to an item asking if their workplaces already had measures in place to support breastfeeding. To avoid order effects, the presentation of these blocks of questions was counterbalanced. In the course of this portion of the questionnaire, one attention filter item, “To show you are reading the questions please select ‘strongly disagree’ as your answer to this statement,” was included to screen out participants who were responding without reading the questions.

A behavioroid measure (Aronson & Carlsmith, 1968) asked participants if they were willing to receive further information regarding establishing corporate lactation programs. Those who answered “yes” saw a debriefing screen after the remaining measures (Appendix E), were thanked, and redirected to the HHS *Business Case for Breastfeeding* website, where they were able to sign up to receive a packet of information. Their “yes” response was recorded. Those who answered “no” saw the final debriefing screen (Appendix F), were thanked, and were not redirected to the HHS site.

After the behavioroid measure, but before the debriefing screens, all participants responded to questionnaires measuring need for cognition (NFC) and empathy, to explore the possibility that the framing or appeal manipulations might interact with these individual difference variables to affect responses to the stimulus messages. There was also an opportunity for participants to comment on the topic or the questionnaire in an open-ended text box.

Stimulus materials. As shown in Appendix C, stimulus materials were developed to mimic *The Business Case for Breastfeeding* promotional materials

produced by the U.S. Department of Health and Human Services. The factual information in the stimuli was taken from the HHS materials. The text of the promotions was been changed to manipulate the primary independent variables, appeal (self-interest vs. other-regarding) and frame (gain vs. loss). All colors, fonts, and images were held constant.

Appeals. Half of the participants received recommendations subtitled, “Workplace Support for [Failure to Support] Breastfeeding Benefits [Harms] Business,” which detailed the benefits or harms in terms of health care costs, employee absenteeism, and employee retention, productivity, and loyalty. The other half received recommendations subtitled, “Workplace Support for [Failure to Support] Breastfeeding Benefits [Harms] Families and Society,” which detailed the benefits or harms to children, mothers, and society.

Frames. Half of the participants saw the material that stressed the negative consequences of failure to support breastfeeding in the workplace, while half received information stressing the positive consequences of supporting breastfeeding in the workplace (Meyerowitz & Chaiken, 1987). As noted by Rothman and colleagues (2006), gain-framed messages can refer to both positive outcomes that will happen and negative outcomes that will not happen; loss-framed messages can refer to both negative outcomes that will happen and positive outcomes that will not. The following is an example of the framing manipulation (the negative framing is in brackets):

Employee Retention, Productivity, and Loyalty: Employees are more [less] likely to return to work after childbirth when their workplace [fails to] provides a supportive environment for continued breastfeeding. Employees whose companies [do not] provide breastfeeding support consistently report improved [decreased] morale, better [less] satisfaction, and higher [lower] productivity.

Manipulation Checks. As a check of the self-interest manipulation, three Likert-scale items (Appendix A, 11-13) assessed whether participants thought the message addressed the costs and benefits that will accrue to themselves, their business, or others; (1= “strongly agree,” to 7 = “strongly disagree”). The self/other manipulation check items were found to be insufficiently reliable (Cronbach $\alpha=.68$) and so were analyzed separately.

This message focused on whether supporting breastfeeding in my workplace would be *personally* costly or beneficial.

This message focused on whether supporting breastfeeding in my workplace would be costly or beneficial *to my business*.

This message focused on whether supporting breastfeeding in my workplace would be costly or beneficial *to other people, or to society in general*.

As a check of the framing manipulation (Appendix A, 7-10), participants responded to four Likert-scale items (1= “strongly agree,” to 7 = “strongly disagree”) adapted from Cho and Boster (2008) (negative framing in brackets): “this message focused on the advantages [disadvantages] of [not] supporting breastfeeding in the workplace” and “this message showed the positive [negative] things that can happen if workplaces [do not] support breastfeeding.” The gain/loss manipulation check items were found to be insufficiently reliable (Cronbach $\alpha=.64$) and so the items were analyzed separately.

Control Variables

Elaboration (Appendix A: 14-18). Because self-interest may influence attitude at least partially through an increased motivation for cognitive scrutiny, elaboration was

measured using Perse's (1990) 5-item cognitive elaboration scale, (Cronbach $\alpha=.84$) which was converted into an elaboration index for analysis.

Involvement (Appendix A, 19-20). Following Darke and Chaiken (2005), participants rated how *important* the issue is to them, and how *interested* they are in the issue (1 = "not at all" to 7 = "very"), ($r = .83, p < .01$). The two items were summed and averaged to create an involvement index.

Current Practices (Appendix A, 21-22). Two items assessed current practices at participants' workplaces. The first, "Does your workplace have measures in place to support breastfeeding?" controlled for differences in intentions among those whose workplaces lack support and those who feel that their workplaces already do support breastfeeding. The second, which was seen only by those answering, "Yes" to the first item, was "Please describe measures your workplace has put in place to support breastfeeding." This open-ended item elicited information regarding which specific measures individuals considered supportive of breastfeeding, as well as some information about the kind of support that exists in workplaces.

Primary Dependent Variables

Attitude (Appendix A, 23-26). Attitude toward workplace support for breastfeeding was measured using four items answered on a seven-point scale (1 = "strongly agree," to 7 = "strongly disagree") adapted from Meyerowitz and Chaiken (1987). These items were found to be highly reliable in the current study (Cronbach $\alpha=.89$) and were summed and averaged to form an attitude index.

Workplaces should support breastfeeding.
It is important that workplaces support breastfeeding.
Workplace support of breastfeeding has drawbacks.
I should support breastfeeding in my workplace.

Intention (Appendix A, 31-35). Intention to support breastfeeding in the participants' own workplace was measured using two measures adapted from Broemer (2002). These measures were positively correlated ($r = .74, p < .01$).

My intention to support breastfeeding in my workplace is (1 = "very strong," to 7 = "very weak")

It is likely that I will take action to make my workplace more supportive of breastfeeding in the next year. (1 = "very likely" to 7 = "very unlikely")

Three other exploratory measures were included to assess other aspects of intention to support breastfeeding in the workplace (see Appendix C, 44-46). These measures were found to be internally reliable (Cronbach $\alpha = .85$).

I am likely to speak to co-workers about the importance of supporting breastfeeding in our workplace. (1 = "very likely" to 7 = "very likely")

I am likely to speak to human resource managers at my workplace about the importance of supporting breastfeeding in our workplace. (1 = "very likely" to 7 = "very likely")

I am likely to contact state and federal legislators about the importance of government assistance for workplaces that support breastfeeding. (1 = "very likely" to 7 = "very likely")

Overall, the five intention items together were found to be highly reliable (Cronbach $\alpha = .92$) and so were summed and averaged to form an intention index for analysis.

Behavioroid (Appendix A, 36). A final behavioroid outcome measure gauged participants' willingness to be directed to an external website (the HHS Business Case for Breastfeeding website) to learn more about how businesses can support breastfeeding. Participants responded to an item asking them if they were willing to visit a website to learn more about how businesses could support breastfeeding. Those who clicked "yes" saw a debrief screen with a link to the U.S. Department of Health

and Human Services Business Case for Breastfeeding website, and a reminder to click on the link. Those who clicked “no” saw a debrief screen that was otherwise identical, but lacked both the link and the reminder.

Additional control variables

Self-interest (Appendix A, 27-28). Rather than assuming self-interest based on proxy factors, it is key to directly measure participants’ own subjective evaluation of self-interest (Crano, 1997a, 1997b; Darke & Chaiken, 2005). In the current study, participants responded to Likert scale items adapted from Darke & Chaiken (2005): “Supporting breastfeeding in my workplace would be personally costly/beneficial (1 = “not at all costly/ beneficial” to 7 = “very costly/ beneficial”).”

Business interest (Appendix A, 29-30). Because individuals’ perceived self-interest and their perceptions of their business’ interest may not be congruent, the following two exploratory measures, adapted from Darke & Chaiken (2005) were included to measure the extent to which the participants thought breastfeeding would be costly or beneficial to their business: “Supporting breastfeeding in my workplace would be costly/beneficial to my business (1 = “not at all” to 7 = “very”).”

Need for Cognition (Appendix A, 37-46). Need for Cognition is a trait that describes the extent to which individuals engage in and enjoy effortful cognitive exercise. NFC can moderate response to persuasive messages because individuals who are motivated to engage in more careful message scrutiny tend to be more persuaded by negatively framed information than people who engage in more heuristic message processing. In this study, Need for Cognition was measured using Perse’s (1992)

shortened 10-item version of Cacioppo and Petty's (1982) NFC scale (Cronbach $\alpha=.78$) which was converted into an NFC index for analysis.

