

# Mothers' beliefs moderate their emotional response to guilt appeals about physical activity for their child

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## Abstract

*Background:* Emotional advertising appeals have been used to encourage mothers to promote health behaviours to their children, including healthy diets and oral hygiene. However, it is currently unknown if emotional appeals can be effective at motivating mothers to support their child's physical activity.

*Purpose:* We examined how mothers' beliefs affected their feelings of guilt, perceived behavioural control and intentions to support their child's physical activity in response to guilt appeals about physical activity for their child.

*Methods:* Mothers ( $n=301$ ,  $M_{age}=38\pm 8$  yrs) with a child aged 8 to 13 reported beliefs about their child's physical activity and were randomly assigned to watch an advertisement with a low, moderate or high guilt appeal about physical activity for their child. Mothers completed measures of positive and negative emotions, perceived behavioural control, intentions in addition to their perceptions of advertisement credibility and manipulative intent.

*Results:* Across low, moderate and high guilt conditions, mothers who did not believe their child was meeting the physical activity guidelines reported more guilt in response to the advertisement, less perceived behavioural control and lower intentions to support their child's physical activity than mothers who believed their child was meeting the guidelines. Mothers who believed their child was meeting the guidelines experienced increased guilt with stronger guilt appeals, but they were not motivated by these messages.

*Conclusions:* Mothers' pre-existing beliefs about their child's physical activity moderated their responses to guilt appeals. Overall, mothers do not seem to be motivated by guilt appeals to support their child's participation in physical activity. Strategies alternate to guilt appeals warrant further investigation for motivating positive health behaviours for children through their mothers.

**Keywords:** mothers, children, physical activity, guilt, perceived behavioural control, intentions

## Introduction

The Canadian physical activity guidelines recommend that children engage in at least 60 minutes of moderate to vigorous intensity physical activity per day, each day of the week for health benefits (Tremblay et al., 2011). However, only 7% of Canadian children are currently meeting these guidelines (Colley et al., 2012). Efforts are needed to increase the number of children meeting the physical activity guidelines.

Given that parental support can be strongly associated with a child's physical activity level (Ploeg, Maximova, Kuhle, Simen-Kapeu, & Veugelers, 2012; Trost et al., 2003), government and health organizations send messages to parents to promote physical activity for children (Huhman et al., 2005). For example, a recent campaign from Canada's national voice for physical activity, ParticipACTION, challenged mothers to *Think Again* about whether or not their child was sufficiently active. Although untested, the *Think Again* campaign may have elicited negative emotions from its viewers.

Advertising emotional appeals may purposely aim to make parents' experience negative emotions (Brennan & Binney, 2010; Coulter & Pinto, 1995; Henley, Donovan, & Moorhead, 1998). Negative emotional appeals can make parents feel guilty for failing to promote healthy behaviours to their children and in turn, motivate parents to make healthier choices for their children (Coulter & Pinto, 1995). There is currently no evidence suggesting negative emotional appeals can be effective for promoting physical activity to children through their parents. The present study aims to be the first to explore parental guilt in response to physical activity promotion for children.

Although the evidence for emotional appeals and physical activity is non-existent, there is comparable literature on negative emotional appeals promoting healthy diets and oral hygiene to parents, for their children. Coulter and Pinto (1995) examined mothers' responses to guilt appeals about products for a healthy diet and dental hygiene for their child. Mothers saw an advertisement with either a low, moderate or high guilt appeal. It was expected that, according to reactance theory (Englis, 1990), the low guilt appeal would not elicit enough guilt to have an effect on behavioural intentions

and, in turn, it would be ignored. Alternatively, high guilt appeals were expected to be too strong, resulting in reactance and/or message rejection. It was, however, expected that a moderate guilt appeal would make the viewer feel responsible for her actions or inaction. Moderate guilt appeals were expected to elicit enough guilt to increase behavioural intention, without being rejected or disregarded.

Consistent with their hypothesis and reactance theory, mothers in the moderate guilt condition experienced the strongest feelings of guilt relative to mothers in the low or moderate conditions. Furthermore, the feelings of guilt were significantly associated with mothers' intentions to purchase products that could improve their child's health. It seems that feelings of guilt elicited by moderate guilt appeals could motivate mothers to engage in health-promoting behaviours for their child. In addition to promoting a healthy diet and oral hygiene, it stands to reason that moderate guilt appeals could also motivate mothers to promote their child's participation in physical activity.

