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It's Good for Me: The Role of Moral Development in Health Advertising Effectiveness

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Abstract

This study examines moral development's role in judgments of health messages. This research assesses which appeals and type of benefit advertised in health ads impact ad effectiveness and health intentions. Results indicate that messages advertising a third-person benefit of the behavior are more appealing than a first-person benefit and that moral development should be considered when designing health messages. The ads presenting a third-person benefit and an emotional appeal were more effective among those who rated higher in the maintaining norms schema of moral development and among those with higher moral development. This indicates that health messages targeting adolescents should emphasize the principles at play when encouraging behavior or attitude change and should highlight societal values in the behaviors.

Introduction

Among the many lessons learned during the COVID-19 pandemic, the fact that adolescents do not always follow advice from public health officials is a stark one. In 2020, five months after initial pandemic-mitigating mandates began, yet mere days after fall semester classes started, college campuses all over the United States reported hundreds of positive cases of COVID-19 (Mitropoulos, 2020). Classes that began optimistically in-person swiftly turned virtual due to rapid spreads of COVID-19 and too many instances of pandemic regulation non-compliance to

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number (Mitropoulos, 2020). The reasons behind the rampant noncompliance on college campuses will almost certainly be studied for years, and this research will fall into a category regularly explored—Why do public health campaigns fall short of their designed objectives? This research also will contribute to the growing and important field of public interest communications (PIC), which seeks to provide evidence to shape campaigns that bring about "significant and sustained positive behavioral change on a public interest issue" (Fessmann, 2016, p. 14).

Frieden (2014) noted that while some public health programs succeed in accomplishing their goals, many fail to impact health outcomes. The question then becomes—How can they be made better? What particular components of these campaigns are most effective at changing attitudes, beliefs, or behaviors? By pinpointing certain factors that make a health campaign more or less effective, better messages can be created to encourage audiences to engage in a healthier lifestyle and impact personal and community health, which is the ideal goal of PIC (Alvaro et al., 2013; Baldwin et al., 2013; Cohen et al., 2007; Fessmann, 2016; Frieden, 2014).

An area that could prove beneficial in helping practitioners create more effective messages is the theory of moral development. Moral development determines how individuals judge what is right, wrong, just, etc. This development naturally has implications when targeting individuals with messages that impact their attitudes and behaviors, especially in the context of health campaigns. Moral development helps explain how viewers might interpret the messages being presented, thereby potentially leading to the discovery of additional information on how to design campaigns more appropriately. This study applies moral development concepts specifically to health communication and advertising effectiveness research and uses these concepts to determine how to better present information that impacts public health. This study investigates adolescents' perceptions of health ads to determine if any correlations exist between perceived message effectiveness and moral development. Furthermore, this study focuses on the type of appeal used in the ad and the type of benefit being advertised in messages targeted to adolescents and young adults. While the data detailed here were collected before COVID-19 was on anyone's radar, the need for additional information on this topic has been made abundantly clear ever since coronavirus became a part of everyday lexicon.

Literature review

Public interest communications

The burgeoning field of PIC is described as "the development and implementation of science-based, planned strategic communication campaigns" to produce "a specific positive change in society" (Fessmann, 2016, p. 14). As an academic field, PIC stresses that research should serve as a base for strategic campaigns to make them more effective, not just for awareness, but to effect real behavioral changes that impact a larger community for good. Because PIC campaigns

are striving for tangible changes, it is imperative that the campaigns are "scientifically proven to work. This is critical because poorly-designed PIC campaigns intended to do good may end up causing social and physical harm in ways most PR and marketing campaigns do not" (Fessmann, 2017, p. 17).

Health campaigns are a natural part of PIC research, as such campaigns strive to promote "[p]ositive social good" and "positive benefits for individuals and the society as a whole" (Fessmann, 2016, p. 18; see also Downes, 2017). Many health campaigns, and PIC campaigns in general, endeavor to persuade an audience to do no harm, particularly with respect to rejecting or stopping a negative behavior, such as smoking; changing a current behavior, such as eating balanced meals; or beginning a new behavior, such as wearing facemasks or receiving vaccinations (Fessmann, 2016). Gleaning evidence that informs the successful creation and execution of such strategic campaigns is the primary goal of PIC research.

Campaign effectiveness

Various health campaigns have been found to produce their desired results. For example, the Montana Meth Project was successful in altering the attitudes and behaviors of adolescents toward the use of methamphetamine (Siebel & Mange, 2009). Hersey et al. (2005) found that the American Legacy Foundation's antitobacco industry truth campaign targeted toward teenagers resulted in negative beliefs about the industry, which led to negative attitudes toward the industry. Farrelly et al. (2009) also found that exposure to the truth campaign was correlated with "changes in attitudes, beliefs and intentions to smoke" and that antismoking campaigns that are appropriately researched and implemented can impact teenagers' beliefs and attitudes about smoking (p. 42).

However, research investigating the effectiveness of health campaigns often returns inconsistent results. Noar (2006) noted that metaanalyses of health campaigns indicate that campaigns can affect attitudes, knowledge, and behaviors, but mostly these effects have been small and at times short-lived (see also Centers for Disease Control and Prevention, 2013 and Michaelidou et al., 2010). There is some evidence that health campaigns can be effective, but not all campaigns achieve their intended goals or produce results of significance. Fessmann (2017) argues that the ultimate goal of campaigns seeking changes for the public interest "should be outcome oriented" rather than simply raising awareness, as "complacency often quickly sets in once awareness is reached and campaigns often fail because of this" (p. 22). PIC campaigns that bring about awareness without behavioral changes can often result in more long-term harm than good.

