

## Research Article

# Description of Student Expectations on the Use of Film Vs. Text to Teach Bioethics: The Spheres of Ethics Teaching Using Film (SOETUF) College Study

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### ABSTRACT

**Purpose:** The purpose of this analysis from our Spheres of Ethics Teaching Using Film (SOETUF) study was to assess whether college students, in approaching new information on bioethics presented using either a film or a written text, anticipated that one medium (film vs. text) would be more effective for addressing certain issues or would have different impacts on their emotions.

**Methods:** This aspect of the SOETUF study consisted of 48 college student who volunteered to take the SOETUF Sans-Trigger (S-T) Questionnaire. The SOETUF S-T Questionnaire, which was developed for this study, consisted of two Domains-Of-Interest: 1) the 11-item 'Anticipated Types of Situation Domain-of-Interest (ATOS-DOI); and, 2) the 23-item 'Anticipated Emotions Domain-of-Interest'(AE-DOI).

**Results:** The results for the ATOS-DOI revealed the students

anticipated that text would be a more effective medium regarding thought provoking situations and would be more likely to create a cool analytical thinking situation and to create a lasting impact on them while they thought that film would be the superior medium for portraying violence, humour and hot empathy. For the AE-DOI, the students reported anticipating that film would be much better for evoking the emotions of terrified, frightened, anger, scared, disturbed, threatened, fearful and uncomfortable, as well as for feeling energetic.

**Conclusion:** The SOETUF S-T Questionnaire successfully discerned meaningful differences in college students' anticipated reaction to the use of a film trigger versus a text trigger in the teaching of bioethics.

**Keywords:** Bioethics, Education, Biomedical, Teaching Methods

### Introduction

While the published literature on using film in bioethics education even includes the description of one curriculum that uses films to teach biomedical ethics specifically to enhance the emotional and intellectual impact as well as numerous articles from around the world endorsing the use of film in the teaching bioethics [1-15]. Nevertheless, there is scant research literature to support these published viewpoints.

Despite this lack of quantified research to support this advocacy for film use in the teaching of bioethics, film has been advocated by various educators for over a quarter of century [16-18]. The fact that the term "cinemeducation" was invented to describe this concept 13 years ago, no cinemeducation study had quantitatively measured the impact on students of being exposed to film versus text triggers regarding their learning of bioethical principles—nor on students' emotional reactions until a very recent publication reported on the first quantified measure of the comparative impact on students of use of a film vs. text trigger in their SOETUF Post-Trigger Study [19].

The overall goal of this aspect of that SOETUF College Study, the SOETUF Sans-Trigger report, asks a complementary question, i.e., is there an anticipated measurable difference in

student expectations between the uses of film vs. text in the teaching bioethics to college students. The goals were to describe what students expected from the use of film vs. text triggers in the teaching of bioethics, and to describe any differences in the primary specific aims by sex or age.

### Methods and Materials

Within the methodological framework of the overall SOETUF Study, the research team developed a second research questionnaire, the 'Spheres of Ethics Teaching Using Film' Sans-Trigger (SOETUF S-T) Questionnaire for use with subjects who neither viewed nor read a 'bioethics trigger' prior to having the SOETUF S-T Questionnaire administered. The final 36-item SOETUF S-T Questionnaire included two domains-of-interest (DOI): 1) the 11-item 'Anticipated Types of Situation Domain-of-Interest (ATOS-DOI); and 2) the 23-item 'Anticipated Emotions Domain-of-Interest' (AE-DOI, as well as two demographic items: sex and age. (see the Appendix for 36-item SOETUF S-T Questionnaire).

All data were collected in two separate data collection days in the Spring of 2017 in the Social Science Experimental (SSEL) Lab at the NYU Abu Dhabi campus, a computer research facility where 24 computer stations which were loaded with the SOETUF

S-T Questionnaire on each of the two data collection days. The SSEL Technical and Operational Manager used their SSEL Lab master list of NYUAD college student research volunteers to select a sex balanced set of research subjects for each invited study group. The subjects were each reimbursed at the rate of 50 AED (Emirati dirhams, ~\$13 U.S.) for their 0.5 hours of participation to completing the SOETUF S-T Questionnaire. For this first use of the SOETUF S-T Questionnaire, a sample size of 48 total students was targeted, based upon the maximal use of the available research funds.