Empathy (Appendix A, 47-62). Because differences in persuasive susceptibility to other-regarding messages may be moderated by the empathy of the receiver, and because empathy and interest in this issue might vary by gender, empathy was assessed using 16 items from Tamborini and Mettler's (1990) empathy scale, which is drawn from Davis' (1983) Interpersonal Reactivity Index. In the current study, the 16 items were found to be reliable (Cronbach $\alpha=.83$) and were converted into an empathy index for analysis.

Open-ended Response (Appendix A, 63). A final item asked participants to "Please use the space below to share any comments you would like to make about this topic or the survey you've just completed," with a text box.

CHAPTER THREE

FINDINGS

Preliminary analyses

Manipulation check for Gain/Loss Messages. Univariate analyses of variance (ANOVA) were conducted to verify that participants who viewed gain-framed messages perceived the messages as emphasizing the advantages of supporting breastfeeding in the workplace, and that those who viewed loss-framed messages perceived the messages as emphasizing the disadvantages of failing to support breastfeeding in the workplace. As shown in Tables 2, 3, and 4, the test was significant for three of the items (“This message showed the negative things that can happen if workplaces don't support breastfeeding,” $F(1,119) = 12.57, p < .001$; “This message showed the positive things that can happen if workplaces support breastfeeding,” $F(1,119) = 4.31, p < .05$; “This message focused on the disadvantages of not supporting breastfeeding in the workplace,” $F(1,119) = 4.62, p < .05$).

Table 2.

Check for Gain/Loss Manipulation: “This message showed the negative things that can happen if workplaces don't support breastfeeding.”

Source	df	F	p
Frame	1	12.57***	.001
Appeal	1	3.57	.06
Frame * Appeal	1	1.51	.22
Error	119		
Total	123		
Corrected Total	122		

*ANOVA, ***significant at the $p < 0.001$*

Table 3.

Check for Gain/Loss Manipulation: “This message showed the positive things that can happen if workplaces support breastfeeding.”

Source	df	F	p
Frame	1	4.31*	.04
Appeal	1	.52	.46
Frame * Appeal	1	2.80	.09
Error	119		
Total	123		
Corrected Total	122		

*ANOVA, *significant at the $p < 0.05$ level*

Table 4.

Check for Gain/Loss Manipulation: “This message focused on the disadvantages of not supporting breastfeeding in the workplace.”

Source	df	F	p
Frame	1	4.61*	.03
Appeal	1	1.11	.29
Frame * Appeal	1	5.72**	.01
Error	119		
Total	123		
Corrected Total	122		

*ANOVA, *significant at the $p < 0.05$ level, **significant at the $p < 0.01$ level*

As shown in Table 5, the other item did not vary significantly (“This message focused on the advantages of supporting breastfeeding in the workplace,” $F(1, 119) = 1.04, p = .31$).

Table 5.

Check for Gain/Loss Manipulation: “This message focused on the advantages of supporting breastfeeding in the workplace”

Source	df	<i>F</i>	<i>p</i>
Frame	1	1.03	.31
Appeal	1	.36	.54
Frame * Appeal	1	.00	.99
Error	119		
Total	123		
Corrected Total	122		

ANOVA

Based on this analysis, the interpretation that the manipulation of gain/loss messages was successful seems cautiously warranted. *Manipulation Check for Self-interest and Other-regarding Appeals*. A series of univariate analyses of variance (ANOVA) was conducted to verify that participants who viewed messages emphasizing the costs or benefits to the self, as opposed to the costs or benefits to others, perceived the messages as such. As shown in Tables 6, 7, and 8, all three items were non-significant when compared across treatment conditions. Based on this analysis, the self/other manipulation was unsuccessful. Given, however, that subsequent analyses found evidence of a simple main effect and an interaction with this variable, it is possible that this non-significant result was a failure of the manipulation check rather than a failure of the stimuli. One possible explanation is that, in addition to the

distinction between self-interest, business interest, and other-regarding appeals, the wording of the manipulation check items included language referring to both advantages and disadvantages. This may have confused participants, particularly as these measures were presented randomly along with the gain/loss frame manipulation check measures. It is also possible that the variable of concern was not properly manipulated, or that the measures were assessing another construct altogether. The lack of a clear manipulation check does suggest that interpretations should be cautiously made.

Table 6.

Check for Self-interest/Other-regarding Manipulation: “This message focused on whether supporting breastfeeding in the workplace would be personally costly or beneficial.”

Source	df	F	p
Frame	1	.00	.96
Appeal	1	.14	.70
Frame * Appeal	1	1.09	.29
Error	119		
Total	123		
Corrected Total	122		

ANOVA

Table 7.

Check for Self-interest/Other-regarding Manipulation: “This message focused on whether supporting breastfeeding in the workplace would be costly or beneficial to other people, or to society in general.”

Source	df	F	p
Frame	1	.11	.73
Appeal	1	.00	.96
Frame * Appeal	1	2.79	.09
Error	119		
Total	123		
Corrected Total	122		

ANOVA

Table 8.

Check for Self-interest/Other-regarding Manipulation: This message focused on whether supporting breastfeeding in the workplace would be costly or beneficial to my business.

Source	df	F	p
Frame	1	.00	.93
Appeal	1	2.20	
			.14
Frame * Appeal	1	4.98*	.02
Error	119		
Total	123		
Corrected Total	122		

*ANOVA *significant at the $p < 0.05$ level*

Dependent variables

For clarity and brevity, results are organized by dependent variable, rather than by order of the hypotheses.

Univariate analyses of variance (ANOVA) were conducted to test the hypotheses regarding the attitude toward support for breastfeeding in the workplace and

intention to support breastfeeding in the workplace. The two independent variables of interest – appeal type (self-interest versus other-regarding) and frame (gain versus loss) – were entered as fixed factors, with other control variables entered as covariates. When covariates were found to be significantly correlated with the dependent variable, they are reported along with the independent variables. According to this analysis, none of the demographic variable, including gender and age, was significantly related to the dependent variables independently, nor in interaction with the other independent variables so they were therefore excluded from further analyses.

To test the hypotheses concerning the behavioroid measure, two-way contingency analyses were conducted, as described below.

Attitudes

The first dependent variable measured in this experiment was attitude toward workplace support for breastfeeding; Table 9 shows the mean attitude index scores by treatment. Table 10 shows the results of the univariate ANOVA that was conducted using attitude index as the dependent variable, frame and appeal as the fixed factors, and involvement, NFC, empathy, elaboration and current practices as covariates.

Table 9.

Attitude Toward Workplace Support for Breastfeeding by Treatment.

Treatment	Mean	Std. Deviation
Gain/Self-Interest	2.43	1.16
Gain/Other-Regarding	3.58	2.12
Loss/Self-Interest	2.89	1.73
Loss/Other-Regarding	2.86	1.83
Total	2.90	1.73

Based on a scale of 1-7, higher scores indicate a more positive attitude toward workplace support for breastfeeding.

Table 10.

Effect of Frame, Appeal, Involvement, NFC, Empathy, Elaboration and Current Practices on Attitude toward Workplace Support for Breastfeeding.

Source	df	F	p
Involvement Index	1	16.63***	.00
NFC Index	1	.92	.33
Empathy Index	1	1.77	.18
Elaboration Index	1	.83	.36
Current Practices	1	6.83**	.01
Frame	1	.14	.70
Appeal	1	4.41*	.03
Frame * Appeal	1	4.51*	.03
Error	113		
Total	122		
Corrected Total	121		