In addition to considering the emotions mothers may experience in response to guilt appeals, it may also be important to consider mother's beliefs about their child's level of physical activity. Mothers' beliefs about their child's health could moderate message impact, with mothers feeling guilty if they believe they have not supported their child to be active enough. As a result, mothers' feelings of guilt in response to a physical activity message could be based on their beliefs about their child's activity level. Mothers who do not believe they have supported their child to be sufficiently active may be particularly responsive to guilt appeals, such that simple mention of physical activity may be enough to induce feelings of guilt. In turn, messages meant to induce even modest feelings of guilt could be too strong and quickly disregarded.

The purpose of the present study was to examine the impact of guilt appeals on mothers' feelings of guilt, perceived behavioural control and intentions to support their child's participation in physical activity. We hypothesized that message effects would be moderated by mothers' beliefs about whether or not their child was sufficiently active. We expected mothers who perceived their child to be meeting the guidelines would experience the most guilt in response to a moderate guilt appeal without ignoring or rejecting the message. Accordingly, we expected intentions and perceived behavioural control over facilitating activity would be highest in the moderate guilt condition compared to the low or high conditions. Alternatively, for moms who perceived that their children were not meeting the guidelines, we expected any degree of guilt appeal (low, moderate or high) would induce guilt and lead to message rejection, low perceived behavioural control and low intentions.

## Methods

### *Participants*

Participants were 301 English-speaking mothers ( $M_{age}=38\pm 8$  yrs) with at least one child

between the ages of 8 and 13. The majority of mothers (>70%) were Caucasian, married, employed and had only one child. Advertisements recruiting mothers to participate in an online advertising survey about physical activity for their child were posted on Facebook and on a local, online, classifieds website. Participants received a \$5 voucher to a coffee franchise. Financial incentives are common in advertising research and the incentive was integral to recruiting busy mothers who otherwise would not be motivated to participate. There is compelling evidence that mothers can strongly influence their child's physical activity behaviour (Kimiecik & Horn, 1998; Ploeg et al., 2012). The evidence is less compelling, however, for fathers. To avoid gender-biases and to maintain consistent comparisons, we limited our samples to mothers only.

## Measures

*Beliefs.* Mothers were told that according to Canadian physical activity guidelines, children should participate in 60 minutes of moderate to vigorous intensity physical activity per day, 7 days per week (Tremblay et al., 2011). Mothers were asked to report whether or not their child was currently meeting the guidelines.

*Guilt.* Based on previous advertising research, feelings of guilt, fear, anger, and pride have been associated with consumer persuasion (Lerner & Keltner, 2001; Tracy & Robins, 2007). In the current study, guilt was the emotion of primary interest. The other emotions were assessed as a manipulation check, with the expectation that fear and anger would increase with stronger guilt appeals and pride would be unaffected. Participants rated words (e.g., *guilty*, *accountable*) derived from the Positive and Negative Affect Schedule (PANAS) (Watson & Clark, 1999) associated with anger, fear and guilt. Words associated with pride were taken from Tracy and Robins' (2007). Mothers rated all words on a 7-point scale from 1 (not at all) to 7 (extremely) on whether or not they experienced the emotion after watching the advertisement. The PANAS is a valid and reliable measure of emotions (Crawford & Henry, 2004).

*Perceived Behavioural Control.* Mothers rated their perceived behavioural control on a measure adapted from Price, McDivitt, Weber, Wolff, Massett & Fulton (2008). Mothers reported their confidence, ease and control in supporting their child to meet the Canadian physical activity guidelines. The three items were rated on a 7-point Likert scale from strongly disagree (1) to strongly agree (7). Similar items have shown internal consistency and test-retest reliability (Armitage & Conner, 1999).

*Intentions.* Mothers indicated their intentions to support their child's physical activity on 5 items adapted from Sallis and colleagues' (2002). The items included; 1) I intend to encourage my child to participate in physical activity, 2) I intend to speak to my child about the benefits of participating in physical activity, 3) I intend to participate in activity with my child, 4) I intend to provide transportation for my child to participate in physical activity, 5) I intend to watch my child participate in physical activity. Items were rated on a 7-point Likert scale and have demonstrated internal consistency and reliability (Sallis et al., 2002).

### Manipulation Check

**Advertisement Credibility.** Mothers rated how believable, truthful and realistic the advertisement was on a 7-point Likert scale (Cotte, Coulter, & Moore, 2005). The 3 items have demonstrated internal consistency.