The SSEL staff developed and maintained computer screen formatted questionnaires for the SOETUF S-T Questionnaire and delivered the data in Excel files from each of the completed data collection sessions within a 2-week period by a secure means. These data were then de-identified and converted into SPSS (v24) files. The study required written informed consent and was approved by the NYUAD IRB as an Expedited Review category study

The primary statistical analysis for each of the two primary specific aims used the SPSS v24 DESCRIPTIVE command to calculate the mean scores and standard deviations of the 11-items on the ATOS-DOI and the 23-items on the AE-DOI. ANOVA analysis, by SPSS v24, was used to identify any differences by sex or age on the two DOIs.

## Results

The 48 volunteer SOETUF S-T NYU at Abu Dhabi college students ranged in age from 18–26 years (with an age distribution of 41.7% aged 18-20 years, 35.4% aged 21-22 years, and 22.9% aged 23-26 years), and 47.9% were females. Table 1 shows the descriptive findings for the two studied Domains of Interest: 1) the 11 item 'Anticipated Types of Situation' (ATOS) Domain of Interest, and, 2) the 23-item 'Anticipated Emotion' (AE) Domain of Interest items for the 48 subjects who had no trigger exposure prior to responding to the SOETUF Sans-Trigger (S-T) Questionnaire. The results for the ATOS-DOI revealed while the students reported no anticipated difference between film vs. text for a morally upsetting situation...nor for being totally absorbing, they did anticipate that text would be a more effective medium regarding thought provoking situations and would be more likely to create a cool analytical thinking situation and to create a lasting impact on them. Conversely, they thought that film would be the superior medium for portraying violence, humor and hot empathy, but would only make a short-term impression [20, 21]. For the 23-item AE-DOI, the students reported anticipating that film would be much better for evoking the emotions of terrified, frightened, anger, scared, disturbed, threatened, fearful and uncomfortable, as well as for feeling energetic. Text was not anticipated to be much better to evoke any of the 23 emotions.

The only differences detected for the demographic variables of age and sex are also shown in Table 1. Of the five ATOS-DOI found, overall, to be anticipated as 'stronger for text', three (thought provoking, spark your imagination, and making longer lasting impact) were also detected as being statistically significantly stronger in males vs. females.

**Table 1:** Descriptive findings for the 'Anticipated Types of Situation' (ATOS) Domain of Interest items and the 'Anticipated Emotion' (AE) Domain of Interest items by the 48 subjects who had no trigger exposure prior to responding to the SOETUF Sans-Trigger (S-T) Questionnaire.

ATOS Domain of Interest (11 items)	Mean score <sup>1</sup> (± s.d.)		
<b>Anticipated as stronger for Film:</b>			
Portraying violence	6.0 (± 1.1)		
Portraying humor	5.6 (± 1.3)		
Creating hot empathy	4.8 (± 1.4)		
Only making short term impact	4.7 (± 1.6)		
<b>Anticipated as stronger for Text:</b>			
Thought provoking <sup>1</sup>	2.6 (± 1.7)	3.0 (± 1.9)	2.1 (± 1.3)
Create cool analytical thinking <sup>1</sup>	2.8 (± 1.6)		
Spark your imagination <sup>1</sup>	2.9 (± 2.0)	3.6 (± 2.0)	2.1 (± 1.6)
Create confused thinking	3.6 (± 1.8)		
Making longer lasting impact <sup>1</sup>	3.9 (± 2.2)	4.7 (± 2.0)	3.0 (± 2.0)
<b>No Difference anticipated between Film vs Text:</b>			
Morally upsetting	4.0 (± 1.8)		
Totally absorbing	4.0 (± 2.0)		
<b>AE Domain of Interest (23 items)</b>			
Much stronger for Film trigger:	5.8 (± 1.1)		
Terrified	5.7 (± 1.0)		
Frightened	5.7 (± 1.0)		
Anger	5.4 (± 1.3)		
Scared	5.4 (± 1.6)		
Energetic	5.4 (± 1.4)		
Disturbed	5.4 (± 1.4)		
Uncomfortable	5.3 (± 1.4)		
Threatened	5.2 (± 1.4)		
Fearful	5.1 (± 1.4)		
<b>Weakly stronger for Film trigger:</b>			
Intimidated	4.9 (± 1.5)		
Happiness	4.6 (± 1.5)		
Aroused	4.6 (± 1.7)		
Joy	4.4 (± 1.6)		
<b>Virtually no difference anticipated between Film vs Text triggers:</b>			
Pleasure	4.3 (± 1.6)		
Worried	4.3 (± 1.6)		
Satisfied	4.1 (± 1.4)		
Sadness	4.1 (± 1.8)		
Anxious	4.0 (± 1.6)		
Pessimistic	3.9 (± 1.6)		
Frustrated	3.9 (± 1.6)		
Hopeless	3.8 (± 1.7)		
Optimistic	3.7 (± 1.5)		

