

# Effects of Educational News Stories on the Beliefs of Taiwanese Teacher Education Students

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**Abstract:** Educational news stories are likely to provide teacher education students with opportunities to understand the educational situation in the real world. However, in the case of Taiwan, most of local newspapers present negative coverage that may induce teacher education students to generate pessimistic opinions and further negatively affect the formation of their beliefs regarding the nature of education. This study determines the effects of reading educational news stories by teacher education students on their beliefs regarding education after controlling for factors like pre-existing beliefs and perceptions of news story credibility. An experimental research method with a two-group pretest-posttest design, consisting of positive and negative newsgroups, is applied. Sixteen news stories, in print and video, were selected and assessed as positive/negative materials. News credibility scale and teacher education student belief questionnaires were the main research measurements. Eighty participants were randomly assigned to one of two groups. Analytical results reveal the negative effects of negative educational news stories on teacher education students' beliefs regarding education. This study concludes that reading positive news stories did not significantly strengthen the beliefs of teacher education students, while negative news significantly worsened the beliefs of Taiwanese teacher education students regarding education.

**Keywords:** Education news, teacher education students; teacher education student beliefs, media effects

Educational news stories are likely to provide teacher education students with opportunities to understand the educational situation in the real world. However, in the case of Taiwan, most of local newspapers primarily reported arson, criminal activities, disasters, and scandals (Lu, 2010). The negative coverage may generate negative stereotypes for public education in Taiwanese society and may induce teacher education students to generate pessimistic opinions and further negatively affect the formation of their beliefs regarding the nature of education. When increasing numbers of Taiwanese teacher education students have access to wireless Internet access technology, they can browse online educational news without constraints of time or place, and the effects of educational news stories on their beliefs regarding education become an interesting focus of investigation.

Beliefs signify a set of conceptual representations that guide personal thought and action (Harvey, 1986). Nespor (1987) demonstrated that teachers construct and articulate their knowledge, theories, perceptions, assumptions, perspectives, ideologies, and principles as belief systems or filter them through existing belief constructs. In educational research, beliefs are typically used to represent personal philosophy (Pajares, 1992), and significantly indicate behavior (Haney, Czerniak, & Lumpe, 1996; Sosu & Gray, 2012). Yılmaz and Huyugüzel-Çavaş (2008) identified that the classroom management beliefs of pre-service elementary teachers tend to change with teaching practice. İnceçay (2011) also examined the effects of the language learning beliefs of teacher education students on their teaching practice. As they affect future decision-making and instructional practices, teacher educators should be concerned with the beliefs of teacher education students (Valcke, Sang, Rots, & Hermans, 2010).

The beliefs of teacher education students about education are formed from various sources,

including teacher education programs and individual daily life experiences (Soldat, 2009). Therefore, even though a teacher education program may be designed intentionally to construct knowledge and promote abilities of teacher education students, life experiences from interactions with individuals and contexts may alter their beliefs, as shown by Ryan and Healy (2009).

Furthermore, the Internet has increased information transmission in daily life. Dwyer (2010) cited a 2008 report, indicating that the Internet has surpassed all other media except television as the primary source of national and international news. Although most online news is supplied by traditional media sources, the Internet has benefited news media development (Dwyer, 2010). Education news influences teacher education, and teacher education students can easily access educational news stories in print or on video while online. Educational news stories generally focus on a particular school environment and address issues associated with teaching, classroom management, or administration. Teacher education students can easily become immersed in virtual educational contexts when reading these news stories. The above process, which resembles life experiences (Richardson, 1996), provides teacher education students with informal educational knowledge to shape their beliefs regarding education.

Perception of news credibility must be involved in the investigation of the effects of online education news on the beliefs of teacher education students. Individuals perceive news credibility differently (Kioussis, 2001). The opinions of teacher education students regarding educational news coverage thus may differ due to different perceptions of news credibility, and hence different impacts on teacher education students' beliefs regarding education.

Education news can provide teacher education students with ideas and resources that shape their beliefs and attitudes toward their future careers.

The effects of educational news stories on the beliefs of teacher education students are worthy of investigation, but few studies on teacher education have considered this issue. Based on the above perspectives, this study determines the effects of reading educational news stories on the beliefs of teacher education students regarding education after controlling for factors like pre-existing beliefs and perceptions of news credibility.