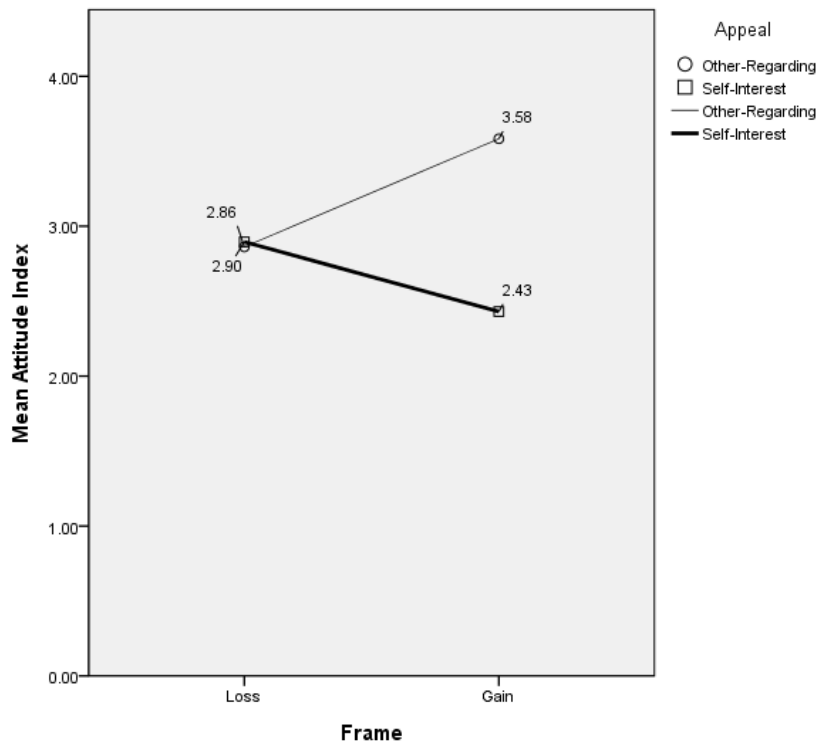
ANOVA, *significant at the $p < 0.05$ level, **significant at the $p < 0.01$ level, ***significant at the $p < 0.001$ level

An interaction effect between appeal type and frame was found, though hypotheses regarding main effects of appeal type and frame were not supported. Hypothesis H3a predicted an additive persuasive advantage for self-interest appeals coupled with loss-framing. The involvement index was the only covariate that was significantly related to the dependent variable, $F(1, 113) = 16.63, p < .05$, as was current practices, $F(1, 113) = 6.83, p < .05$. When controlling for involvement and current practices, an interaction between appeal type and frame did emerge, $F(1, 113) = 4.51, p < .05$. The Self-Interest/Loss treatment had a persuasive advantage ($M = 2.89, SD = 1.73$) over the Self-Interest/Gain treatment ($M = 2.43, SD = 1.16$), as hypothesized. However, a subsequent multiple t-test ($t(65) = -1.31, p = .20$) demonstrated that this difference was not statistically significant. Hypothesis H3a was not supported.

Hypothesis H4a1 predicted an interaction between other-regarding appeals and gain-framing such that this combination would show an aggregate persuasive advantage over self-interest appeals coupled with gain-framing. The competing hypothesis H4b1 predicted an interaction that would give the persuasive advantage to the combination of other-regarding appeals and loss-framed messages. As shown in Figure 2, the Other-regarding/Gain condition had a persuasive advantage ($M = 3.58, SD = 2.12$) over the Self-Interest/Gain condition ($M = 2.43, SD = 1.16$), as hypothesized in H4a1. A subsequent multiple t -test ($t(61) = -2.77, p < .05$) demonstrated that this difference was significant. Hypothesis H4a1 was supported, and hypothesis H4b1 was not.

Figure 2.

Attitude Toward Workplace Support for Breastfeeding by Appeal and Frame



Hypothesis H1a predicted a persuasive advantage for self-interest appeals over other-regarding. The ANOVA was significant for appeal type, $F(1, 113) = 4.41, p <$

.05, revealing that appeal style exerted a significant effect on attitude. However, the direction of the effect was contrary to the hypothesis, with other-regarding appeals having a persuasive advantage ($M = 3.21, SD = 1.99$) over self-interest appeals ($M = 2.65, SD = 1.46$). Thus, hypothesis H1a was not supported.

Hypothesis H2a predicted a persuasive advantage for loss-framed messages over gain-framed ones. Frame did not exert a significant effect on attitude, $F(1, 113) = .14, p = .70$. Hypothesis H2a was not supported.

Intention

The second dependent variable in this experiment was intention to implement measures to support breastfeeding in the workplace; Table 11 shows the mean Intention Index score by treatment. Table 12 shows the results of the univariate ANOVA that was conducted using the attitude index as the dependent variable, frame and appeal as the fixed factors, and involvement, NFC, empathy, elaboration and current practices as covariates.

Table 11.

Intention to Support Breastfeeding in the Workplace by Treatment

Treatment	Mean	Std. Deviation
Gain/Self-Interest	3.50	1.56
Gain/Other-Regarding	4.50	1.62
Loss/Self-Interest	4.12	1.59
Loss/Other-Regarding	3.92	1.65
Total	3.97	1.62

Based on a scale of 1-7, higher scores indicate stronger intention to support breastfeeding in the workplace.

Table 12.

Effect of Frame, Appeal, Involvement, NFC, Empathy, Elaboration and Current Practices on Intention to Support Breastfeeding in the Workplace.

Source	df	F	p
Involvement Index	1	18.69***	.00
NFC Index	1	4.62*	.03
Empathy Index	1	.15	.69
Elaboration Index	1	2.09	.15
Current Practices	1	28.84***	.00
Frame	1	1.57	.21
Appeal	1	1.80	.18
Frame * Appeal	1	5.80*	.02
Error	112		
Total	121		
Corrected Total	120		

*ANOVA, *significant at the $p < 0.05$ level, ***significant at the $p < 0.001$ level*

Again, an interaction emerged between appeal type and frame, though main effects hypotheses were not supported. Hypothesis H3b predicted an additive persuasive advantage for self-interest appeals coupled with loss-framing. The involvement index reached significance, $F(1, 113) = 18.69, p < .05$, as did current practices, $F(1, 113) = 28.84, p < .05$. When these two variables were controlled, the ANOVA was significant for an interaction between appeal type and frame, $F(1, 113) = 5.80, p < .05$. The Self-Interest/Loss treatment had a persuasive advantage ($M = 4.12, SD = 1.59$) over the Self-Interest/Gain treatment ($M = 3.50, SD = 1.56$), as hypothesized. However, a subsequent multiple t -test ($t(65) = -1.61, p = .11$) demonstrated that this difference is not significant. Hypothesis H3b was not supported.

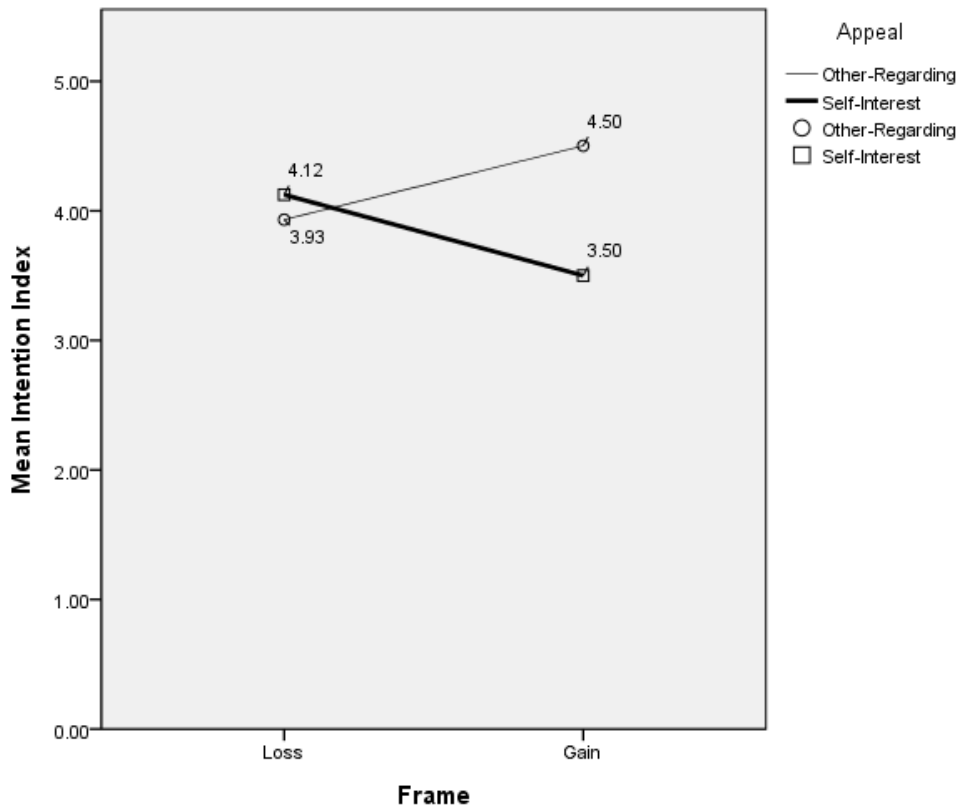
As shown in Figure 3, the effect was congruent with hypothesis H4a, with the Other-regarding/Gain condition showing a persuasive advantage ($M = 4.50, SD = 1.62$)

over the Self-interest/Gain condition ($M = 3.50, SD = 1.56$). A subsequent multiple t -test ($t(59) = -2.44, p \leq .05$) demonstrated that this difference was significant.

