

A STUDY ON HEALTH CONSUMERS' EMOTIONAL RESPONSES TO ASTHMA-RELATED VIDEOS ON YOUTUBE

INTRODUCTION

- People increase asthma information seeking and supporting each other through video, wikis, and blogs in virtual environments (Renahy et al., 2008; Shaw & Johnson, 2011).
- Asthma videos are a popular type of multimedia health information among health consumers on social media.
- The emotional responses to asthma videos can help identify consumers' information needs and interests, as well as their attitudes towards the videos.

RESEARCH GOALS

This study aims to explore the associations between the attributes of asthma-related videos and the corresponding health consumers' emotional responses to these videos on social media platform YouTube. Since the emotional responses can be either positive or negative, this study explores the attributes associated with positive and negative emotional response, respectively.

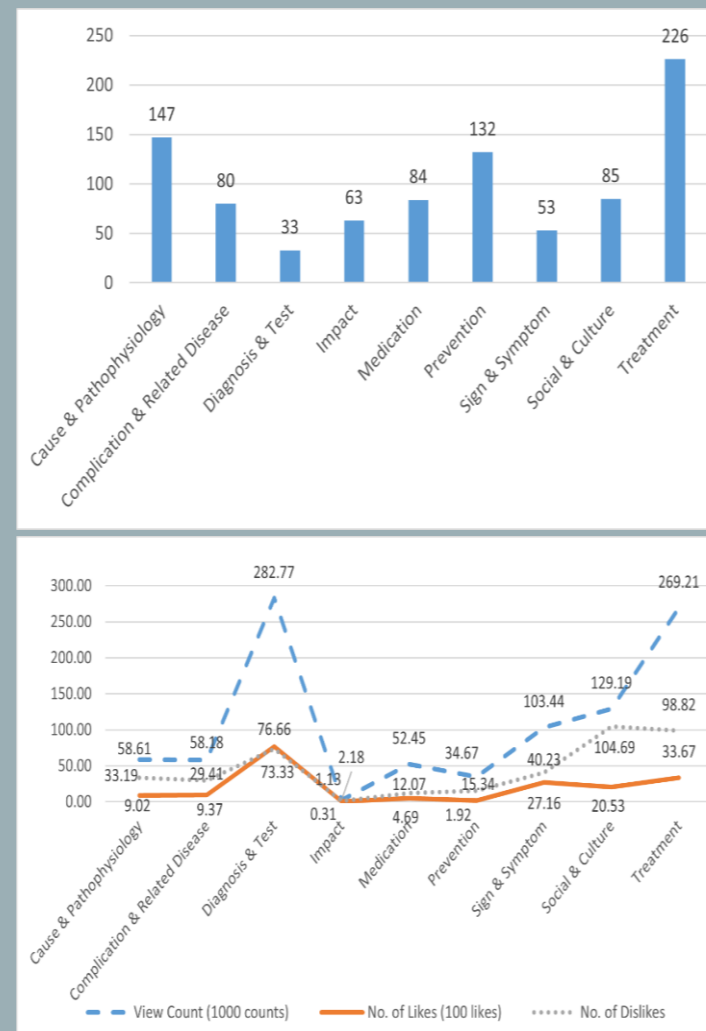
METHODS

- Data collection
 - Platform: YouTube
 - Search terms: asthma, asthmatic, and exercise-induced bronchoconstriction
 - Relevance judgement: 2 researchers manually judge the relevance
 - Time: March, 2021
 - Field: title, publish date, length, description, view counts, number of likes, number of dislikes, and transcript
- Data analysis
 - Subject analysis: coding by 2 researchers
 - Sentiment analysis: SentimentIntensityAnalyzer module run with Python
 - Regression modeling

Table 1. Variables and measures.

Variable	Measure	Variable	Data Type
Number of views	Number of views of a video	Exposure	Numeric
Positive response	Number of likes of a video	Dependent	Numeric
Negative response	Number of dislikes of a video	Dependent	Numeric
Post interval	Number of days a video exists since the video was created	Independent	Numeric
Video duration	Length of a video clip measured by seconds	Independent	Numeric
Number of tags	Number of tags of a video given by video creator	Independent	Numeric
Video valence	Sentiment intensity score of a video transcript	Independent	Numeric
Subject Category	Main subject of a video identified by researchers in terms of its content	Independent	Categorical