Ad components

Alvaro et al. (2013) reported that producing effective health communication requires determining specific components of ads that appeal to target audiences. Similarly, in studying the effects of the American Legacy Foundation's "truth" campaign, Hersey et al. (2005) reported that future research seeking to improve messages should "explore ad characteristics that contribute to favorable ad reactions" (p. 29). The research detailed here focused on two components of ads and audiences' reactions to them.

Type of appeal

Health communication ads often vary in the type of persuasive appeal used to encourage healthy behaviors or discourage risky ones. Lawton et al. (2009) noted that affect plays a larger role in changing attitudes than social cognition models have emphasized and could be powerful in impacting attitudes, intentions, and behaviors. Lawton et al. (2009) also found that affective attitudes significantly predicted all the health behaviors they measured and predicted nine of the health behaviors once intention was included. Although little is known about COVID-19-related messaging, it has been noted that empowering messages are "likely to be more effective than those that emphasize guilt or shame" (Katz et al., 2020, para. 15).

Both affective and factual appeals have been suggested to correlate with the effectiveness of health campaigns, but very little research has compared the two appeals (Mahapatra, 2013; Stafford & Day, 1995). This study examined impact of persuasive appeal (emotional vs. rational) on the effectiveness of health messages. However, since there is not much research comparing the two appeals, no prediction of which appeal will have the greater impact on effectiveness was made.

Type of benefit

A small amount of previous research has examined whether an ad that emphasizes first-hand effects on the self might be more or less effective than a message that features the impact a health behavior has on a third-person other (Beaudoin, 2002). However, no research compares messages that highlight health behaviors' first-hand effects on the self and second-hand effects on a third-person other. Because of the CDC's recommendation that individuals wear masks to prevent the spread of disease to others as much as, or more so, than to protect themselves, a lot of COVID-19 messaging has emphasized this third-person impact. This study sought to examine the type of benefit being advertised (first-person vs. third-person) and its impact on ad effectiveness.

Based on the research reviewed above, this study sought to examine how specific components of health campaigns—type of appeal and benefit—interact to impact ad effectiveness and whether an individual's health intentions impact his or her perceptions of an ad's effectiveness.

RQ1: How do components of health campaigns (type of appeal, type of benefit) impact ad effectiveness?

RQ2: How do components of health campaigns (type of appeal, type of benefit) interact with ad effectiveness and health intentions?

Theoretical perspective

This study applies the theory of moral development to health communication and advertising effectiveness research, using it to determine how to communicate public health information more effectively, which is a new concept in both the moral development and mass communication fields. Interestingly, anecdotal observation of the COVID-19 pandemic-related messaging shows that the morality of adhering to mandates and regulations is featured predominately, thus making this new intersection of moral development and advertising particularly timely.

Moral development

Moral development determines how individuals judge what is right, wrong, or just. This development naturally has implications when targeting individuals with messages that impact their attitudes and behaviors. Campaigns designed to encourage the adoption of beliefs or behaviors that enhance a person's or community's overall health or quality of life often frame these behaviors as being 'good for you.' Knowing how different groups of individuals judge what is good is important in developing effective messages for them.

Moral development is the result of transformations in a person's form and structure of thought. Moral development is defined by a notion of cooperation in how we define what is good and just and involves interacting in social situations that contain a moral component (Kohlberg, 1976). Rest et al. (2000) defined moral development as occurring in the personal interest, maintaining norms, and postconventional schemas. In the personal interest schema, the individual's focus is on the self. Individuals in this schema of development evaluate dilemmas based on what would be gained or lost, and decisions are justified by personal stake. In the maintaining norms schema, individuals identify existing rules and authorities and obey those authorities out of respect for the system. In the postconventional schema, the focus shifts beyond group norms and conventions to more universal definitions of goodness and justice. Those in the postconventional schema believe that moral obligations are based on shared ideals, are fully reciprocated, and open to scrutiny (Rest et al., 2000).

Moral development should be an important consideration in advertising campaigns and is especially applicable to campaigns targeting children and adolescents. The perception of advertising messages and adoption of the behaviors advertised seem to have a natural connection to moral and ethical development, yet it remains to be seen whether an individual's level of moral development would affect his perception of such messages. The research detailed here

applies moral development to the perception and effectiveness of health messages to determine whether this subject lends more insight into how messages can be more effective.

RQ3: How does moral development influence the perceived effectiveness of health messages?

Method

The research questions were investigated by conducting an efficacy study of health messages using a 2x2 within-subjects factorial design. Based on the literature reviewed, this study considers two particular components of health messages: the type of appeal (emotional vs. rational) and the type of benefit (first-person vs. third-person). Participants (N = 196) were exposed to each possible combination of the two components through a total of four experimental stimuli: emotional/first-person; emotional/third-person; rational/first-person; rational/third-person. Participants then answered a questionnaire that asked about the perceived effectiveness of the ads and measured their moral development levels. Participants' demographic information is represented in Table 1.