Hypothesis H4a2 was supported, and H4b2 was not.

Figure 3.

Intention to Support Breastfeeding in the Workplace by Appeal and Frame



Hypothesis H1b predicted a persuasive advantage for self-interest appeals. The ANOVA was not significant for appeal type, $F(1, 113) = 1.80, p = .18$. Hypothesis H1b was not supported.

Hypothesis H2b predicted a persuasive advantage for loss-framed messages in terms of intention to implement workplace measures to support breastfeeding. The ANOVA was not significant for frame, $F(1, 113) = 1.57, p = .21$. Hypothesis H2b was not supported.

Behavioroid

The third dependent variable in measured in this experiment was a behavioroid measure of the willingness of participants to be directed to an external website to learn more about making the workplace breastfeeding-friendly. No combination of appeal type or frame had a significant effect on this dependent variable.

Hypothesis H3c predicted an additive persuasive advantage for self-interest appeals coupled with loss-framing, as measured by willingness to be redirected to an external website to learn more about workplace support for breastfeeding. Competing hypotheses H4a3 and H4b3 explored which frame would be most effective when coupled with other-regarding appeals.

To test these hypotheses, a two-way chi-square contingency table analysis was conducted. The first variable was treatment, with four levels (self/gain, self/loss, other-regarding/gain, and other-regarding/loss). The second variable was the response to the question, “Would you be interested in proceeding to an external website where you could find more information about how to make your workplace breastfeeding-friendly?” with two levels: “Yes, I am interested in finding out more about how to make my workplace breastfeeding-friendly,” and “No, I am not interested in finding out more about how to make my workplace breastfeeding-friendly.” Of the 123 participants, 25.2% (n = 31) clicked “yes,” and 74.8% (n = 92) clicked “no.”

These two variables were not found to be significantly related, Pearson χ^2 (3, $N=123$) = 1.90, $p = .59$. As no interaction emerged, hypothesis H3c was not supported, and nor were H4a3 and H4b3.

Hypothesis H1c predicted an advantage for self-interest appeals. In this two-way contingency table analysis, the first variable was appeal type, with two levels (self-interest and other-regarding). The second variable was the response to the behavioroid item, also with two levels. These two variables were not found to be significantly related, Pearson $\chi^2 (1, N=123) = 1.69, p = .19$. Hypothesis H1c was not supported.

Hypothesis H2c predicted a persuasive advantage for the loss-framed message on the behavioroid measure. In this two-way contingency table analysis, the first variable was frame, with two levels (gain and loss). The second variable was the response to the behavioroid item, also with two levels. These two variables were not found to be significantly related, Pearson $\chi^2 (1, N=123) = .217, p = .64$. Hypothesis H2c was not supported.

Involvement

As shown in Table 13, involvement exerted more powerful effects on attitude and intention than either appeal or frame. Though the findings regarding the effects of appeal and frame on attitude and intention were somewhat contradictory and fairly weak, involvement was a strong predictor in each of the models, accounting for about 40% of the variance in the dependent variables compared to 3% to 9% for the primary independent variables and interactions. Additionally, involvement was highly correlated with a willingness to be redirected to the external website to learn more about making the workplace breastfeeding-friendly ($r = .43, p < .001$). Due to the strength of this factor, bivariate correlations tests were run with the following variables to learn more about the characteristics of individuals who were involved in the issue: gender, age, number of employees, industry, education level, and education level of

youngest child. Of these, only education level of youngest child was significantly correlated with the involvement index ($r = .35, p < .001$). Age of participant did not have a significant relationship with involvement ($r = .11, p = .25$) but age was significantly correlated with age of youngest child ($r = .18, p < .05$).

Table 13.

Effects of Appeal, Frame, Involvement and Current Practices on Attitudes and Intentions about Breastfeeding in the Workplace

Dependent Variable	Factor	F	Eta Squared
Attitude	Appeal	$F(1, 118) = 4.00, p < .05$.00
	Frame	$F(1, 118) = .36, p = .55, ns$.03
	Appeal * Frame	$F(1, 118) = 4.07, p < .05$.03
	Involvement	$F(1, 118) = 81.41, p < .001$.41
Intention	Appeal	$F(1, 115) = 2.50, p = .12, ns$.02
	Frame	$F(1, 115) = 1.10, p = .30, ns$.09
	Appeal * Frame	$F(1, 115) = 7.97, p < .05$.06
	Involvement	$F(1, 115) = 73.02, p < .001$.39
	Current Practices	$F(1, 115) = 31.8, p < .001$.22

Business Size

Business size was irregularly distributed in the sample, with approximately half of the sample reporting businesses comprised of 1-4 employees. This raised the possibility that owners and managers of very small businesses might respond to the

attitude and intention measures differently because the issue would have lower relevance for them. To explore this possibility, an independent samples *t*-test was performed with the attitude and intention indices as dependent variables, and the grouping variable defined as businesses with 1-4 employees and more than four employees. Neither relationship was significant. For attitude index, $t(121) = -.92, ns$; for intention index, $t(119) = -.64, ns$. Given the asymmetrical nature of the two groups, this analysis should be seen as only suggestive, but it does look like the size of the participant's business did not influence the results of the present study.

CHAPTER FOUR

DISCUSSION AND CONCLUSIONS

This study was motivated by the plight of women such as LaNisa Allen, who would like to breastfeed their infants, but who find their workplaces are not supportive of the need to breastfeed or express milk during the workday. Women such as Allen have already been persuaded of the benefits breastfeeding offers both mother and child. However, they may not initiate breastfeeding or they may wean early due to the difficulties of maintaining paid employment while breastfeeding.

The current study tested persuasive messages aimed at convincing business owners and managers to minimize these difficulties by supporting lactating employees. Infant feeding decisions are made in a social ecological context that includes the mothers' family members and friends, health care providers, employers, and the customs and laws in their communities. Previous research has found that breastfeeding promotional campaigns that target other stakeholders - such as fathers, grandmothers, and hospital staff - can have a positive impact on breastfeeding initiation and duration, but employers have seldom been studied. Employers are in a position to support or constrain lactating employees by offering – or failing to offer – the space, time, and positive attitude women need to breastfeed or express milk during the workday.

The theoretical frameworks manipulated in this study were self-interest and other-regarding appeals, and gain- and loss-framing. Practically speaking, health campaigns often exhort target audiences to make changes in their health-related behavior that include short-term costs, in the interest of improving their own health, or the public's health, in the long term.

This study found that other-regarding, gain-framed messages had a significantly greater impact than self-interested, gain-framed messages on attitude toward workplace support for breastfeeding as well as intention to implement workplace measures that support breastfeeding. Previous research has tended to focus on self-interested messages rather than other-regarding appeals, under the assumption that self-interested appeals were likely to be more effective. Further, prior research into gain- and loss-frames has typically failed to find persuasive advantages for gain-framed messages. The main finding of the current study findings suggest that the combination of other-regarding appeals and gain-framing may be at least as effective as the more typical self-interested, loss-framed persuasive strategy.

Breastfeeding has demonstrable benefits for children, mothers, society and the environment, as well as for businesses. This study aimed to find out whether business owners and managers are more persuaded by self-interested messages about the benefits breastfeeding can bring to their business, or other-regarding messages about the benefits of breastfeeding for their employees and society at large. Conventional wisdom holds that appealing to individuals' self-interest is the surest means to persuasion, though some evidence suggests that the importance of self-interest is over-estimated. Previous literature on self-interest has fallen into two main categories. Some

of the work on self-interest (Boniger, Krosnick, & Berent, 1995; Eagly & Chaiken, 1993; Petty & Caccioppo, 1986; Petty & Wegener, 1999) has indicated that self-interest mainly increases the scrutiny individuals give messages, rather than directly affecting attitudes about the message topic. Sears (1997) suspected the sociopolitical attitudes explored in surveys are more influenced by social values than by material self-interest, while Miller and Ratner (Miller and Ratner 1998; Ratner & Miller, 2001) showed that individuals consistently over-estimate the power of self-interest on others' decision-making, even if their own attitudes contradict their own self-interest.

The second approach to self-interest has taken the line that self-interest directly affects attitude valence, in addition to increasing scrutiny, provided self-interest is measured directly rather than assumed based on proxy factors Crano (1997). Darke and Chaiken (2005) demonstrated that people have the most favorable attitudes toward proposals if others will pay the cost, and they themselves will accrue the benefits. However, if they will have to pay the costs themselves, people are more positive toward proposals in which they themselves will reap the benefits.