**Manipulative Intent.** Participants also indicated the extent to which they believed the advertiser was trying to manipulate them, to manage or control them, persuade them appropriately, and to be fair or unfair (2005). Mothers rated 5 items on a 7-point, Likert scale. This scale is a valid and reliable ( $\alpha = .89$ ) measure of perceptions of manipulative intent.

### Procedure

Mothers who followed an invitation link were directed to the online survey. After providing consent and reporting whether or not their child had met the physical activity guidelines over the past week, mothers were randomized to view either a low, medium, or high guilt appeal advertising video. After viewing the video advertisement, mothers completed all measures.

### Messages

Low-guilt, moderate-guilt and high-guilt appeal videos with still image photos were developed for this study. Each video consisted of fourteen separate still-image and text advertisements. All advertisements were targeted at mothers. The text in each advertisement was developed based on positive outcomes of physical activity for children (Strong et al., 2005) including physical, social and academic outcomes. In accordance with principles for developing guilt appeals as developed by Coulter & Pinto (1995), text in the low guilt advertisements described the benefits of physical activity for avoiding negative health outcomes and gaining health benefits. Text in the moderate guilt advertisements told parents about the costs of not engaging in physical activity for their children. Text in the high guilt advertisements *blamed* parents for not supporting their child's participation in physical activity enough.

### Data Analysis

All scales had high internal consistency,  $\alpha > .81$ . Participants with missing data were removed from all analyses. No outliers (i.e.,  $>3$  SD above the mean) were identified in the data. The data were normally distributed.

Experimental group equivalency was determined using Chi Square tests and residual scores for categorical demographic data and ANOVA for continuous data. Separate 3 (experimental condition) X 2 (parental beliefs) factorial ANOVAs were conducted to test between group effects on guilt, perceived control, intention and the manipulation check items. Significant main effects and interactions were further assessed using independent t-tests and/or pairwise comparisons. Cohen's d effect sizes were calculated, with  $d=0.20$ ,  $d=0.50$ , and  $d=0.80$  being indicative of small, medium and large effects, respectively (Cohen, 1992).

Furthermore, the text of each advertisement mentioned a barrier parents could encounter when supporting their child's participation in physical activity (Cox, Schofield, & Kolt, 2010). A background photo that was related to the outcome in the text was included in each advertisement. Messages were reviewed by lab members with expertise in developing messages for national public health campaigns and previous research. Videos were further pilot tested among a sample of mothers ( $n=10$ ) to confirm that low, moderate and high guilt appeals elicited varying levels of guilt.

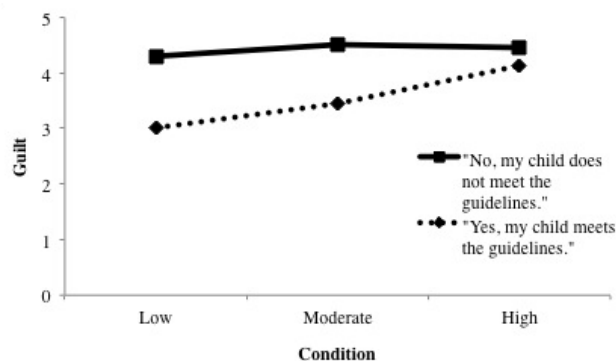
### Results

**Group equivalency.** There were no demographic differences by message conditions including equal distribution for mothers' beliefs,  $ps > .05$ . Age, marital and employment status, and level of education and income were associated with mothers' beliefs,  $ps < .05$ . Mothers who believed their children were meeting the guidelines were younger ( $M_{age}=37 \pm 9$  yrs) than mothers who did not ( $M_{age}=39 \pm 7$  yrs). Among mothers in a low-income bracket and those not working, the proportion that believed their children were meeting the guidelines was higher than expected, standardized residuals  $> 2.00$ . No other significant differences were determined from post hoc examination of standardized residual scores.

**Guilt.** The main effects of condition and mothers' pre-existing beliefs were significant,  $ps < .001$ . Mothers that believed their child was not meeting the guidelines reported significantly more guilt than mothers who believed their child was meeting the guidelines (refer to Table 1). Pairwise comparison revealed that mothers in the high guilt condition experienced more guilt than mothers in the low guilt condition,  $p < .05$ .