Table 1

Participant Demographics

Gender	*N (%)*	*Age*	*N (%)*	*Ethnicity*	*N (%)*
Male	92 (47%)	15-18 years	12 (6%)	Caucasian	113 (57%)
Female	57 (29%)	19-21 years	75 (38%)	African American	16 (8%)
Not reported	47 (24%)	22+ years	62 (32%)	Asian/Pacific Islander	12 (6%)
		Not reported	47 (24%)	Hispanic	4 (2%)
				American Indian/ Native American	1 (<1%)
				Other race/ethnicity	3 (2%)
				Not reported	47 (24%)

Stimulus

Each participant was exposed to four print ads, presented digitally, that varied by the components being manipulated. The variations were pretested to ensure they conveyed the intended

components: participants in this pilot test (N = 143) each evaluated 12 ads (three ads in each condition: emotional/first-person, emotional/third-person, rational/first person, rational/third-person). There were statistically significant differences among the ads in: emotional appeal, $F(1, 142) = 45.655$, $p = .000$; rational appeal, $F(1, 142) = 7.576$, $p = .000$; first-person benefit being advertised, $F(1, 142) = 2.136$, $p = .024$; and third-person benefit being advertised, $F(1, 142) = 66.449$, $p = .000$. The final ads selected for the study were those with the highest means of ratings for the desired components. Forced-choice manipulation checks also were included on this study's questionnaire to ensure participants perceived the variations as intended.

Ads demonstrating the emotional appeal played to the reader's emotions, in the vein of Aristotle's classic *pathos* mode of persuasion. The ads created for this study consisted of visuals of a cigarette, skull, or seemingly unconscious child wearing an oxygen mask, accompanied by text describing smoking's effects on items with more emotional ties (appearance, physical ability, overall quality of life, etc.). The rational ads appealed to the reader's logic using the classic *logos* appeal of persuasion and featured visuals of cigarettes or an image of drifting smoke on a dark background but also emphasized statistics that smoking increases risks for disease and death. Ads demonstrating the first-person benefit contained text that emphasized smoking's dangers for the reader's, or smoker's, own health while the third-person benefit ads contained text that emphasized the dangers of second-hand smoke, or the potential harm caused to others if the reader engaged in smoking. The ads created for this research are included as figures 1 through 4.

Figure 1

Stimulus Ad 1: Emotional Appeal, First-Person Benefit

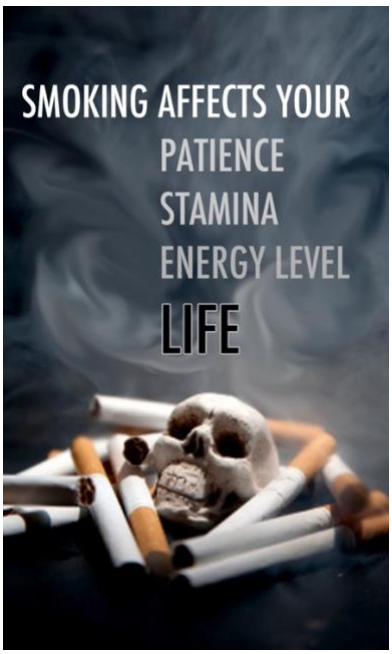


Figure 2

Stimulus Ad 2: Emotional Appeal, Third-Person Benefit

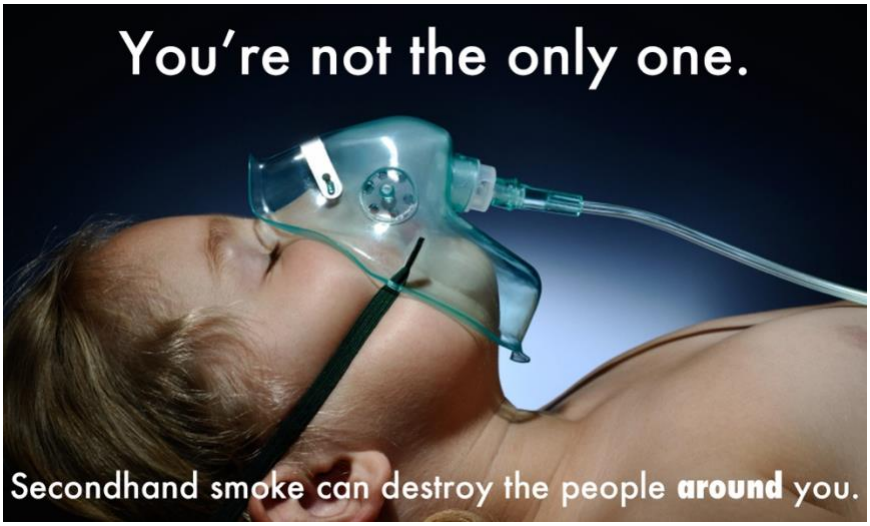
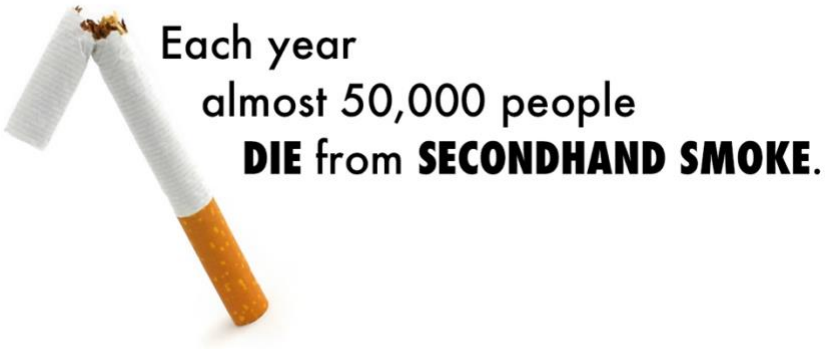