## LITERATURE REVIEW

### News Coverage and News Credibility

News significantly informs and shapes public opinion (David, 2009; Kim, Scheufele, & Shanahan, 2005). Negative news coverage may generate pessimistic opinions (Lang & Ewoldsen, 2011). According to Lu (2010), local news in Taiwan's four major national newspapers primarily involved arson, crime, disasters, and scandals. Such a focus generates negative stereotypes of Taiwanese society. Such studies support the likelihood that news coverage affects reader beliefs regarding newsworthy events.

Moreover, reader emotions, and even their attitudes and social cognition, change when they are interested and involved in reported events (Chernov, 2009). Numerous researchers have demonstrated that the mass media affect reader emotions (Barlett & Gentile, 2011; Harris, 2004); this is particularly true for news involving violence. Cho and Gower (2006) examined the effects of human interest and crisis types in news of a corporate crisis and responses to that crisis and concluded that human interest influenced emotional responses to crisis. Buijzen, van der Molen, and Sondij (2007) surveyed 451 elementary school children exposed to news coverage of a violent event, and found they had significant emotional responses to the reported event. Thus, reading news about an event can mentally affect readers.

A vital issue on news credibility is worthy of attention. Although extensive news coverage gives viewers direct information regarding events, many events occur behind closed doors (Choi, Watt, & Lynch, 2006). Therefore it is important to consider news credibility, particularly for Internet stories. The credibility of online news has been a popular focus of recent research owing to the Internet being a popular source of information. Inaccuracy and bias because of a lack of editorial and gate-keeping rules have been identified as primary reasons information on the Internet is frequently perceived as non-credible (Abdulla, Garrison, Salwen, Driscoll, & Casey, 2004; Bucy, 2003). Credibility can be defined as "believability" (Tseng & Fogg, 1999, p.39). Metzger, Flannagin, Eyal, Lemus, and McCann (2003) argued that the accuracy of online news is usually doubtful and difficult to verify. The perceived credibility of news coverage thus mediates the effects of news events on the mental responses of readers.

News coverage can strongly influence reader knowledge, beliefs, and judgments (Lee & Scheufele, 2006; Ho, Brossard, & Scheufele, 2008). However, when news coverage on the Internet is edited by a gatekeeper, the issue of news credibility persists and may affect reader opinions of and mental responses to news events.

### Teacher Education Students' Beliefs Regarding Education

Kagan (1992) confirmed that teacher education students enter teacher education programs with personal beliefs about images of good teachers, images of themselves as teachers, and memories of as students. Teacher education students may even view the teaching profession simplistically, and believe that teaching is easy and merely involves information transmission (Feiman-Nemser, McDiarmid, Melnick, & Parker, 1989). Accordingly, teacher education programs are considered a critical process that exposes teacher education students to new perspectives and

prepare them with necessary knowledge and skills (Wilke, 2004). The knowledge and skills transmitted in teacher education programs may influence the beliefs of teacher education students regarding education.

Some studies suggest that teacher education students tend to modify their beliefs when exposed to teacher education programs that target counterproductive beliefs (Chai, Timothy, & Lee, 2009; Mattheoudakis, 2007; Polat, 2010; Richardson, 1996; Sosu, & Gray, 2012). Conversely, other studies found that the beliefs of teacher education students regarding education remained little changed during teacher education (Kagan, 1992; Lim & Chan, 2007). Nettle (1998) showed evidence of both stability and change in the beliefs of teacher education students. These investigations present the inconsistency of change in the beliefs regarding education during teacher education programs. The above inconsistency shows that teacher education students' beliefs can be formed based on chance, experience, or specific events (Pajares, 1992). Milner (2005) further demonstrated that the degree of change in the beliefs and practices of teacher education students was linked directly to their interactions with diverse individuals and contexts. That is, informal factors may also influence the beliefs of teacher education students. Richardson (1996) highlighted another belief source: life experiences. Teacher education students typically begin their education with various experiences, resulting in varying opinions, beliefs, and conceptions about what comprises a good teacher (Ng, Nicholas, & Williams, 2010). The teacher education program is not the only source that impacts the beliefs of teacher education students.