An important caveat regarding the present study is that the manipulation checks on the self-interest and other-regarding appeals conditions were not statistically significant. This raises two possibilities: one, that the manipulation was not successful and two, that the manipulation check items were measuring something else entirely. However, given that a simple main effect and an interaction effect emerged, there is reason to believe that the apparent manipulation failure was the result of an inadequate manipulation check rather than manipulation failure. Specifically, the wording of the manipulation check items referred to both costs and benefits (or advantages and

disadvantages). Because these items were presented randomly in the same block of questions as the gain-/loss-frame manipulation check items, it is possible that the wording and placement confused participants. Future research will need to clarify this point.

Darke and Chaiken's findings provided the rationale for the prediction that self-interested appeals would be more persuasive than other-regarding messages because workplace support for breastfeeding requires an immediate investment. The pay-off, on the other hand, is long-term and uncertain, and at least some of the benefit will be enjoyed by others. This hypothesis was not supported, however. In fact, other-regarding appeals had a significant advantage over self-interested appeals in terms of attitude valence. Although statistically non-significant, intention to support breastfeeding in the workplace trended in the same direction. This pattern of findings would tend to support the position that conventional wisdom may indeed over-estimate the influence of self-interest on attitudes. In practical terms, these findings suggest that other-regarding appeals may be at least as effective in changing attitudes and intentions about supporting breastfeeding in the workplace as self-interested appeals.

In the current study, the salience of self-interest as a social norm was not manipulated, although Miller (1999) and Darke and Chaiken (2005) demonstrated that increasing the salience of the self-interest social norm (by having a confederate announce that he would vote based on his own self-interest) increased the influence of self-interest on attitude valence. The hypotheses of the current study addressed the interaction between self-interest and framing, rather than the differential effects of self-interest salience and symbolic concern salience. The omission of a manipulation of self-

interest as a social norm could have resulted in a diminished self-interest effect, compared to the literature upon which the self-interest hypothesis was based. It is also possible that managers may have construed their interest in their business as other-regarding, because acting in their own business interest may also be to the benefit of their employees (job security) and allows them to serve their clients.

The existing literature fails to address the influence of business interest on attitude valence. In the present study, self-interest literature served as a substitute, though the applicability had not been demonstrated (nor counter-indicated) by the existing literature. For these reasons, the exploratory measure of “business interest” was included. Importantly, a high correlation was found between perceived self-interest and business interest, in terms of both costs and benefits. This promising finding indicates that self-interest and business interest are closely related for this target group and that measures of self- and business interest like the ones used in the present study could profitably be used in similar studies in the future.

Similarly, the intention index included two measures closely adapted from the existing literature, as well as three exploratory measures that probed further about workplace-specific intentions including discussing the matter with co-workers and human resources, and contacting elected representatives about the issue. These measures showed high internal reliability, again indicating that personal intentions and professional intentions are highly congruent for these business owners and managers. These findings must be viewed with some caution, however, due to the high proportion of businesses in this sample with fewer than four employees, the fact that the participants tended to be older, and to the specialized nature of the subject. It is not

certain that a more broadly representative group of business owners and managers would feel the same way, or that these findings would extend to other topic areas. However, these findings regarding the relationships between business and personal interests and intentions do point to a promising avenue of applied research about self-interest.

This study also addressed the relative effectiveness of messages that emphasize potential gains from supporting breastfeeding, or potential losses incurred by failing to support breastfeeding in the workplace. Here, again, one of the four manipulation check items did not reach significance, raising the possibility that the manipulation failed or that the item was measuring another construct altogether. Given that the other three manipulation check items were significant, however, this finding is less troublesome than the failure of the self-interest manipulation checks.

According to prospect theory (Tversky & Kahneman, 1979, 1981, 1992) individuals seek risk to avoid losses but avoid risk when it comes to gambling on gains. When prospect theory is applied to health communication, Rothman and Salovey (1997) suggested that individuals make subjective judgments about whether certain behaviors are risky or uncertain, and whether certain outcomes are desirable. For example, Meyerowitz & Chaiken (1987) found that a loss frame was more successful in persuading individuals to engage in a health-promoting behavior (breast self-examination) that was perceived as risky. Cho & Boster (2008) also found support for loss frames used to persuade adolescents not to use drugs, and no advantage for gain frames, regardless of whether the adolescents perceived *not* using drugs as risky.

These findings led to the prediction of an overall advantage for loss frames over gain frames, because the short-term investments necessary to support breastfeeding may never pay off, making them risky propositions. This hypothesis was not supported, as there was no significant advantage for either loss frames or gain frames. One possible explanation lies in the historical moment. This research was conducted during a period of economic insecurity unrivaled in American history since the Great Depression. As a result, business managers in general may be feeling more risk-averse, especially as high unemployment has made employee recruitment and retention less salient. These factors may have resulted in a ceiling effect in the present study. However, given that an interaction did emerge, it is possible that the frame was exerting some effect.

The responses to the open-ended items may offer another explanation for the weak main effects findings. At least some of the participants lacked a clear understanding of what “making the workplace breastfeeding-friendly” might entail. The U.S. Department of Health and Human Services recommends that employers support breastfeeding by offering space, time, flexibility, information, and exhibiting a positive, accepting attitude about breastfeeding. Participants whose workplaces do support breastfeeding described a broad range of accommodations. At one end of the spectrum, participants merely noted that “it is allowed,” while others elaborated about private, comfortable spaces for children and parents, flexible time arrangements, and social support for breastfeeding and breast milk expression.

Participants who reported that their workplaces did not support breastfeeding included a fast-food restaurant manager, an individual who worked in law enforcement,

and one who worked in construction. These participants reported that they personally support breastfeeding in the abstract, but that breastfeeding in their workplaces would be impossible, because the environment is not safe for babies, or because breastfeeding women would not be able to do essential tasks. These responses would seem to indicate that these managers were not aware that supporting breastfeeding did not necessarily have to entail babies actually being present in the workplace, but could be as simple as offering time and space for mothers to express breast milk. Future studies might have clearer results if the substance of workplace support for breastfeeding were spelled out to eliminate this source of confusion.

Other-regarding, gain-framed messages were the most persuasive of the four strategies tested in terms of attitude and intention, although not for interest in learning more about the topic. One explanation for the relative effectiveness of other-regarding, gain-framed messages is that other-regarding appeals inspire less scrutiny than self-interest appeals, so individuals base their attitudes more on impressions rather than arguments. If this is so, then the positive gain frames should be more persuasive than the negative loss frames. Another explanation may be that individuals are moved to act in others' interest because it feels good to do so, not because it feels bad not to, so gain frames have a better fit with such a positive motivation.

Future research could profitably clarify the mechanism that makes this particular combination of appeal and frame most effective. In light of previous findings that have not found significant advantages for gain-framing, the current study's findings suggest that gain-framing may be more effective when used to promote social

issues related to the greater good than when used to promote actions that benefit the individual.

It is also important to note that issue involvement had a powerful impact on attitude toward workplace support for breastfeeding and intention to support breastfeeding in the workplace. Involvement was also significantly correlated with interest in learning more about making the workplace breastfeeding-friendly, while none of the other independent variables increased interest in learning more. This suggests that raising awareness about breastfeeding to make business owners and managers feel that it is interesting and important may be the most effective initial strategy. The open-ended response items provided some clues about how involvement might be increased. Several of the respondents discussed how breastfeeding was important to them because of how it had affected their lives in the past, because of their own plans to breastfeed in the future, or because their children and grandchildren were considering breastfeeding. Indeed, the only other attribute that was found to be significantly correlated with involvement was age of youngest child, suggesting that individuals who had made infant feeding decisions most recently found the issue more interesting and important. Although the participant's own age was not significantly related to involvement, it was significantly related to age of youngest child. Because participants in the current sample tended to be older, they may have been less involved in the issue than younger business owners and managers. Perhaps appealing to the interests of business owners' and managers' loved ones would be an effective strategy to increase issue involvement among business owners and managers who do not have

young children. If so, then the findings of this study would suggest that gain-framing would be the most effective frame.

As one of the participants stated succinctly, “Breastfeeding your child should not be considered a luxury.” Only if women have the logistical support for breastfeeding or milk expression in their workplaces do they have a real “choice” when it comes to their infant feeding decision. Sadly, that support is lacking for many women, like LaNisa Allen. The premise of this study is that the next phase of breastfeeding promotion should concentrate on convincing business owners and managers to make accommodation for breastfeeding mothers. This study examined the relative persuasive efficacy of self-interested and other-regarding appeals paired with gain and loss frames. Conceptually, this pairing makes a good deal of sense, because both frameworks deal with decisions involving cost-benefit analyses. Practically speaking, health communicators are already using self-interested and other-regarding persuasive messages, and individuals are making health-related decisions based on their own perceptions of risks and benefits. Studies like this one provide a theoretical foundation for health communicators and others seeking to maximize the impact of persuasive campaigns.