Figure 3

Stimulus Ad 3: Rational Appeal, First-Person Benefit

Figure 4

Stimulus Ad 4: Rational Appeal, Third-Person Benefit



Participants and procedure

Adolescence is a formative time in the lifespan when individuals are beginning to make health choices for themselves. Studying participants in this critical time of life allows for the examination of health message perception at varying stages in moral development and helps inform practitioners as to the types of messages that best get through to this important demographic. Participants for this study were adolescents and young adults, ages 15-25, who were students in grades 10 through graduate school. Once the participants accessed the online-based questionnaire, the software used to conduct the questionnaire randomized the order of the experimental stimuli.

Measurements and scales

Dependent variables

The dependent variable that was measured is ad effectiveness. Ad effectiveness was measured using a five-item, Likert-type scale derived from ad effectiveness measures used by Lee et al. (2013) and Alvaro et al. (2013). The participants rated the following items on a scale of 1-5, with 1 indicating strongly disagree and 5 indicating strongly agree: This ad was convincing; This ad said something important to me; Overall, how much did you agree or disagree with what this ad said?; The information in this ad is believable to me; This ad got my attention. This scale had good internal consistency (*Cronbach's* α = .915 for stimulus ad 1, *Cronbach's* α = .938 for ad 2, *Cronbach's* α = .896 for ad 3, and *Cronbach's* α = .906 for ad 4). The results of the questions measuring effectiveness were averaged into one effectiveness score for each ad.

Independent variables

For *RQ1* and *RQ2*, this study examined whether the two ad components discussed above—appeal and benefit—impacted ad effectiveness. These independent variables were measured using each stimulus's manipulation checks. The manipulation checks were adapted from Liu and Stout's (1987; see also Cornelis et al., 2012) scale to measure ad tone. This scale was used to ensure the participants perceived the ads to be presenting the type of ad component intended. The participants were asked to select an adjective based on which word better described the ad they viewed. To measure appeal, the participants were asked to judge whether the ad was: logical/emotional; objective/subjective; or factual/nonfactual. To measure benefit, the participants were asked to judge whether the ad was: about me/about someone else; impacts me/impacts those around me; or affects me/affects someone close to me. Table 2 lists the Chi-Square results of the manipulation checks for which there were statistically significant differences.

Table 2

Manipulation Check Chi-Square Statistics

Manipulation Check	*Chi-Square*	df	*Asymp. Sig.*	*Observed N for intended manipulation*	*Observed N for other manipulation*
Ad 1 Appeal Check 1	21.356	1	0.000	121	59
Ad 1 Appeal Check 2	6.084	1	0.014	106	73
Ad 2 Appeal Check 1	86.382	1	0.000	151	27
Ad 2 Benefit Check 1	40.819	1	0.000	131	46
Ad 3 Appeal Check 1	99.197	1	0.000	152	21
Ad 3 Appeal Check 2	131.798	1	0.000	162	11
Ad 3 Appeal Check 3	133.339	1	0.000	161	10
Ad 4 Appeal Check 1	45.786	1	0.000	131	42
Ad 4 Appeal Check 2	113.606	1	0.000	158	17
Ad 4 Appeal Check 3	133.766	1	0.000	164	11
Ad 4 Benefit Check 1	25.034	1	0.000	120	54

For *RQ2*, an independent variable that was measured was health intentions. Intentions to smoke were measured using questions from Pechmann and Reibling's (2006) measurement of intent. The participants rated the following items on a scale of 1-5, with 1 indicating strongly disagree and 5 indicating strongly agree: "In the future, I might smoke one puff or more of a cigarette," "I might try out cigarette smoking for a while," and "If one of my best friends were to offer me a cigarette, I would smoke it." The scale had good internal consistency in measuring health intention (*Cronbach's α* = .921). The results of the questions measuring intentions to smoke were averaged into one health intention score. Health intention scores ranged from 1 (no intention to smoke) to 5 (high intention to smoke) with a mean of 2.12 (*SD* = 1.21). Thirty-three percent of the respondents (N = 66) reported no intention to smoke. Table 3 provides frequency statistics for the health intention score.

Table 3

Health Intention Score Frequencies

Health Intention Score	*Frequency*	*Percent of Sample*
1.00	66	33.7
1.33	13	6.6
1.67	6	3.1
2.00	14	7.1
2.33	7	3.6
2.67	14	7.1
3.00	14	7.1
3.33	6	3.1
3.67	6	3.1
4.00	11	5.6
4.33	7	3.6
5.00	5	2.6
Total	169	86.2

For *RQ3*, each participant's moral development was measured using the Defining Issues Test 2 (DIT2). The DIT2 is a revised version of the original Defining Issues Test (DIT1) that was designed to measure moral development and was derived from Kohlberg's (1976, 1984) work in this area. The DIT1 evaluates moral development through a multiple-choice task "that asks participants to rate and rank a standard set of items" (Rest et al., 1999, p. 645). While Bebeau and Thoma (2003) report the DIT2 reliability to generally be 0.81, and even lower for the short form version (*Cronbach's α* = .682), Bebeau and Thoma (2003) mention that reliability may be

lower when participants do not represent a full range of educational levels. As the participants in this study were mostly college students, it was expected that the DIT2 reliability for this study would be lower than average.