Teacher education students can be encouraged to develop positive beliefs through an adjusted teacher education program, while beliefs that are influenced by life experiences remain unclear. As mentioned, reading online education news, like life experiences, impacts the beliefs of teacher education students. Although events

reported on the news do not necessarily involve readers, alternative experiences may affect the impressions of teacher education students regarding education. To date, few studies have examined the influence of life experiences on the beliefs of teacher education students.

Moreover, studies have attempted to measure the pedagogical beliefs of teachers. For example, Kerlinger and Kaya in 1959 developed a robust instrument to assess "traditional beliefs" and "progressive beliefs" regarding pedagogy, and numerous studies subsequently validated this two-dimensional construct (Chan & Elliot, 2004; Meirink, Meijer, Verloop, & Bergan, 2009; Schuh, 2004). The above pedagogical beliefs are related to student learning through what happens in the classroom. However, teacher beliefs should reflect issues related to educational work. Gordon and Maxey (2000) argued that the work of a teacher includes numerous nonacademic duties, such as disciplining students and completing administrative paperwork. Tondeur, Devos, van Houtte, van Braak and Valcke (2009) indicated that teacher beliefs reflect issues related to learners, knowledge, teaching components, parents, instructional contexts, and organizational dimensions. In case of teacher education students, Liu and Tsao (2013) examined how teacher education students construct meaning after reading news coverage of educational events, a process that in turn influences their beliefs about the nature of education and developed four constructs of teacher education student beliefs, curriculum and instruction, student consultation, professional development, and administrative engagement. The four constructs of teacher education student beliefs are based on the daily work of a teacher, and are suitable to assess the beliefs of teacher education students regarding the role of teachers in education.

### **Educational Events and Teacher Education Student Beliefs**

Educational events have significantly influenced perceptions of salient current issues.

Prospective teachers may gain meaningful insights from educational stories and examine those insights against their own previous perspectives to recognize educational contexts (Davis & Kellinger, 2014). Subsequently, this recognition will situate prospective teachers to meet the curricular and social needs of all school students. Fisher and Kettl (2003), who explored the perceptions of 393 teachers faced with school violence, demonstrated that 56% of teachers believed that threatened violence directly impacted the quality of the education they provided. Warwick, Aggleton, and Douglas (2001) investigated teacher perceptions of homophobic bullying, suggesting that teachers were aware of homophobic bullying but were unable or unwilling to address the needs of lesbian and gay students. These studies reveal that negative educational events affect teacher opinions and emotions. Reasonably, educational events can influence and shape the educational beliefs of teacher education students when they read education-related news stories.

Changes in beliefs do not necessarily take long, depending largely on two major components or aspects that contribute to personal beliefs, namely emotional and logical components. For instance, Green, Garst, and Brock (2004) stated that when a reader or viewer feels as though they have participated in narrative events, the lessons implied by those events may appear stronger, which may lead to a change of beliefs. Additionally, David, Cappella, and Fishbein (2006) used an experimental design to determine the effects of student chats regarding anti-drug advertisements on their beliefs and suggested that students who chatted talked about anti-drug advertisements experienced negative effects on their normative beliefs. Change in beliefs occurs in group discussions. Thus, beliefs regarding social reality may be impacted by life experiences or critical events through emotional and logical components.

Reasonably, reading coverage of educational events, like a daily life experience, may influence teacher education student beliefs. One can reasonably assert that positive educational news stories shape strong individual beliefs regarding the work of teachers, while negative educational news stories may reduce the teaching willingness of teacher education students. For example, a reported educational event dealing with a physical conflict between a teacher and student may influence the perceptions of teacher education students regarding educational work.

Furthermore, perceptions of the credibility of teacher education students on online news should be considered. With the rapid growth of the Internet, it is important to consider the credibility of online news when investigating the effects of news coverage on the beliefs of teacher education students.

The main purpose of this study is to determine the effects of reading news stories dealing with education on the beliefs of teacher education students regarding education. The existing educational beliefs of teacher education students, resulting from teacher education program and other previous experiences, and the news credibility should be confirmed and eliminated. Based on the above influences on teacher education student beliefs, this study generates the following research question:

Do the beliefs of teacher education students regarding education differ significantly when they read positive versus negative educational news stories after controlling for their pre-existing beliefs and the perception of news credibility as covariate variables?