The interaction effects between mothers' pre-existing beliefs and condition also was significant,  $F(5, 295) = 3.97$ ,  $p < .05$ ,  $\eta^2 = .026$ . Among mothers who perceived their child was meeting the guidelines, the high guilt message elicited greater feelings of guilt than the low guilt message,  $p < .05$ ,  $d = 0.781$  (refer to Figure 1). Mothers who perceived their child was not meeting the guidelines experienced guilt regardless of the message they received,  $ps > .05$ .

Figure 1 Mothers' feelings of guilt based on their pre-existing beliefs and experimental condition



Sample size –Yes/Low ( $n = 57$ ), Yes/Moderate ( $n = 55$ ), Yes/High ( $n = 43$ ); No/Low ( $n = 45$ ), No/Moderate ( $n = 45$ ), No/High ( $n = 56$ ).

*Perceived Behavioural Control and Intentions.* There was a significant main effect of mothers' pre-existing beliefs on perceived behavioural control and intentions. Mothers that believed their child was meeting the physical activity guidelines reported significantly more perceived behavioural control and stronger intentions than mothers who did not believe their child was meeting the guidelines,  $p < .05$ . No other effects were significant.

**Table 1 Main effects for emotions, perceived behavioural control, intentions and manipulation check items**

		Beliefs			Condition						
		Yes (SD)	No (SD)	Effect size (d)	Low (SD)	Mod (SD)	High (SD)	Effect size (d)			
								L vs. M	L vs. H	M vs. H	
Guilt	$F(1, 295) = 36.0, p < .001, \eta^2 = .109$	3.48 (1.48)	4.42 (1.07)	0.73*	$F(2, 295) = 6.22, p < .05, \eta^2 = .040$	3.58 (1.53)	3.93 (1.35)	4.31 (1.14)	0.24	0.54*	0.31
PBC	$F(1, 295) = 41.9, p < .001, \eta^2 = .124$	5.56 (0.96)	4.90 (0.73)	0.77*	$F(2, 295) = .804, p > .05, \eta^2 = .005$	5.34 (0.87)	5.28 (1.03)	5.10 (0.82)	0.06	0.28	0.19
Intentions	$F(1, 295) = 52.5, p < .001, \eta^2 = .151$	5.73 (1.01)	4.90 (0.96)	0.84*	$F(2, 295) = 1.08, p > .05, \eta^2 = .007$	5.45 (1.01)	5.27 (1.14)	5.25 (1.05)	0.17	0.10	0.02
Anger	$F(1, 295) = 4.16, p < .05, \eta^2 = .014$	3.17 (1.61)	3.60 (1.46)	0.28*	$F(2, 295) = 9.79, p < .001, \eta^2 = .062$	2.87 (1.62)	3.41 (1.39)	3.85 (1.49)	0.36*	0.63*	0.30
Fear	$F(1, 295) = 32.4, p < .001, \eta^2 = .099$	3.18 (1.81)	4.38 (1.68)	0.68*	$F(2, 295) = 6.15, p < .05, \eta^2 = .040$	3.29 (2.10)	3.73 (1.70)	4.28 (1.57)	0.23	0.53*	0.34
Pride	$F(1, 295) = .532, p > .05, \eta^2 = .002$	4.28 (1.55)	4.17 (1.53)	0.07	$F(2, 295) = 2.13, p > .05, \eta^2 = .014$	4.35 (1.45)	3.97 (1.61)	4.34 (1.55)	0.25	0.01	0.24
Credibility	$F(1, 295) = 2.4, p > .05, \eta^2 = .008$	5.28 (1.42)	5.52 (1.39)	0.17	$F(2, 295) = 2.32, p > .05, \eta^2 = .015$	5.63 (1.09)	5.23 (1.51)	5.33 (1.57)	0.30	0.22	0.06
Manipulative Intent	$F(1, 295) = .988, p > .05, \eta^2 = .003$	3.42 (1.38)	3.31 (1.33)	0.08	$F(2, 295) = 10.72, p < .001, \eta^2 = .068$	2.87 (1.10)	3.65 (1.34)	3.59 (1.48)	0.64*	0.56*	0.04

Note. \* $p < .05$ . PBC= perceived behavioural control. Sample size – Beliefs: Yes ( $n = 155$ ), No ( $n = 146$ ); Condition: Low ( $n = 102$ ), Moderate ( $n = 100$ ), High ( $n = 99$ )

### Manipulation Checks

*Emotions.* The main effects of condition and mothers' pre-existing beliefs were significant,  $p < .05$ . Mothers that believed their child was not meeting the guidelines reported significantly more fear and anger than mothers who believed their child was meeting the guidelines (refer to Table 1). Pairwise comparison revealed that mothers in the low guilt condition experienced more fear and anger than mothers in the high guilt conditions,  $p < .05$ . Mothers in the low guilt condition also felt more angry than mothers in the moderate guilt condition,  $p < .05$ .