<sup>1</sup> scoring scale: 7 = Film is much better; 6 = Film is better; 5 = film is a bit better; 4 = no difference; 3 = Text is a bit better; 2 = Text is better; 1 = Text is much better

## Discussion

This aspect of the SOETUF Study demonstrated that the SOETUF S-T Questionnaire could and did detect anticipated differences by college students between the impact on both of the two Domains of Interest (DOI): 1) on their Anticipated Types of Situation (ATOS) DOI, and, 2) on their Anticipated Emotion (AE) DOI. As this component of the SOETUF Study was limited to providing only descriptive outcomes on what students anticipated, the very nature of this part of the SOETUF Study precludes any in-depth discussion of any finding. Other than saying that students gave strong evidence that they did, indeed, anticipate that they would have different reactions to film vs. text trigger both for anticipated types of situations (i.e., the ATOS DOI) and for anticipated emotions (i.e., the AE DOI) [19,20].

## Conclusion

Conservatively based upon the findings of this report a teacher of bioethics might merely 'be aware' that college students indicated being they anticipated film to be being 'more entertaining' (encountering more humor and hot empathy, as well as more violence....and as it would likely have a shorter impact on them plan to 'counter' some of those anticipated by a specific, on-going teaching plan. Or somewhat more aggressively a teacher might seek to capitalize upon the students' anticipation that a planned text in the curriculum would prove to be more thought provoking, to create analytical thinking and spark their imagination....all with a longer lasting impact. However, great caution would be advised against 'over-reading' these descriptive findings based on this one-time finding on this first quantified exploration of these anticipated impacts.

As was cautioned with the recently published SOETUF Post-Trigger (P-T) Study findings, the limitations of this aspect of the SOETUF Study are similar to those discussed at length in the SOETUF P-T article as one tries to generalize from this study. Namely, as this was first use of the SOETUF S-T Questionnaire all findings must be considered as 'first look' type data. Also, the unique nature of the college student body at the NYU Abu Dhabi campus must be kept in mind as a caution against generalizing the findings of this unique international student body at the NYU at Abu Dhabi campus.

Future plans for pursuing this line of investigation include administering the SOETUF S-T Questionnaire to geographically and culturally identifiable sets of high school students to explore the generalizability of this concept of whether students anticipate different impacts from a 'film vs. text' trigger in the teaching of bioethics.

## Keypoints

### What is known?

- 1) Bioethics teaching is widespread in medical education
- 2) Use of film in the teaching of bioethics has been observed to engage students
- 3) Qualitative studies report that use of film in education enhances study learning

### What this paper adds:

- 1) Provides quantitative evidence of that students anticipate differences from film vs. text triggers
- 2) Provides evidence that a value of a new research instrument: the SOETUF S-T Questionnaire can identify these anticipate.
- 3) Suggest ways teachers can use this 'film vs. text' knowledge to enhance learning in bioethics.

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