Appendix A

Measures

Demographics

1. What is your gender?

(Click to select: Male/Female)

2. What year were you born?

(Choose from drop-down list: 1920-2000)

3. How many employees work in your establishment?

(Click to select: 1-4, 5-9, 10-19, 20-49, 50-99, 100-249, 250-499, 500-999, 1000 or more)

4. In which industry are you employed? (U.S. Census Categories)

- | | |
|--|---|
| <input type="radio"/> Forestry, fishing, hunting and agriculture support | <input type="radio"/> Real estate & rental & leasing |
| <input type="radio"/> Mining | <input type="radio"/> Professional, scientific & technical services |
| <input type="radio"/> Utilities | <input type="radio"/> Management of companies & enterprises |
| <input type="radio"/> Construction | <input type="radio"/> Admin, support, waste mgt, remediation services |
| <input type="radio"/> Manufacturing | <input type="radio"/> Educational services |
| <input type="radio"/> Wholesale trade | <input type="radio"/> Health care and social assistance |
| <input type="radio"/> Retail trade | <input type="radio"/> Arts, entertainment & recreation |
| <input type="radio"/> Transportation & warehousing | <input type="radio"/> Accommodation & food services |
| <input type="radio"/> Information | <input type="radio"/> Other services (except public administration) |
| <input type="radio"/> Finance & insurance | <input type="radio"/> Unclassified establishments |

5. What is the highest level of education you have completed?
(Click to select: Less than High School, High School / GED, Some College, 2-year College Degree, 4-year College Degree, Master's Degree, Doctoral Degree, Professional Degree (JD, MD))

6. In which educational categories do you have children? (U.S. Census Question)

(Click to select: Less than 3 years of age; Nursery school, preschool, Kindergarten, Elementary: grade 1 to grade 4, Elementary: grade 5 to grade 8, High school: grade 9 to grade 12, College, undergraduate, Graduate, professional school, No Children, My child(ren) is/are finished with their education(s))

Manipulation Checks

Gain vs. Loss Frames presentation was randomized in the same block of questions along with gain- and loss-frame manipulation check items. (1 = “strongly agree” to 7 = “strongly disagree”).

7. This message focused on the advantages of supporting breastfeeding in the workplace.
8. This message focused on the disadvantages of not supporting breastfeeding in the workplace.
9. This message showed the positive things that can happen if workplaces support breastfeeding.
10. This message showed the negative things that can happen if workplaces don't support breastfeeding.

Self-interest vs. Other-regarding appeals presentation was randomized in the same block of questions along with gain- and loss-frame manipulation check items. (1 = “strongly agree” to 7 = “strongly disagree”).

11. This message focused on whether supporting breastfeeding in my workplace would be *personally* costly or beneficial.
12. This message focused on whether supporting breastfeeding in my workplace would be costly or beneficial *to my business*.

13. This message focused on whether supporting breastfeeding in my workplace would be costly or beneficial *to other people, or to society in general*.

Control Variables

Elaboration (1 = “strongly agree” to 5 = “strongly disagree”).

14. When I read the message, I thought about what the message meant to me and my family.
15. When I read the message, I thought about how the message relates to other things that I know.
16. When I read the message, I thought about what the message meant for other people.
17. When I read the message, I thought about the message over and over again.
18. When I read the message, I thought about what should be done.

Involvement (1 = “strongly agree” to 7 = “strongly disagree”).

19. The issue described in the message is important to me.
20. I am very interested in the issue described in the message.

Current Practices.

21. Does your workplace have measures in place to support breastfeeding?

Participants who responded “Yes” to the first item, saw a text box with the prompt:

22. Please describe measures your workplace has put in place to support breastfeeding.

Primary Dependent Variables

Attitude (1= “strongly agree,” to 7 = “strongly disagree”)

23. Workplaces should support breastfeeding.

24. It is important that workplaces support breastfeeding.

25. Workplace support of breastfeeding has drawbacks.

26. I should support breastfeeding in my workplace.

Attitude About Self-interest (1 = “strongly agree” to 7 = “strongly disagree”).

27. Supporting breastfeeding in my workplace would be personally costly.

28. Supporting breastfeeding in my workplace would be personally beneficial.

Attitude About Business Interest (1 = “strongly agree” to 7 = “strongly disagree”).

29. Supporting breastfeeding in my workplace would be costly to my business.

30. Supporting breastfeeding in my workplace would be beneficial to my business.

Intention to support breastfeeding in the participants’ own workplace

31. My intention to support breastfeeding in my workplace is (1 = “very strong,” to 7 = “very weak”).

32. It is likely that I will take action to make my workplace more supportive of breastfeeding in the next year. (1 = “very likely” to 7 = “very unlikely”).

33. I am likely to speak to co-workers about the importance of supporting breastfeeding in our workplace. (1 = “very likely” to 7 = “very likely”)

34. I am likely to speak to human resource managers at my workplace about the importance of supporting breastfeeding in our workplace. (1 = “very likely” to 7 = “very likely”)

35. I am likely to contact state and federal legislators about the importance of government assistance for workplaces that support breastfeeding. (1 = “very likely” to 7 = “very likely”)

Behavioroid response to the stimuli.

36. Would you be interested in proceeding to an external website where you could find more information about how to make your workplace breastfeeding-friendly?

(Click to select:

Yes, I am interested in finding out more about how to make my workplace breastfeeding-friendly.

No, I am not interested in finding out more about how to make my workplace breastfeeding-friendly.)

Post-test Control Measures

Need for Cognition (1 = “strongly agree” to 5 = “strongly disagree”).

37. I enjoy a task that involves coming up with new solutions to problems.

38. I prefer a task that is intellectual and difficult to one that does not require much thought.

39. I prefer complex to simple problems.

40. I enjoy thinking abstractly.

41. I only think as hard as I have to.

42. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.

43. I find satisfaction in thinking hard for a long time.

44. Thinking is not my idea of fun.

45. I try to avoid situations where there is a good chance I will have to think hard about something.

46. I enjoy solving puzzles.

Empathy (1 = “strongly agree” to 7 = “strongly disagree”).

47. I cannot continue to feel okay if others around me are feeling depressed.

48. I don't become upset just because a friend is acting upset.

49. I become nervous if others around me seem nervous.
50. The people around me have a great influence on my moods.
51. Before criticizing someone, I try to imagine how I would feel in his or her place.
52. I sometimes try to understand my friends better by imagining their perspective.
53. I sometimes find it difficult to see things from another's perspective.
54. I try to look at everyone's side of a disagreement before I make a decision.
55. When see someone upset, I usually try to put myself in his or her shoes for a while.
56. I am the type of person who is concerned when other people are unhappy.
57. When I see someone being taken advantage of, I feel kind of protective toward them.
58. I often have tender, concerned feelings for people less fortunate than myself.
59. I would describe myself as a pretty soft-hearted person.
60. I sometimes don't feel very sorry for people when they are having problems.
61. Other people's misfortunes do not usually disturb me a great deal.
62. I am often touched by the things that I see happen.

Open-ended. A final item elicited feedback on the topic and the questionnaire.

63. Please use the space below to share any comments you would like to make about this topic or the survey you've just completed.

Appendix B
Profile of study participants

Table 14.

Highest Educational Level of Participant

	Frequency	Percent
Less than High School	1	.8
High School / GED	12	9.8
Some College	33	26.8
2-Year College Degree	17	13.8
4-Year College Degree	41	33.3
Master's Degree	16	13.0
Doctoral or Professional Degree	3	2.4

Table 15.

Educational Level of Youngest Child of Participants

	Frequency	Percent
Kindergarten or Younger	18	14.6
Elementary, Middle, or High School	22	17.9
Undergraduate, Graduate/Professional, or Finished with Education	45	36.6
No Children	38	30.9

Table 16.

Industry in Which Participants Work

	Frequency	Percent
Forestry, Fishing, Agriculture	1	.8
Utilities	1	.8
Construction	13	10.6
Manufacturing	4	3.3
Wholesale Trade	4	3.3
Retail Trade	18	14.6
Transportation & Warehousing	2	1.6
Information	5	4.1
Finance & Insurance	2	1.6
Real Estate, Rental, Leasing	5	4.1
Professional, Scientific & Technical Services	11	8.9
Management of Companies & Enterprises	2	1.6
Administration, Support, Waste, Remediation	1	.8
Educational Services	7	5.7
Health Care & Social Assistance	7	5.7

Table 17.