There was a significant interaction between mothers' pre-existing beliefs and condition on feelings of fear,  $F(5, 295) = 6.53, p < .05, \eta^2 = .042$ . Mothers who perceived their child was meeting the physical activity guidelines reported greater feelings of fear in response to the moderate,  $p < .05, d = 0.555$  and high guilt,  $p < .05, d = 0.973$  messages relative to the low guilt message. No other significant effects emerged.

*Advertisement Credibility.* No significant effects of condition or beliefs emerged.

*Manipulative Intent.* The effect of condition on mothers' perceptions of manipulative intent was significant. Mothers in the moderate and high condition perceived the advertisers to be significantly more manipulative compared to mothers in the low condition,  $p < .001$ . No other effects were significant.

### Discussion

The purpose of the current study was to examine the impact of guilt appeals on mothers' feelings of guilt, perceived behavioural control and intentions to support their child's physical activity. The study findings provide little support for the use of guilt appeals as a means of persuading mothers to encourage their children to engage in physical activity. Findings suggest that mothers' beliefs about their child's level of physical activity may produce enough guilt alone. However, these feelings of guilt were not associated with positive intentions and control. Strategies alternate to guilt appeals warrant further investigation to motivate mothers to support their children's physical activity.

Mothers who did not believe their child was meeting the physical activity guidelines experienced high levels of guilt, low perceived behavioural control and low intentions regardless of the strength of the guilt appeal they viewed. This finding is consistent with our hypothesis. Mothers in this group may have experienced high levels of guilt at the simple mention of physical activity, because it may have served as a reminder that they were failing to meet their parenting standards of supporting their child's health (Brennan & Binney, 2010; Elvin, Nowak, 1999; Kugler & Jones, 1992). Guilt appeals seem to have little effect on mothers who are already experiencing guilt for not attending to their child's activity needs. Future initiatives should aim to help moms overcome their guilt because it is not being motivating them to support their child's activity.

Contrastingly, mothers who believed their child was meeting the guidelines reported stronger feelings of guilt with increasing strength of guilt appeals, yet their perceptions of control and intentions did not increase accordingly. These findings are contrary to our hypothesis and previous research. Coulter and Pinto (1995) observed stronger feelings of guilt and intentions to act in response to moderate guilt appeals relative to weak and strong guilt appeals.

The difference in findings may be attributable to differences in how mothers perceived the ads. Mothers in our study found the moderate guilt appeal equally manipulative as the high guilt appeal, whereas mothers in Coulter and Pinto's (1995) study found the moderate guilt appeal less manipulative than the high guilt appeal. Mothers in the present study may have dismissed their feelings of guilt by attributing them to a manipulative message and not to their own behavior. In practice, if guilt appeals are applied, they must create a sense of personal responsibility while avoiding manipulative tactics.

The limitations of this study must be considered. First, mothers' actual support behaviours were not measured, limiting our outcomes to emotional responses and psychosocial variables. However, emotions can be an important determinant of behavioural motivation (Lerner & Keltner, 2001). Second, feelings of guilt were not measured prior to the advertisement, so it is unknown how the advertisement changed existing feelings of guilt. Thirdly, we examined mothers' perceptions of whether their child was meeting the guidelines rather than children's actual physical activity behavior. Evidence shows that parents are inaccurate reporters of their child's physical activity behavior (Colley et al., 2011). Thus, the pattern of findings reported in the current study may have differed had we applied objective measures to classify children as meeting or failing to meet the guidelines. Arguably, however, it is more important to consider parents' perceptions when aiming to create messages that resonate with them. Fourth, there may have been a response bias towards mothers who were motivated to receive a \$5 gift card. However, financial incentives are common in advertising research and it may have motivated mothers who were otherwise too busy to participate. Finally, the generalizability of the study findings is limited largely to affluent, Caucasian mothers with access to social media websites where advertisements were posted.

In conclusion, the present study sheds light on the importance of considering mothers' pre-existing beliefs when targeting ads to mothers about physical activity for their child. Advertisements with a low, moderate or high guilt appeal were largely ineffective at motivating mothers to support their child's participation in physical activity. Strategies alternate to guilt appeals warrant further investigation for encouraging mothers to promote healthy behaviours to their children.

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