## METHODS

Several studies have investigated the beliefs of teacher education students using large surveys, and have identified the framework and effects of beliefs. However, few studies have obtained

empirical evidence that demonstrated the impacts of educational news stories on teacher education student beliefs. To identify the effects of reading educational news stories on the beliefs of teacher education students regarding education, this study employs an experimental research method with a two-group pretest-posttest design, consisting of positive news and negative news groups.

### Participants

Teacher education students from a Taiwanese university with a teacher education institute were recruited to participate in this study. A total of 80 teacher education students (aged 20–24 years old) volunteered to participate in this project after being fully informed about the research process, potential harm, and important rights, such as the right to cease participation or withdraw from the research at any time without suffering discrimination or harm. After signing an agreement, each was further randomly assigned to one of the two groups and completed the tests in different classrooms.

After the researchers explained the study procedures, participants completed a teacher education student beliefs questionnaire, as a pre-test of teacher education student beliefs. Next, each group reads different (positive/negative) educational news stories and responds to an item regarding perceived news credibility after reading each news story. The item dealing with news credibility was as follows: what level of news credibility do you hold when reading this news story? Responses were given on a 5-point Likert-type scale, with 1 representing “very low credibility” and 5 representing “very high credibility.” All participants then completed another teacher education student beliefs questionnaire, as a post-test of teacher education student beliefs.

### Instruments

**Teacher education student beliefs questionnaire.** The teacher education student

beliefs questionnaire was utilized to collect data on the beliefs of teacher education students. The questionnaire primarily referred to a previous study by Liu and Tsao (2013), who examined the influence of teacher education student beliefs on making meaning (*i.e.*, interpretation and inference) from news stories for Taiwanese teacher education students, and identified key patterns based on an open-ended interview in their pilot study of five secondary school teachers regarding their opinions of the daily work of a teacher. The questionnaire focused on a four-dimensional construct, comprising curriculum and instruction (CI), class management (CM), professional development (PD), and administrative engagement (AE). Initially, 55 items were developed for a pilot questionnaire.

To avoid recall effects, the questionnaire items were further divided into pre-test and post-test categories by analysis and comparison in each sub-scale to maximize commonality between the two forms. Eventually, each form with four distinct factors comprised 16 items. The correlation coefficient of two forms was 0.701 ( $p < .01$ ), indicating that these two forms can assess the same characteristic. Furthermore, the reliability coefficients of the two forms were 0.923 (pre-test) and 0.902 (post-test), respectively. According to Laenen (2008), if the timing of the two measurements is too close together, the rater is likely to recall his/her previous rating and hence the previous assessment may unduly influence the new one. Thus, it is reasonable for this study to utilize the two forms of questionnaires.

The first form, the pre-test questionnaire on teacher education student beliefs, was employed to survey pre-existing beliefs of teacher education students prior to participation in this experimental research. The second form, post-test questionnaire on teacher education student beliefs, collected the responses of teacher education students to beliefs after reading positive/negative educational news stories.

**News stories.** Based on the perspective that online educational news is more accessible than printed newspaper for Taiwanese teacher education students with wireless Internet access technology, this study considered educational news from Internet instead of printed newspaper as the experimental instruments. To analyze the effects of reading educational news stories on teacher education student beliefs, online educational news stories, differing from Liu's and Tsao's previous study as mentioned, were downloaded and rigorously selected using the four-dimensional construct regarding teacher education student beliefs, CI, CM, PD, and AE. No news stories downloaded in print and video formats were re-edited. The educational news stories were assessed according to criteria proposed by several scholars (Allan, 2010; Khan, 2010; Puri, 2006), including writing style, news value, and word count. In terms of positive and negative news sets, each included 12 educational stories and was examined further.

Furthermore, to provide participants with interesting educational news stories (Chernov, 2009), eight teacher education students were invited to assess the print and video news stories and select those most suitable. Additionally, five experts in teacher education were invited to assess the correlations between educational news stories and the four constructs of teacher education student beliefs. According to their comments and ratings, eight educational news stories were selected for each news set. To match current types of online news, one print-type and one video-type educational news story were simultaneously selected for each dimension of teacher education student beliefs. Restated, 16 online educational news stories were assessed as positive/negative materials.

