The Role of Physical Activity on Advertising Effectiveness in a Mobile Fitness App

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Global advertising in 2015 was projected at $592.43 billion (eMarketer, 2014), of which mobile internet advertising was at $64.25 million. A consistent challenge in advertising is assessing effectiveness and determining return on investment (Cianfrone & Dees, 2014). Companies are searching for the most effective platforms to reach desired consumers in hopes of achieving the eventual goal of consumption.

One area of the advertising industry that is growing rapidly is ads within mobile applications (apps). Specifically, the fitness industry is booming with mobile apps that measure, report, and promote physical activity (PA). MapMyFitness, Runkeeper, MyFitnessPal, and C25K are a few. These apps are so popular and valuable that athletic apparel companies have recently entered the app market and purchased them to capture an audience of direct consumers. The flurry of purchases includes Under Armour’s acquisitions of MapMyFitness for $150 million in 2013, Endomondo for $85 million in 2015, and MyFitness Pal for $475 million in 2015, Adidas AG’s purchase of Runtastic in 2016 for $239 million, and Asics’ acquisition of Runkeepr for $85 million in early 2016 (Germano, 2015; Kharif, 2016). The trend suggests there is a market of potential consumers for these brands.

After the acquisitions, Under Armour, Adidas, and Asics advertise within their respective apps. As Under Armour Chief Executive Kevin Plank stated, “One thing we emphatically know is that the more they work out, the more apparel and footwear they’re going to ultimately buy,” (Germano, 2015, p. 1). This assumption is common, that involvement levels impact purchase behavior, yet has not been examined within the fitness advertising literature or with respect to PA participation.

Under Armour’s Chief Executive’s hypothesis might be best tested by behavioral theories that help to explain PA behavior. The theory of planned behavior (TPB; Ajzen, 1991) identifies intention, or an individual’s motivation to engage in the behavior, as the immediate determinant of behavior. Intention, in turn, is explained by attitude (a person’s positive or negative evaluation of the behavior), subjective norm (an individual’s perceived pressure to perform or not perform the behavior), and perceived behavioral control (a person’s perception of how easy or difficult it is to perform the behavior). According to the TPB, people who possess more positive attitudes towards PA, will be more motivated to participate in PA, and will engage in greater amounts of PA, and therefore, will spend more money on fitness-related apparel.

Advertising effectiveness has been greatly studied and many factors impact consumer’s response to advertising. Exposure to the advertisement, attitude towards advertising, past history with the brands, or involvement with the product are all variables that may influence a consumer's response. To determine this response and effectiveness, an initial step is measuring awareness levels via recall or recognition measures. Attitudes towards the the brand are also commonly assessed. Finally, actual purchase behavior is the ultimate goal of most advertising. Because effectiveness may be influenced by many factors, including involvement levels- in this case, PA levels and the associated attitude and intention. As such, this study aims to explore the awareness of advertisements within a mobile fitness app.

Additionally, a mobile fitness app provides a dynamic advertising platform for fitness related and non-fitness related brands to advertise their product.

Purpose

This exploratory study investigates the role of PA on advertising effectiveness. Specifically, applying the TPB framework, the influence of PA attitude, intention, behavior on the effectiveness (awareness and purchase behavior) of brand advertising within a mobile fitness app will be studied.

Method
Participants were university employees who participated in an annual 8-week, team-based program that promotes PA participation through the use of several behavioral strategies including competition, weekly prompts, and self-monitoring. During the 8-week PA program, employees record their minutes of moderate-to-vigorous PA using the MapMyRun mobile app or website. One week after the program, employees were emailed a link to an electronic survey that included items to measure the TPB constructs, PA participation, and advertising effectiveness.

The TPB questionnaire included 18 items that assessed attitude (7 items), subjective norm (4 items), perceived behavioral control (4 items), and intention (3 items). All items were rated on 7-point Likert type-scales (Ajzen, 2002) and were averaged to produce a score for each construct. Higher scores indicated more positive attitudes toward PA, stronger subjective norm, greater perceptions of control over PA, and stronger motivation to engage in PA.

Self-reported PA was measured with the Godin Leisure-Time Exercise Questionnaire (GLTEQ; Godin & Shepherd, 1985). The GLTEQ is a global survey that asks participants to consider their exercise habits during a typical week. They were asked to report the number of times they engaged in at least a 15 minute bout of strenuous, moderate, and mild exercise. Total weekly leisure time activity is determined by multiplying the number of bouts of strenuous activity x 9 (i.e., estimated MET value), number of bouts of moderate activity x 5, and number of bouts of mild activity x 3 and summing a total score. For the purpose of this study, and to be consistent with current PA guidelines, bouts were considered a minimum of 10 minutes and only the strenuous and moderate intensity categories were calculated. This method of calculating total PA has been used in previous studies with a similar sample (Biber & Ellis, 2016).

Advertising effectiveness was measured via awareness and purchase behavior. Advertising awareness was measured through unaided recall items; this top of mind recall is often considered the most rigorous awareness measure for cognition (“Did you notice any ads or company brands when using the app?”; e.g., Cianfrone & Zhang, 2006). Participant fitness related purchases during the competition, related dollar amount spent, and brands purchased measured behavior. Results were categorized into health and fitness related brands and non-health and fitness related brands to discern if PA levels influence types of recall.

Results
This study is in progress with data collected, but analysis is incomplete. Although 157 employees volunteered for the 8-week program, only 72 consented to complete the follow-up survey. Initial results showed that 25% of responding participants made a fitness/exercise related purchase during the time period with average spending of $123. Additionally, about 33% of participants recalled seeing a brand when using the app and 36% correctly recalled Under Armour as an advertising brand. Participants also reported positive attitudes (M = 6.50, SD = 0.56), strong intention (M = 6.39, SD = 0.83), and modest levels of PA (M = 50.69 METS, SD = 32.10). Regression analyses will examine the relationships between attitude intention, and PA participation, and awareness of advertisements and purchases made.

Discussion
The relationship between PA attitude, intention, and behavior and advertising effectiveness will be the focus of the discussion. Brands that target a captive audience who are focused on fitness would be interested to know the impact of PA levels on brand awareness and purchase behavior. The role of PA attitude and intention may glean insight as to the type of consumers who recall ads and purchase items. Data will also allow discussion on the impact of PA and using a mobile app with respect to recall levels, as the number of times a person logs into the app to enter their PA leads to varying exposure to the brands. Limitations and future research will also briefly be discussed.