Results

Ad effectiveness

RQ1 asked, "How do components of health campaigns (type of appeal, type of benefit) impact ad effectiveness?" The participants' answers to the three questions measuring effectiveness for each ad were averaged into effectiveness scores for each ad. Table 4 presents the overall effectiveness scores for each ad. Paired samples t-tests were conducted to compare the effectiveness scores of the rational group ads to those of the emotional group ads, and the effectiveness scores of the first-person benefit ads to those of the third-person benefit ads. When comparing the effectiveness of the ads based on the type of appeal, there was no statistically significant difference. However, the third-person benefit ads were perceived as more effective than the first-person benefit ads, $t(166) = 4.056$, $p < .001$.

Table 4

Overall Ad Effectiveness Results

Stimulus Ad	*Mean*	*Std. Deviation*
Ad 1 (Emotional Appeal/First Person-Benefit)	3.54	.92
Ad 2 (Emotional Appeal/Third-Person Benefit)	4.05	.82
Ad 3 (Rational Appeal/First-Person Benefit	3.91	.79
Ad 4 (Rational Appeal/Third-Person Benefit)	3.74	.87

In looking at the combinations of appeal and benefit and their impact on perceived effectiveness, a repeated measures ANOVA was conducted to determine which ads were rated as most effective. There was a statistically significant difference between the effectiveness of the ads, $F(1,166) = 4.934$, $p < .05$. A comparison of the means of the ads' effectiveness scores reveals that ad 2, which contained an emotional appeal with a third-person benefit, was rated the most effective ($M = 4.053$, $SD = .815$), with ad 1, which contained an emotional appeal with a first-person benefit, rated least effective ($M = 3.537$, $SD = .924$).

Additional repeated measures ANOVAs were conducted with demographic information as between-subjects variables and covariates to determine whether differences exist between the participants and their perceptions of the ads' effectiveness. There was a statistically significant

effect of the participants' gender and perceived ad effectiveness, $F(1, 143) = 13.038$, $p < .001$. Females rated each ad more effective than males. Table 5 illustrates this result.

Table 5

Ad Effectiveness and Gender

Stimulus Ad	*Gender*	*Mean*	*Std. Deviation*	*N*
Ad 1 (Emotional Appeal/First-Person Benefit)	Male	3.1927	1.04914	55
	Female	3.6222	0.83327	90
	Total	3.4593	0.94108	145
Ad 2 (Emotional Appeal/Third-Person Benefit)	Male	3.72	0.91214	55
	Female	4.2022	0.73469	90
	Total	4.0193	0.8371	145
Ad 3 (Rational Appeal/First-Person Benefit)	Male	3.6691	0.82482	55
	Female	4.0356	0.75585	90
	Total	3.8966	0.80004	145
Ad 4 (Rational Appeal/Third-Person Benefit)	Male	3.4364	0.89616	55
	Female	3.8889	0.86225	90
	Total	3.7172	0.89956	145

Health intention

RQ2 asked, "How do components of health campaigns (type of appeal, type of benefit) interact with ad effectiveness and health intentions?" A repeated measures ANOVA revealed significant differences among the rated effectiveness of the ads when using participants' reported intentions to smoke as a covariate, $F(1,162) = 4.036$, $p < .05$. Those with a lower reported intention to smoke rated the ads as more effective than those who reported a higher intention to smoke. The ads were evaluated as effective in the same order as general ad effectiveness, with ad 2 being rated highest ($M = 4.05$, $SD = .814$; see Table 6).

Table 6

Ad Effectiveness Results with Health Intention Covariate

Stimulus Ad	*Mean*	*Std. Deviation*
Ad 1 (Emotional Appeal/First Person-Benefit)	3.54	.92
Ad 2 (Emotional Appeal/Third-Person Benefit)	4.05	.81
Ad 3 (Rational Appeal/First-Person Benefit	3.92	.79
Ad 4 (Rational Appeal/Third-Person Benefit)	3.73	.87

To better examine the combinations of ad appeal and benefit and their impact on perceived effectiveness, and because significant differences were found among perceived effectiveness when comparing all four ads, additional repeated measures ANOVAs were run to determine if participants' intentions to smoke were correlated with the perceived effectiveness of two ads compared at a time. With health intention as a covariate, there were statistically significant differences between the perceived effectiveness of ad 1, a first-person benefit/emotional appeal ad, and ad 2, a third-person benefit/emotional appeal ad, $F(1, 165) = 8.516$, $p < .01$, with ad 2 being rated more effective ($M = 4.05$, $SD = .814$). There were statistically significant differences between the perceived effectiveness of ad 1, a first-person benefit/rational appeal ad, $F(1,166) = 9.438$, $p < .01$, with ad 3 ($M = 3.915$, $SD = .786$) being rated more effective. There was also a statistically significant difference between the perceived effectiveness of ad 1 and ad 4, a third-person benefit/rational appeal ad, $F(1,163) = 4.317$, $p < .05$, with ad 4 ($M = 3.734$, $SD = .873$) being rated more effective.