The following is a positive news video used as an example of AE:

Long-Hua elementary school in central Taiwan was destroyed by typhoon He-Bo.

The first floor of the teaching building was covered with debris. The teachers were afraid students would have no textbooks and school equipment available for the upcoming semester, and hence volunteered to rescue property at risk of damage during the typhoon.

Meanwhile, the following is a negative print story used as an example of CM:

In a high school, two female students were fighting. However, their male teacher did not stop the fight, and instead joked that they were "fighting until death." The teacher later explained his reasons for not intervening, saying: "Do I look crazy? I would be accused of sexual harassment."

### **Data Analysis**

One-way analysis of covariance (ANCOVA) was applied to identify significant difference in post-test scores of teacher education student beliefs and thus identify the influences of reading different educational news stories on teacher education student beliefs. The independent variable was the positive/negative news group, while the dependent variable was post-test scores of teacher education student beliefs. Both the pre-test mean score of teacher education student beliefs and the mean score of perceived news credibility were defined as covariate variables based on perspectives from the literature. The pre-test responses of teacher education students to beliefs mainly result from the teacher education program and other life experiences. Perception of news credibility is an interference factor that influences the responses of teacher education student beliefs when reading. Eliminating the two factors of pre-existing beliefs and perceptions of news credibility can clarify the effects of educational news stories on the beliefs of teacher education students regarding education.

## RESULTS

By analyzing the difference in the post-test scores of teacher education student beliefs between two groups (reading positive/negative educational news stories) after controlling for factors like pre-existing beliefs and perceptions of news credibility, the study investigated the effects of educational news stories on the beliefs of teacher education students regarding education.

Based on ANCOVA, news coverage (*i.e.*, positive or negative) was the between-groups factor. Before applying ANCOVA, several statistical conditions must be considered. First, the correlation coefficient of pre-test scores of teacher education student beliefs and scores of news credibility perception was calculated as  $r=0.310$  ( $p=.005<.01$ ), meaning both variables can be the covariance of ANCOVA for the two news coverage groups. Additionally, the analytical result for homogeneity of variance reveals that post-test scores of teacher education student beliefs were distributed normally ( $p=.401<.05$ , Kolmogorov-Smirnova  $Z=0.894$ ). Additionally, homogeneity of variance was tested. The test result reveals no significant effect,  $F=0.017$ ,  $p=.896>.05$ , for the interaction between news sets and pre-test scores of teacher education student beliefs. Additionally, no

significant effect existed,  $F=0.004$ ,  $p=.951>.05$ , for the interaction between news sets and news credibility; that is, data met the requirement for homogeneity of variance and are adequately analyzed with ANCOVA.

Table 1 lists analytical data for the post-test scores of teacher education student beliefs by ANCOVA. Analytical results demonstrate that post-test scores for teacher education student beliefs between the positive-news and negative-news groups differed considerably,  $F=4.416$ ,  $p=0.039<.05$  (Table 1). The guidelines of Cohen (1988, pp. 280–287) consider an effect size of 0.056 (5.6%) medium.

Table 2 lists descriptive statistics, including means, standard deviations, and *t*-values, for pre-test and post-test scores of teacher education student beliefs for both groups. Reading positive news stories did not significantly strengthen the beliefs of teacher education students ( $p>.05$ ), while negative news significantly worsened the beliefs of teacher education students regarding education ( $t=3.806$ ,  $p<.05$ ).

Comparisons of teacher education student beliefs between the two groups reveal a significant difference in post-test scores (Table 3). These analytical results show that teacher education students reading negative news stories negatively affected the formation of teacher education student beliefs.