RESULTS



THEORETICAL FOUNDATION & HYPOTHESES

- The **integrative framework of information processing from advertisements** illustrates that information can influence consumers' emotional responses by changing the processing of information.
- Health consumers tended to like and dislike new videos more than old ones (Zhang et al., 2020), which means that the **post interval** of a video had negative influence on health consumers' positive and negative responses.
 - H1a: Post interval of a video has a significant negative impact on health consumers' positive emotional response to asthma-related videos.*
 - H1b: Post interval of a video has a significant negative impact on health consumers' negative emotional response to asthma-related videos.*
- **Video duration** was positive correlated with Video Power Indexes, an index calculated from views, likes and dislikes, measuring the video popularity (Margallo et al., 2023). Thus, this study hypothesized that video duration had positive impact on health consumers' positive and negative responses.
 - H2a: Video duration has a significant positive impact on health consumers' positive emotional response to asthma-related videos.*
 - H2b: Video duration has a significant positive impact on health consumers' negative emotional response to asthma-related videos.*
- Health consumers were more likely to dislike diabetes-related videos about nutrient, while less likely to dislike videos about diabetic symptoms, which shows the influences **video subject** (Zhang et al., 2020).
 - H3a: Subject of a video has a significant impact on consumers' positive emotional response to asthma-related videos.*
 - H3b: Subject of a video has a significant impact on consumers' negative emotional response to asthma-related videos.*
- Tags of a video also illustrated video subjects and the number of tags presented the diversity of video content. In general, the video contained more diverse subjects, more consumers would be attracted by the content and would be provoked emotional responses. It indicates that the **number of tags** positively impacted positive and negative emotional responses.
 - H4a: Number of tags has a significant positive impact on consumers' positive emotional response to asthma-related videos.*
 - H4b: Number of tags has a significant positive impact on consumers' negative emotional response to asthma-related videos.*
- Ma, Ou, and Lee (2022) found that **emotional valence** of brand post positively affected the number of likes of a post, so we deduced that emotional valence of a video impacted the consumers' positive responses to videos positively and, meanwhile, impacted the negative responses negatively.
 - H5a: Emotional valence of a video has a significant positive impact on consumers' positive emotional response to asthma-related videos.*
 - H5b: Emotional valence of a video has a significant negative impact on consumers' negative emotional response to asthma-related videos.*

Table 3. Influence factors of positive emotional response.

Factors	Coefficient	Standard error	Z-value	P-value
Post Interval	-0.001	0.000	-10.010	0.000
Video Duration	1.905×10 ⁻⁴	0.000	2.866	0.004
Number of Tags	0.021	0.004	5.735	0.000
Subject Category	-	-	-	-
Treatment	reference	reference	reference	reference
Cause & Pathophysiology	-0.052	0.117	-0.448	0.654
Complication & Related Disease	-0.105	0.131	-0.805	0.421
Diagnosis & Test	-0.041	0.199	-0.208	0.835
Affect	-0.028	0.160	-0.178	0.859
Medication	-0.035	0.131	-0.271	0.786
Prevention	-0.037	0.119	-0.311	0.756
Sign & Symptom	-0.457	0.168	-2.718	0.007
Social & Culture	0.055	0.141	0.394	0.694

Table 4. Influence factors of negative emotional response.

Factors	Coefficient	Standard error	Z-value	P-value
Post Interval	-4.516×10 ⁻⁴	0.000	-3.919	0.000
Number of Tags	0.017	0.006	2.899	0.004
Video Valence	-0.190	0.073	-2.591	0.010
Subject Category	-	-	-	-
Treatment	reference	reference	reference	reference
Cause & Pathophysiology	0.735	0.181	4.051	0.000
Complication & Related Disease	-0.014	0.195	-0.072	0.943
Diagnosis & Test	-0.001	0.321	-0.002	0.998
Affect	0.140	0.278	0.504	0.614
Medication	0.089	0.209	0.426	0.670
Prevention	0.084	0.206	0.407	0.684
Sign & Symptom	-0.140	0.266	-0.526	0.599
Social & Culture	0.306	0.237	1.289	0.197

CONCLUSION

- 2 types of factors influencing health consumers' emotional responses: (1) attitude expression influence factor that provoked or reduced the consumers' desires to express attitudes; (2) attitude tendency influence factor that provoked or reduced the consumers' expression of positive or negative attitudes.
- Attitude expression influence factors: Post Interval, Number of Tags
- Attitude tendency influence factors: Subject Category, Video Valence