Number of Employees in Participant's Company

	Frequency	Percent	Cumulative Percent
1 to 4	62	50.4	50.4
5 to 9	7	5.7	56.1
10 to 19	4	3.3	59.3
20 to 49	12	9.8	69.1
50 to 99	9	7.3	76.4
100 to 249	7	5.7	82.1
250 to 499	1	.8	82.9
500 to 999	5	4.1	87.0
1000 or more	16	13.0	100.0

Appendix C Welcome and Consent Form

Consent to Participate in a Research Study

IRB Study # 10-0724

Consent Form Version Date: *May 3, 2010*

Title of Study: Workplace Policies Study

Principal Investigator: Sheila Peuchaud

Study Contact email: peuchaud@email.unc.edu

Advisor: Jane D. Brown, Ph.D

Advisor Contact email: jane_brown@unc.edu

Welcome to the Workplace Policies Survey.

This online survey is part of a research study about business owners' and managers' attitudes about certain workplace policies. It should take about 15 minutes to complete this survey. The survey will include some demographic items and questions about the size and sector of your business, followed by an information screen about workplace policies, and questions about your impression of the workplace policies under consideration.

There are no anticipated risks to completing this online survey. By participating in this online survey, you will have the opportunity to learn more about certain workplace policies, which you may consider implementing in your workplace.

Your responses to this online survey are confidential and anonymous. No identifying information will be collected as part of this survey. Once the data from this survey have been collected, they will be accessible only to the primary investigator, and kept on a password-protected computer in a locked office. Participants will not be identified in any report or publication about this study.

If you have questions about this study, feel free to contact Sheila Peuchaud at peuchaud@email.unc.edu. If you have questions about your rights as a participant in this research study, please contact University of North Carolina Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

Participation in this study is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

The Case for Making Your Workplace

Breastfeeding Friendly



Workplace Support for Breastfeeding Benefits Business

Health Care Premiums: Breastfed babies visit the physician less often, spend fewer days in the hospital, and require fewer prescriptions than formula-fed infants. Reduced health care costs for breastfed babies translate into lower medical insurance claims for business.

Employee Absenteeism: Employees whose infants are breastfed spend more time at work rather than taking leave to care for sick children.

Employee Retention, Productivity, and Loyalty: Employees are more likely to return to work after childbirth when their workplace provides a supportive environment for continued breastfeeding. Employees whose companies provide breastfeeding support consistently report improved morale, better satisfaction, and higher productivity.

Self Interest/Loss-Frame

The Case for Making Your Workplace

Breastfeeding Friendly



Workplace Failure to Support Breastfeeding Harms Business

Health Care Premiums: Babies who are not breastfed visit the physician more often, spend more days in the hospital, and require more prescriptions than breastfed infants. Increased health care costs for formula-fed babies translate into higher medical insurance claims for business.

Employee Absenteeism: Employees whose infants are formula-fed take more leave to care for sick children, so spend less time at work.

Employee Retention, Productivity, and Loyalty: Employees are less likely to return to work after childbirth when their workplace fails to provide a supportive environment for continued breastfeeding. Employees whose companies do not provide breastfeeding support consistently report decreased morale, less satisfaction, and lower productivity.

Other-Regarding/Gain-Frame

The Case for Making Your Workplace

Breastfeeding Friendly



Workplace Support for Breastfeeding Benefits Families and Society

Benefits to Children: Infants who are breastfed experience fewer infectious diseases, including ear infections, diarrhea, and bacterial meningitis. Later in life, adults who were breastfed are less likely to develop Type I and Type II diabetes, asthma, and certain cancers.

Benefits to Mothers: Mothers who breastfeed recover from childbirth more rapidly, and have reduced risk for breast and ovarian cancer.

Benefits to Society: Breastfeeding decreases the cost of health care and entitlement programs like Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Breastfeeding also decreases the environmental burden for disposal of formula cans and bottles and the energy demands for production and transport of artificial feeding products.

The Case for Making Your Workplace

Breastfeeding Friendly



Workplace Failure to Support Breastfeeding Harms Families and Society

Harm to Children: Infants who are not breastfed experience more infectious diseases, including ear infections, diarrhea, and bacterial meningitis. Later in life, adults who were not breastfed are more likely to develop Type I and Type II diabetes, asthma, and certain cancers.

Harm to Mothers: Mothers who do not breastfeed recover from childbirth more slowly, and have increased risk for breast and ovarian cancer.

Harm to Society: Formula feeding increases the cost of health care and entitlement programs like Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Formula feeding also increases the environmental burden for disposal of formula cans and bottles and the energy demands for production and transport of artificial feeding products.

Appendix E

Debrief for Participants Who Agree To View External Website

Thank you for participating in this experiment!

You have indicated that you would be interested in finding out more about making your workplace breastfeeding-friendly. At the bottom of this page, you'll find a link to the U.S. Department of Health and Human Services "Business Case for Breastfeeding" website.

Before you leave, I would like to share some information about the research design and questions. The promotional message you have read was created for this experiment.

- Research begins with a compelling question. In this experiment, I would like to learn:
 - 1) whether a message accentuating potential gains or potential losses will make otherwise equivalent information more persuasive, and
 - 2) whether messages that appeal to self-interest or the interests of others are more persuasive
- Next, a research design is created to tackle the research questions. Here, I created four different messages with equivalent information, and then asked questions to see how convincing you found the arguments.

In order to ensure that everyone's responses are unbiased by outside influences, **please do not speak with anyone about the study**. It is very important that others who may participate in the next couple of weeks *not* know the purpose of the study beforehand.

This study investigated Gain and Loss Framed messages and Self- and Other-Regarding Appeal Strategies, in the context of Workplace Policies Regarding Breastfeeding.

Theories about Gain and Loss-framing posit that messages that accentuate potential losses of *not* following a recommendation will be more persuasive if audiences consider the recommendation to be risky. On the other hand, if the recommendation is not considered risky, messages that accentuate potential gains are more persuasive.

Theories about Self-Interest and Other-Regarding Appeals suggest that messages that appeal to self-interest are effective, but that perhaps their superiority over other-regarding appeals is over-estimated.

If you would like to learn more about these topics, you may be interested in reading the following scholarly articles:

Darke, P.R., & Chaiken, S. (2005). The Pursuit of Self-Interest: Self-Interest Bias in Attitude Judgment and Persuasion. *Journal of Personality and Social Psychology*, 89(6), 864-883.

Rothman, A. J., & Salovey, P. (1997). Shaping perceptions to motivate healthy behavior: The role of message framing. *Psychological Bulletin*, 121, 3-19.

Again, thank you very much for participating! I appreciate your time and effort!

This link will take you to the [United States Department of Health and Human Services "Business Case for Breastfeeding"](#) website.

Appendix F: Default Debrief

Thank you for participating in this experiment!

I would like to share some information about the research design and questions. The promotional message you have read was created for this experiment.

- Research begins with a compelling question. In this experiment, I would like to learn:
 - 1) whether a message accentuating potential gains or potential losses will make otherwise equivalent information more persuasive, and
 - 2) whether messages that appeal to self-interest or the interests of others are more persuasive
- Next, a research design is created to tackle the research questions. Here, I created four different messages with equivalent information, and then asked questions to see how convincing you found the arguments.

In order to ensure that everyone's responses are unbiased by outside influences, **please do not speak with anyone about the study**. It is very important that others who may participate in the next couple of weeks *not* know the purpose of the study beforehand.

This study investigated Gain and Loss Framed messages and Self- and Other-Regarding Appeal Strategies, in the context of Workplace Policies Regarding Breastfeeding.

Theories about Gain and Loss-framing posit that messages that accentuate potential losses of *not* following a recommendation will be more persuasive if audiences consider the recommendation to be risky. On the other hand, if the recommendation is not considered risky, messages that accentuate potential gains are more persuasive.

Theories about Self-Interest and Other-Regarding Appeals suggest that messages that appeal to self-interest are effective, but that perhaps their superiority over other-regarding appeals is over-estimated.

If you would like to learn more about these topics, you may be interested in reading the following scholarly articles:

Darke, P.R., & Chaiken, S. (2005). The Pursuit of Self-Interest: Self-Interest Bias in Attitude Judgment and Persuasion. *Journal of Personality and Social Psychology*, 89(6), 864-883.