**Table 1**

*ANCOVA Results for Posttest Scores of Pre-Service Teachers' Beliefs*

<i>SV</i>	<i>SS'</i>	<i>Df</i>	<i>MS'</i>	<i>F</i>	<i>p</i>	<i>Eta</i> <sup>2</sup>
Pretest scores of beliefs	3.870	1	3.870	66.924	.000	0.472
News credibility	.346	1	.346	5.983	.017	0.074
News set (Group)	.255	1	.255	4.416	.039*	0.056
Within (Error)	4.337	75	.058			
Total	1430.000	79				
Corrected total	10.490	78				

\* $p<.05$



**Table 2***Descriptive Statistics for Pre-Service Teachers' Beliefs*

	Pretest		Posttest			<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>Adj. M</i>		
Positive news group (40)	4.27	0.33	4.32	0.38	4.32	1.298	.202
Negative news group (40)	4.31	0.33	4.17	0.35	4.18	-3.424	.001*

\**p*<.05**Table 3***Post Hoc Comparison for the Posttest of Teachers' Beliefs Between Groups*

Comparison of groups	Mean difference	95% Confidence interval		Direction of difference
		Lower	Upper	
Positive-Negative	.123*	.006	.240	Positive>Negative

\**p*<.05**CONCLUSIONS**

By controlling for pre-existing beliefs of teacher education students and news credibility perception, analytical results reveal that the beliefs of the teacher education students differ significantly in response to their reading of positive versus negative educational news stories. The literature indicates that negative education news about violent events inspires negative emotional responses, and this study thus concludes that reading negative news stories negatively affects the formation of beliefs regarding the nature of education in teacher education students. Teacher education students may reflect on the details of these educational news events, and reasonably, may further modify their perceptions of and perspectives on teacher careers.

Previous studies have proposed that teacher education program (Chai et al., 2009;

Mattheoudakis, 2007; Polat, 2010; Richardson, 1996; Sosu, & Gray, 2012) and life experiences (Richardson, 1996; Ryan & Healy, 2009) result in varying opinions and beliefs regarding education. Moreover, the perceived credibility of news coverage mediates the effects of news events on reader mental responses. This study aims to determine the effects of education news on the beliefs of teacher education students. Thus, pre-existing beliefs of teacher education students, prior to their research participation, and perceived credibility of news coverage should be controlled. By analyzing the post-test scores of the teacher education student beliefs of these two groups, the study findings reveal that reading negative educational news coverage negatively affects belief formation in teacher education students.

Current theories assert that news media affects the emotions of readers (Barlett & Gentile, 2011; Harris, 2004; Hoffner, Fujioka, Ye, & Ibrahim,

2009), and several studies have proposed that emotions affect beliefs (*e.g.*, Frijda & Mesquita, 2000). Reading online educational news stories can provide alternative life experience for teacher education students who can access the Internet, gradually affecting their perceptions of and perspectives on educational work. This study confirms the arguments of several studies involving mass news communication, indicating that news coverage can strongly influence individual knowledge, beliefs, and judgments (Lee & Scheufele, 2006; Ho et al., 2008), and further indicates that reading online educational news stories, similar to a daily life experience, significantly affects the beliefs of teacher education students regarding education.

Additionally, this study further demonstrates that reading negative educational news stories damages teacher education student beliefs. As studies have shown that news about a violent event leads to negative emotional responses (Buijzen et al., 2007; Cho & Gower, 2006). Exposure of teacher education students to negative educational news coverage thus is disadvantageous when shaping teacher education student beliefs, even though empirical evidence suggests that teacher education students who read negative news perceive that news as less credible than those who read positive news. Negative educational events generally involve conflict, protest, crisis, and shaming situations on campuses that involve students, teachers, or administrators. Additionally, teacher education students' beliefs regarding education in this study signify conceptual representations related to the daily work of teachers. The study results suggest that teacher education students reflect on the details of these educational news events and modify their perceptions of and perspectives on teacher careers via their emotional responses. This is demonstrated by the previous literature (İnceçay, 2011; Yılmaz & Huyugüzel-Çavaş, 2008), revealing that teacher education students' beliefs regarding education

(*e.g.*, classroom management beliefs, learning beliefs, etc.) affect the teacher education students. Furthermore, according to Nespor (1987), beliefs are influenced by individual perceptions and perspectives. Thus, teacher education students who read negative news stories may experience anxiety, modify their opinions, and further negatively modify their beliefs about education. This is why negative educational news stories disadvantage the beliefs of teacher education students. Furthermore, according to Lu (2010), local news in Taiwan primarily presents coverage of negative events. Thus, it is reasonable that the beliefs of the teacher education students are easily influenced by news stories, especially by negative news coverage.