Moral development

RQ3 asked, "How does moral development influence the perceived effectiveness of health messages?" Table 7 presents descriptive statistics of the participants' DIT2 results.

Table 7

DIT2 Descriptive Statistics

Measure	*N*	*Minimum*	*Maximum*	*Mean*	*Std. Deviation*
Post Conventional (P Score)	127	.00	68.00	27.1772	14.02613
Personal Interest (Stage 2/3)	127	2.00	70.00	33.1339	13.66397
Maintaining Norms (Stage 4)	127	.00	66.00	31.9055	13.90411
N2 Score	127	-.56	65.33	25.7444	12.73080
Valid N	127				

To answer *RQ1*, a repeated measures ANOVA was conducted to determine if participants' moral development levels predicted their perceived effectiveness of the ads. Table 8 presents each ad's effectiveness score with moral development as a covariate.

Table 8

Ad Effectiveness Results with Moral Development Covariate

Stimulus Ad	*Mean*	*Std. Deviation*
Ad 1 (Emotional Appeal/First Person-Benefit)	3.47	.93
Ad 2 (Emotional Appeal/Third-Person Benefit)	4.06	.82
Ad 3 (Rational Appeal/First-Person Benefit	3.97	.76
Ad 4 (Rational Appeal/Third-Person Benefit)	3.76	.90

There were no statistically significant differences in these effectiveness ratings. However, to better explore the combinations of ad appeal and benefit, and their relationship with moral development and perceived effectiveness, additional repeated measures ANOVAs were run to determine if participants' moral development levels were correlated with differences between the perceived effectiveness of two ads compared at a time, rather than all four. With moral development as a covariate, there were statistically significant differences between the perceived effectiveness of ad 1, a first-person benefit/emotional appeal ad, and ad 2, a third-person benefit/emotional appeal ad, $F(1,124) = 4.802$, $p = .030$, with ad 2 being rated more effective ($M = 4.05$, $SD = .814$). There were statistically significant differences between the perceived

effectiveness of ad 2 and ad 4, a third-person benefit/rational appeal ad, $F(1,124) = 9.485$, $p = .003$, with ad 2 ($M = 3.915$, $SD = .786$) being rated more effective. There was also a statistically significant difference between the perceived effectiveness of ad 3, a first-person benefit/rational appeal ad, and ad 4, $F(1,124) = 6.555$, $p = .012$, with ad 3 ($M = 3.915$, $SD = .786$) being rated more effective. To sum, the ad demonstrating the third-person benefit with an emotional appeal was rated significantly more effective than the first-person emotional and third-person rational ads, with the first-person rational ad also being rated significantly more effective than the third-person rational ad, when moral development was covaried.

The participants' levels of moral development were analyzed using the N2 index score calculated from their DIT2 results. Dong (2009) reported normative scores from a database of DIT2 results, stating that undergraduates (N = 32,974) exhibit an average N2 score of 34.76 ($SD = 15.45$). The mean N2 score for this study's sample (N = 127), which consists largely of undergraduates, was 25.7 ($SD = 12.73$). As this is significantly lower than average, it may be that the N2 is not a good representation of the strategies participants are using to interpret ad effectiveness. In addition to the overall N2 score, the DIT provides assessments of three developmentally ordered moral schema: personal interest (in which moral judgments are formed with a focus on the self and personal relationships), maintaining norms (which prioritizes the rule of law, social norms, and the role of authority in formulating a moral judgment) and postconventional (which attends to the underlying shared ideals that ought to organize social cooperation). The N2 score primarily focuses on the most-developed postconventional schema, but the DIT also offers an index for each schema. Given that the current sample overwhelmingly prefers the maintaining norms schema for making moral judgments, the primary analyses of this study were expanded to include maintaining norms as the index for moral judgment development.

Although differences for ad effectiveness were found between genders when moral development was controlled for, $F(1, 143) = 13.038$, $p = .000$, when the maintaining norms (stage 4 score) was covaried out, that significant difference no longer existed. To better examine the relationship between moral development and perceived ad effectiveness, multiple regressions were run to determine where correlations may occur and how strong these relationships are. For ad 2, the maintaining norms schema explained a statistically significant amount of the variance in ad effectiveness, $R^2 = .094$, $F(1, 124) = 6.296$, $p = .002$. Similarly, for ad 3, maintaining norms explained a statistically significant amount of the variance in ad effectiveness, $R^2 = .069$, $F(1,124) = 4.527$, $p = .013$. Thus, when the participant's preferred moral judgment strategy was included in the analysis, findings indicate that moral judgment scores do account for a portion of the variance in the ad effectiveness ratings for two of the ads.

Discussion

Although not many previous studies have compared ad appeals, some research credits emotional appeals with greater ad success (Mahapatra, 2013; Niederdeppe, et al., 2008; Stafford & Day, 1995). In this study, however, paired sample *t*-tests comparing the effectiveness of the ads based on type of appeal revealed no significant differences between emotional or rational appeals. For this sample, whether the ad used an emotional or a rational appeal did not impact the participants' perceived effectiveness of that ad. Similarly, few previous studies have examined whether an ad that emphasizes first-hand effects on the self might be more or less effective than one that features the impact a health behavior has on a third-person other, although some research indicates that second-hand effects of smoking in anti-smoking ads were generally effective (Beaudoin, 2002). In this study, the ads presenting a third-person benefit of the reader quitting smoking for the sake of those around them were perceived as more effective than ads advertising a first-person benefit. When analyzed with the type of benefit as the only consideration, ads that implored the viewer to quit smoking for the sake of others resonated better with the participants in this study. These findings indicate that, although the type of appeal used in an ad may not impact its perceived effectiveness, whether the ad speaks to benefits to the viewer's self or third-person other should be taken into consideration when designing a campaign for maximum effectiveness and is deserving of more research.

