

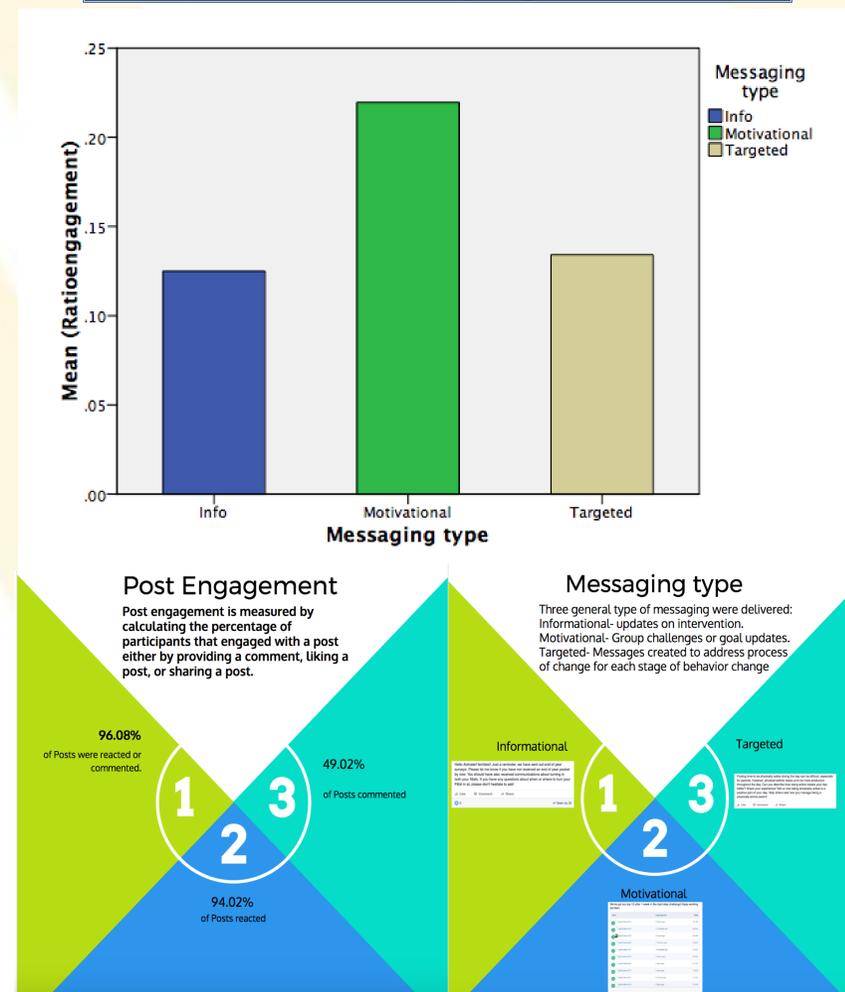
## Background

- Parents are among the largest consumers of social media, over the last decade 83% of parents have begun subscribing to some form of social media.<sup>1</sup>
- This level of social media use in the parent population makes Facebook an ideal setting for targeting parents with health and physical activity interventions.
- Physical activity in parents is linked to activity behaviors in children within the family unit.
- Children are nearly six times more likely to be active if both parents are active, relative to families in which neither parent is active. If only one parent is active, children were still shown to be more than three times as active than children with inactive parents.<sup>2</sup>
- Interventions that target parent health and physical activity behaviors are critical to addressing the obesity epidemic.
- Early research on interventions that incorporate social media has shown a link between participant engagement and study outcomes.<sup>3</sup>
- The aim of this study was to investigate how message delivery and message type impacted participant engagement in a Facebook group. It is hypothesized that message delivery using the variety of Facebook tools will have an effect on participants engagement with Facebook content.**

## Methods

- Study participants were randomized at the school level into one of three groups: family, school or control. Intervention strategies were developed and implemented for each group.
- Parent-child dyads of 5<sup>th</sup> grade students from rural West Virginia were recruited from the family intervention of project *Activate!* to join a Facebook group which served as a tool to connect participants with the intervention.
- Parents received three basic post types: informative, Motivational, and targeted messaging. Targeted messaging is comprised of a staged model of behavior change messages targeting precontemplation of physical activity. Precontemplation messages were structured using Prochaska's process of change model and are designed to emphasize the pros of engaging in physical activity.
- Engagement was operationalized as the percentage of participants that engaged with a post either by providing a comment, liking a post, or sharing a post.

## Messaging



## Results

- A two-way ANOVA was conducted to examine the effects of messaging type on participant engagement in a physical activity Facebook intervention.
- There were no outliers, residuals were normally distributed ( $p > .05$ ), and there was homogeneity of variances ( $p = .212$ ).
- The interaction effect between post type and messaging type on engagement was not statistically significant,  $F(2, 52) = .207, p = .93$ , partial  $\eta^2 = .015$ .
- main effect for message type were statistically significant,  $F(2, 53) = 4.418, p < .01$ , partial  $\eta^2 = .143$ .
- Pairwise comparisons indicated the unweighted marginal means of "message type" scores for informational, motivational, and targeted messaging were .113% ( $SE = .025$ ), .201 ( $SE = .023$ ) and .135 ( $SE = .018$ ), respectively.
- Motivational messaging was associated with a mean "Engagement" score 9.5% higher than informational messaging, a statistically significant difference,  $p < .001$ .
- Motivational messaging was also associated with a mean "Engagement" score 8.5% higher than targeted messaging,  $p < .01$ .
- There were no statistically significant differences between informational and targeted messaging.

## Discussion

- Results from this study can help guide social media strategy as well as provide a baseline for future research on Facebook use in physical activity interventions.
- This research provides a guide for social media health delivery by providing evidence of effective engagement strategies. Additional research is needed to better understand how parents perceived intervention messaging.
- In this study, engagement was operationalized as a measure of the sum of interactions measured in the form of reactions, comments or shares over the total number of participants. This measure of engagement allows researchers to determine what percentage of intervention participants interacted with messaging content.
- It was expected that targeted messaging would be the most engaging message type, however, targeted messaging was less engaging to participants than motivational messaging. One reason for this may be that targeted messaging was not tailored at the intervention level. Future research should consider participants' stage of behavior change and target participants based on current stage of behavior change, rather than as a staged group.
- Researchers expected to find significant differences in engagement level between different content types including photos, status updates, videos, and polls. However, there were no significant interaction effects between content type and messages.

### Implications

- These results support evidence to indicate that the message strategy is a more significant indicator of participant engagement than the message delivery. Existing studies have reported that the delivery method of Facebook content has been a key indicator of engagement. However, these results indicate that the specific strategies used to develop the content may be a more effective way of increasing engagement levels. This study only investigated three specific messaging strategies and highlighted the need to understand what additional messaging strategies can be successful when conducting online social media interventions.

### Limitations

- Used within the context of this intervention Facebook posts were limited to a private group, elements of relationship with existing Facebook friends may help to drive participant engagement in future studies.

## References

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