With increasing numbers of people using the Internet, the popularity of online news in Taiwan is growing. The perceptions of news credibility and news ideology are the emerging issues when people read Internet news coverage. A Taiwanese study by Yang (2007), which demonstrated the positive correlations between perceived news credibility and Internet usage, indicated that the quantity of time spent online positively predicts individual perceptions of the credibility of online news. However, Lams (2011) indicated that news stories change between final newspaper output and the original input supplied by news agencies, and differences also exist when various news groups deal with the same source material. Reasons for divergence may be ideological. As mentioned, Taiwanese news maintains negative coverage ideology, which may affect the beliefs of teacher education students. Although this study eliminates the influence of news credibility, the beliefs of the teacher education students regarding the nature of education are still negatively affected by educational news events. News coverage style is often derived from local cultural characteristics. The study findings also lead to a critical issue, namely that the beliefs of teacher education students may be affected by ideological features of Taiwanese society

Notably, beliefs are frequently used to represent personal philosophy (Pajares, 1992), and significantly indicate behaviors (Haney et al., 1996). Changes in the beliefs of teacher education students may result from critical daily life events, as has been discussed in the previous literature. For teacher education institutions in Asian countries, similar to Taiwanese culture, this study not only raises the enormous importance of online educational news stories in the factors impacting on teacher education student beliefs, but also proposes that reading negative educational news stories negatively affects the formation of beliefs in teacher education students via their emotional responses.

This study demonstrates that reading negative educational news story harms the beliefs of teacher education students. Notably, negative educational news coverage tends to address educational shortcomings and can decrease the enthusiasm of teacher education students for education. Teacher educators thus should train teacher education students to treat a wide range of news rationally, and should facilitate teacher education students to reflect on news reading, encouraging them to engage in dialogue with others, articulate perspectives and receive feedback. Additionally, discussions of the research findings of this study were based on a comparison with perspectives in the literature, indicating that the news media affect reader emotional responses and the beliefs of teacher education students. Future studies can determine the effects of individual emotions, which can mediate the relationship between the perceptions of teacher education students and their beliefs regarding news dealing with educational events.

This study suffers from a limitation given that the difference in teacher education student beliefs in response to reading positive versus negative news stories is an experimental effect. Whether the influences of negative news stories on the beliefs of teacher education students can go beyond teacher education programs

is unclear. The findings of this study, which indicate that reading negative educational news stories negatively affect the formation of teacher education student beliefs, may differ if the teacher education program enables teacher education students to evaluate online information.

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## REFERENCES

- Abdulla, R. A., Garrison, B., Salwen, M., Driscoll, P., & Casey, D. (2004). Online news credibility. In M. Salwen, B. Garrison, & P. Driscoll (Eds.), *Online news and the public* (pp. 147–164). Mahwah, NJ: Lawrence Erlbaum.
- Allan, S. (2010). *News culture (3rd ed.)*. Maidenhead: Open University Press.
- Barlett, C. P., & Gentile, D. A. (2011). Affective and emotional consequences of mass media. In K. Döveling, C. von Scheve, & E. Konijn (Eds.), *Handbook of emotions and mass media* (pp. 60–78). NY: Routledge.
- Bucy, E. P. (2003). Media credibility reconsidered: Synergy effects between on air and online news. *Journalism and Mass Communication Quarterly*, 80(2), 247–264.
- Buijzen, M., van Der Molen, J. H. W., & Sondij, P. (2007). Parental mediation of children's emotional responses to a violent news event. *Communication Research*, 34(2), 212–230.
- Chai, C. S., Timothy, T., & Lee, C. B. (2009). The change in epistemological beliefs and beliefs about teaching and learning: A study among pre-service teachers. *Asia-Pacific Journal of Teacher Education*, 37(4), 351–362.
- Chan, K-W., & Elliot, R.G. (2004). Relational analysis of personal epistemology and conceptions about teaching and learning. *Teaching and Teacher Education*, 20, 817–831.