Rothman, A. J., & Salovey, P. (1997). Shaping perceptions to motivate healthy behavior: The role of message framing. *Psychological Bulletin*, 121, 3-19.

Again, thank you very much for participating! I appreciate your time and effort!

Appendix G: Workplace Accommodations Responses

Responses to Item 22: “Please describe measures your workplace has put in place to support breastfeeding.”

Responses regarding the conditions, if any, under which breastfeeding or milk expression is permitted:

“It is allowed.”

“It is permissible.”

“It can be done.”

“It is allowed and private space is provided.”

“It is allowed in private.”

“As long as it is done in a respectable manner, it is okay.”

“Child allowed in office.”

“We are a family-owned business and allow anyone to breastfeed in our home office.”

“They are allowed to do it anytime they need to.”

“Employees are allowed to breastfeed their children when necessary as long as they accomplish their required work in a timely manner.”

Responses regarding the time or space that is available for breastfeeding or milk expression:

Five responses noted that time is made available, without further detail.

Two responses referred to storage space (presumably for expressed milk), without further detail.

Three responses cited areas inside the restroom, without further detail.

Five responses referred to “private” rooms, without further detail.

Seven responses cited “separate rooms,” without further detail.

More detailed responses included the following, organized from least elaborate to most elaborate:

“I have a clean and comfortable room for this purpose.”

“A private room within a nursery.”

“Mothers room, pump stations.”

“We have a break room that locks that has been used in the past when a mother needs to express her milk. Since we don’t have a day care center in our office our mothers don’t actually breastfeed.”

“We have a room available for mothers to pump while at work. We don’t have a daycare facility, so the mothers can only pump.”

“We have a children’s play area, as our employees can bring their children to play there while they work – there are also 2 empty office areas where it is breastfeeding friendly.”

“We have a “family area” with comfortable seating for breastfeeding and a calm place for tired/cranky/noisy children and parents to sit.”

“They have set up a lounge with vending machines, books, plush furniture and gentle lighting just for women who are breast feeding.”

“My workplace supports and encourages both children and pets. We have a ‘lounge’ area off the playroom where mothers and fathers may feed their babies in comfort.”

“We make it so that the breastfeeding woman is able to pump in a private comfortable area where it is relaxing for her to do this and a refrigerator for her to store her milk until she is able to go home with it.”

“We have areas set up with comfortable chairs, tables, rockers that make it comfortable and nice for the moms here to breastfeed, they can read a book, watch tv, or listen to music.”

“We have a special room at each of our facilities for mothers that provides a private place for mothers to breastfeed or use breast pumps.”

“There is a very private area for breastfeeding with changing tables, wipes, sinks and antibacterial soaps and cleansers. Includes tissues and several kinds of ointments and even diapers.”

General statements of support:

“They are aware of the act and support it.”

“I am retired but would support any such matter and have in the past.”

“There is a pro-breast feeding/pump stance.”

“Totally open to the practice, private spaces available for those who want them, public participation and individual decision-making supported.”

Descriptions of current breastfeeding in the workplace:

“Small office, no problem for breastfeeding, however, we have no infants among our employees at this time.”

“I know it exist but most women do not after the time off, or at least I know not of the practice being done”

Other responses:

“Posters.”

“Policies for moms.”

“Not sure.”

Appendix H: General Responses to the Survey

Responses to Item 63: "Please use the space below to share any comments you would like to make about this topic or the survey you've just completed."

21 responses were "n/a," "none," "nothing," etc.

Responses indicating a lack of support for breastfeeding:

"The topic of breastfeeding does not really apply to me as I am self employed and working from home. However, I don't feel that it is appropriate. If a mother is at work, they are at work & the children are at home. There are solutions to this issue that have been used successfully for years. I'm not an old stick in the mud, I can adapt to change. This is just not a change that needs to be made."

"I feel that if one chooses to breast feed that is a personal choice and the public should not be forced upon ones personal choices."

Responses indicating support for breastfeeding:

"COMMON SENSE DICTATES THIS ISSUE IS THE CORRECT THING TO SUPPORT."

"Have supported breastfeeding in the workplace and everywhere for many years. My father was a pedodontist and was convinced that bottle-feeding often led to dental problems in young children."

"I think we need to work hard in the work place to make things right for those who need to be there."

"In order to provide a productive work-place, an employer must be as willing to 'vest' in its employees as it desires its employees to 'vest' in the company. This means finding ways to promote positive relations. Attendance is a huge issue in most companies today. Providing a program for 'breast-feeding' will promote better attendance as well as show a vested interest by the company in the future of its employees. It's great PR & a win-win for both sides."

"Breastfeeding is important to children and their health"

"Thank you and breast feeding in the workplace should be permitted"

Responses that indicated support for or interest in breastfeeding based on personal experience or the experience of loved ones:

"I am a mom that breastfeed her children till they where a year old. I know how hard it is to be able to feel comfortable and be committed to do that for your child even for a year or some do this longer. It is so beneficial for the child. Employers should ant to make this available for the mom's to do. Moms are such a hard working aspect in the employment force. Families can barely make it on one income. Any employer would benefit from allowing their mom to breast pump. Strong families are so important especially today."

"I am interested in the breastfeeding issue as my daughter-in-law is expecting in Nov. and she is a nurse. She hasn't decided on whether to breastfeed or not. It's a topic that should be put out there for the public to see, and you did a good job of presenting it."

"As a mother of three and having breastfed each child, I believe in the importance of being able to support a program that will aide in breastfeeding for woman at work. I was fortunate in having that luxury being self-employed. However breastfeeding your child should not be considered a luxury for yourself."

"My fiancee plans to breastfeed our future children and we were both fed that way as well."

Responses indicating that supporting breastfeeding in the participant's workplace would be difficult or impossible due to the nature of the job:

"I found it very interesting. As I am in the construction field, it would not be feasible for mothers to nurse on the job site. It would not be a safe environment for a baby."

"In my line of work it is not safe to breastfeeding I support breastfeeding in the work place if it is safe to do so but I am in law enforcement and do not have any co-workers that are breastfeeding and if they were they would not be able to do the certain part of the job that is needed while breast feeding."

"I don't think every business would find it applicable though. I'm a manager at McDonald's and can't imagine one of my crew members bringing their infant in to work and feeding them on their break. I'm fine with customers feeding their infants but I would appreciate some covering up for the sake of those who aren't accustomed to seeing that in public which definition I think much of my communities qualify under."

Responses indicating that the topic was not relevant due to the composition of the workforce:

"Some questions were difficult to answer exactly, due to the answer choices given. I am self-employed, sole proprietor... no employees at all. If I had a client with a baby in my office (or friend or family member) and they had need to breastfeed at the time, it would not bother me in the least. I would offer a quiet room out of public view if they would prefer. Did the best I could to answer with the choices given. Thank you for the opportunity to take this survey."

"Just in our company we can't have breastfeeding because I am the only worker and male."

"Breast feeding is not a big issue to me because I am well past the age personally, and a very small workplace does not currently confront this issue. Breastfeeding could be easily accommodated if the issue arose."

"Am single man so topic of no relevance, self-employed."

"Currently I am the only full time employee at my location and am male. Should my business hire a female in need of breastfeeding, I would be fully supportive and seek to make that opportunity available."

"My business is run by myself and my husband with no other employees. But we would make room for a mother to breastfeed if need be."

Other commentary on the topic:

"It's important and should not be taken lightly!"

"Very interesting matter, something that I never really thought about but this survey make me a little more aware."

"It was a different subject."

Responses about the measures used in the questionnaire:

"In the sensitivity and relating to others problems section, my answers could vary depending on the people and the situation involved. Some people have created their problems, or fail to take advantage of potential solutions. There is a point at which worrying about their issues, or extending a great deal of help or sympathy is only enabling them in continuing with their issue."

"I have no idea how the questions were related to breastfeeding."

"Feeling sad, or sorry for someone does nothing to help their situation. My first thought when I see someone depressed is, not to become depressed with them, but to see if I can help them come out of their depression."

Commentary on the questionnaire:

"It was different than the usual surveys I take. I appreciate that someone/a group has thought about something other than the only way to get ahead in money making. Thank you for the opportunity."

"Good survey."

"Interesting survey; important issue."

"Survey was enjoyable to complete."

"Very interesting."

"Interesting."

"Very interesting survey!"

"I enjoyed taking this survey. I thought the questions were well thought out."

"Different, but nice."

"The survey was both enjoyable and entertaining to take. Great job."

Other responses:

"Thank you."

"No thanks."

"This is so 20th century."

"Like they say if you do not like the smoke, do not go where they smoke!"

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