Evaluating the impact various combinations of these components have on ad effectiveness provides more insight than just weighing the components separately. Analyzing all four ads together revealed statistically significant differences among their effectiveness, as ad 2 was consistently rated most effective. Ad 2 presented a third-person benefit, which is consistent with the finding that this benefit was more effective, and an emotional appeal.

Most of the participants' demographic information had no bearing on the ads' effectiveness ratings, as there were no significant differences found among educational levels, age, or even smoking status and their perceived effectiveness of the ads. However, the ads used in this study seemed to be more appealing to females than males. There were statistically significant differences between gender and the ads' effectiveness, even though the effectiveness rank order of the ads according to gender was the same as the rank order when gender was controlled: ad 2 was most effective among both males and females. Each of the four ads was more effective among females in this sample than males, as the females' mean effectiveness score was significantly higher for each ad. However, this may indicate that females are generally more affirming than males when making an evaluation.

To answer *RQ1*, the findings of this study indicate that the type of appeal being used in a health ad does not impact that ad's effectiveness, while messages advertising changing a behavior for the sake of those around the reader are more effective than those beseeching the reader to change for his or her own health benefits.

As discussed earlier, many studies seek to determine how health campaigns influence health intentions and behaviors (Lee et al., 2013; Pechmann & Reibling, 2006; Shen, 2010). However,

there is very little research that examines whether a viewer's existing health intentions impact the way he or she evaluates a health message. In taking into consideration participants' intentions to smoke as a covariate, significant differences were found among perceived ad effectiveness. This is especially interesting considering participants' smoking status (closed to smoking, open to smoking, prior experimenter, early smoker, or established smoker) having no significant influence on their evaluations of the ads' effectiveness. Lower scores of intentions to smoke predicted greater perceived ad effectiveness than higher intention scores. The ads' rank in order of effectiveness was the same as when health intentions were controlled for. For those with a lower intention to smoke, the ad presenting a third-person benefit and an emotional appeal were seen as most efficacious, followed by the ad advertising a first-person benefit and rational appeal.

To answer *RQ2*, the results of these analyses indicate that using either an ad with a third-person benefit and an emotional appeal, or one with a first-person benefit and a rational appeal, would have success communicating with viewers who already have low intentions to smoke. An ad presenting a first-person benefit and emotional appeal would not be effective among this audience.

Moral development determines how individuals judge what is right, wrong, just, etc. This development has implications when targeting individuals with messages that impact their behaviors, especially when considering health campaigns. As this sample of participants was mostly students in high school or undergraduate college, it could be reasonably assumed most of these students would be in a maintaining norms schema of development, where their focus has been shifted to the group and what the group defines as right and wrong, or entering a post-conventional stage, where the focus shifts beyond group norms and conventions to more universal definitions of goodness and justice.

In analyzing moral development as a covariate with the ads' effectiveness, there were no significant differences found. A surface exploration of this concept would make it appear as if moral development does not have any influence in how these participants perceived the ads. However, a more detailed look at the differences in perceived ad effectiveness, by comparing two ads at a time rather than all four, revealed that ad 2 was perceived as more effective than ads 1 or 4. Taking levels of moral development as calculated by participants' N2 index scores into consideration, ads 2 and 3 were considered the most effective, even though there were no significant differences between the two.

However, the DIT2 results for this sample were lower than average for individuals of similar age and education level, and the sample itself did not contain individuals of a range of education levels idealized for moral judgment studies, perhaps skewing the outcome of this investigation. A more accurate examination of these data, then, involves analyzing levels of moral judgment from the perspective of developmental indices. Examining differences in ad effectiveness using the maintaining norms schema as a covariate negated the differences found among the ads' ratings by gender. While before there was a significant difference between the way women and men rated the ads when other factors are controlled, the presence of the maintaining norms

schema, which could be reasonably assumed would be prominent among this sample, disavowed that difference. Further, regressions run to look more closely at the impact of moral development on the perception of health message effectiveness revealed that ads 2 and 3 were again more effective among those with higher maintaining norms schema reasoning than the other ads. Ads 2 and 3 appealed more to those who scored higher in the maintaining norms schema, suggesting that moral development does come into play in rating the effectiveness of health messages.

Realizing that participants in this study preferred the maintaining norms schema for making moral judgments helps provide some insight into their penchant for ad 2 in most analyses. Ad 2 presented an emotional appeal with a third-person benefit, and individuals in the maintaining norms schema believe that without law there is no order, and that maintaining social order defines morality. They identify existing rules and authorities and obey those authorities out of respect for the system. When individuals develop into this schema of moral reasoning, their focus has been shifted to the group and what the group defines as right and wrong. Actions are performed based on laws and group-wide decisions, and there is an assumption that laws and rules will be applied society-wide and maintain a level of reciprocity.

To answer *RQ3*, the findings of this study indicate that moral development does play a role in how an individual evaluates a health ad. The ads presenting a third-person benefit and an emotional appeal were more effective among those who rated higher in the maintaining norms schema and among those with higher moral development as indicated by the N2 index score. Taking moral judgment into account through developmental indices for this sample also seemingly erased gender differences in ad effectiveness that were revealed in previous analyses.

The results of this study provide a foundation for further research investigating advertising effectiveness from the lens of the moral development theoretical perspective and show that this perspective should be taken into consideration when designing health messages. As formative research, this study also contributes valuably to literature in the field of PIC, since it is imperative that PIC campaigns are evidence-based (Fessmann, 2016), and, as pointed out by Shafer and Macary (2020), "formative research seeks to understand a public, its experiences, needs, and preferences to shape the social change strategic campaign rather than imposing the beliefs of an organization onto a public" (p. 39). Further, the introduction of a new theoretical concept to health campaigns accomplishes one of the considerations proposed by Downes (2017) for building positive social change through PIC—interdisciplinary scholarship, which can bring about "a rich, inclusive formula for promoting and moving the [PIC] field forward" (p. 33). Therefore, the results of this study indicate several factors that should be emphasized or avoided while planning strategic and public interest campaigns targeting individuals in the adolescent and young adult stages of life.

Adolescents are often in the stage of life where their focus is on group conventions. They are in the law and order, mutual perspectives time of life where they want to fit in and be like the group. In fact, maintaining group norms has been described as the heart of adolescence. Messages designed to influence health behaviors of individuals in the maintaining norms schema of moral development should focus on group norms, emphasizing that the behaviors are

beneficial for the group, that the group approves or does not approve of doing them, or that the behaviors follow the group's agreed upon rules. For instance, a campaign to encourage teenagers not to text while driving could show that their actions may affect not only themselves but other people, too, or highlight celebrities or other people held in high esteem by their peers who have spoken out against texting while driving. Messaging designed to encourage social distancing and wearing masks could emphasize that individuals are helping others with such actions, that others in their peer groups are performing those behaviors, and that they could be met with disapproval from their peer group for not complying.

Young adults have hopefully developed so that they are able to recognize societal perspectives and more universal principles. These individuals can see beyond the good of the self and the group into a more universal sense of justice and equality. Messages targeting young adults should emphasize the principles at play while encouraging behavior or attitude change and should point out the societal value in the behaviors. For instance, a campaign designed to discourage drunk driving among young adults may emphasize the societal consequences of the number of lives lost due to drunk driving and the financial strain drunk driving places on society. Pandemic messaging could focus on the number of lives lost because of not complying with mandates, or the number of lives potentially saved due to compliance, as well as other societal consequences of not curbing spread of the disease, such as local and national economies or mental health.

Limitations and directions for future research

While this study has produced interesting insights into the perception of health messages, several limitations prohibit the results from being generalized. First, time and financial limitations necessitated the use of a convenience sample recruited from students enrolled in classes at a large university in the Southeast in the semesters during which data collection took place. The convenience sample resulted in a relatively homogenous sample. While a homogenous sample helps to limit confounding variables in examining perceived ad effectiveness, a more diverse sample would have enabled a better exploration of the relationship between moral development and message evaluation. The sample was also limited in that a majority reported having never or rarely smoked. The participants' already low intentions to smoke and young age may have impacted their judgments of the ads. Future studies in this area using similar samples should utilize stimulus materials that advertise a more relatable health message that more greatly impacts the participants, such as healthy eating or pandemic-mitigating behaviors.

Second, this sample generated moral development scores that deviate from the norms as reported by Dong (2009). The normative N2 index score for undergraduates is 34.76, while the students in this sample returned an average of 25.7. The results of this study do not allow for speculation as to why the moral development levels for this sample would be so much lower than average, although the relatively unvaried demographic characteristics of the participants would

impact moral development results. The lack of educational diversity in the sample prohibits a rich analysis of perceived ad effectiveness over varying levels of moral development, which is necessary to reach a full understanding of how these two areas may overlap. The results from this study indicate that the interaction of moral development and health message effectiveness should be studied further; however, future studies in this area should utilize diverse samples.

Even though this study produced interesting results that provided insight into how various ad components and moral development interact to impact perceived effectiveness, this topic should be studied further. For this sample, the combination of third-person benefit and emotional appeal was effective in communicating an anti-smoking message to this sample of participants. However, most of this sample reported that they have never or rarely smoked, a characteristic that may have impacted participants' responses to questions about the ads they viewed. Those who do not smoke may naturally find an anti-smoking message appealing or may not relate to any message regarding smoking. To more fully understand how the type of benefit and appeal used in a health ad interact to impact the effectiveness of a health message, a variety of health messages should be studied on a variety of samples. For instance, would these results be replicated in a study using ads that encourage healthy diets or regular exercise? Would the type of appeal and benefit impact the effectiveness of a message encouraging certain behaviors known to prevent different types of cancers? Do different components affect the perceived efficacy of messages differently among various age groups, genders, races, or educational levels? While this study has made an important step in understanding how to better design campaigns to encourage behavior changes that impact public health, these questions are important to answer to distinctly improve health campaigns and, in turn, impact health behaviors and create an overall healthier society.

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