- Chernov, G. (2009). *Convergence of agenda setting and attitude change approaches: Media effects and the interaction between media messages, the nature of reality underlying media issues and mechanisms of information processing*. Germany: VDM Verlag Dr. Mülle.
- Cho, S. H., & Gower, K. K. (2006). Framing effect on the public's response to crisis: Human interest frame and crisis type influencing responsibility and blame. *Public Relations Review, 32*(4), 420-422.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2<sup>nd</sup>). Hillsdale, NJ: L. Erlbaum Associates.
- Choi, J. H., Watt, J. H., & Lynch, M. (2006). Perceptions of news credibility about the war in Iraq: Why war opponents perceived the Internet as the most credible medium. *Journal of Computer-Mediated Communication, 12*(1), 209-229.
- David, C. C. (2009). Learning political information from the news: A closer look at the role of motivation. *Journal of Communication, 59*(2), 243-261.
- David, C., Cappella, J. N., & Fishbein M. (2006). The social diffusion of influence among adolescents: Group interaction in a chat room environment about anti-drug advertisements. *Communication Theory, 16*(1), 118-140.
- Davis, D. E., & Kellinger, J. J. (2014). Teacher educators using encounter stories. *Qualitative Report, 19*(5), Article number 10.
- Dwyer, T. (2010). *Media convergence*. England: McGraw Hill
- Feiman-Nemser, S., McDiarmid, G. W., Melnick, S. L., & Parker, M. (1989). *Changing beginning teachers' conceptions: A description of an introductory teacher education course*. East Lansing, MI: National Centre for Research in Teacher Education, Michigan State University.
- Fisher, K., & Kettl, P. (2003). Teachers' perceptions of school violence. *Journal of Pediatric Health Care, 17*(2), 79-83.
- Frijda, N. H., & Mesquita, B. (2000). Beliefs through emotions, In: N. H. Frijda, A. S. R. Manstead, & S. Bem (Eds.), *Emotions and beliefs* (pp. 45-77). Cambridge, UK: Cambridge University Press.
- Gordon, S. P., & Maxey, S. (2000). *How to help beginning teachers succeed* (2<sup>nd</sup> ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Green, M. C., Garst, J., & Brock, T. C. (2004). The power of fiction: Determinants and boundaries. In L. J. Shrum (Ed.), *The psychology of entertainment media: Blurring the lines between entertainment and persuasion* (pp. 161-176). Mahwah, NJ: Lawrence Erlbaum.
- Haney, J., Czerniak, C., & Lumpe, A. (1996). Teacher beliefs and intentions regarding the implementation of science education reform strands. *Journal of Research in Science Teaching, 33*(9), 971- 993.
- Harvey, O. J. (1986). Belief systems and attitudes toward the death penalty and other punishments. *Journal of Psychology, 54*(2), 143-159.
- Harris, R. J. (2004). *A cognitive psychology of mass communication*. Mahwah, NJ: Lawrence Erlbaum.
- Ho, S. S., Brossard, D., & Scheufele, D. A. (2008). Effects of value predispositions, mass media use, and knowledge on public attitudes toward embryonic stem cell research. *International Journal of Public Opinion Research, 20*, 171-192.
- Hoffner, C. A., Fujioka, Y., Ye, J., & Ibrahim, A. G. S. (2009). Why we watch: Factors affecting exposure to tragic television news. *Mass Communication and Society, 12*(2), 193-216.
- İnceçay, G. (2011). Effects of learning beliefs of teacher education students at an English as a foreign language certificate program on their practice teaching. *Turkish Online Journal of Qualitative Inquiry, 2*(4), 29-38.
- Kagan, D. (1992). Implications of research on teacher belief. *Educational Psychologist, 27*(1), 65-90.
- Khan, M. A. (2010). *Encyclopedia of mass media*. Mumbai: Himalaya Books.
- Kim, S. H., Scheufele, D. A., & Shanahan, J. (2005). Who cares about the issues? Issue voting and the role of news media during the 2000 US presidential election. *Journal of Communication, 55*(1), 103-121.
- Kiouis, S. (2001). Public trust or mistrust? Perceptions of media credibility in the information age. *Mass Communication and Society, 4*(4), 381-403.
- Laenen, A. (2008). *Psychometric validation of continuous rating scales from complex data* (Unpublished doctoral dissertation). Belgium: Universiteit Hasselt.

- Lams, L. (2011). Newspapers' narratives based on wire stories: Facsimiles of input? *Journal of Pragmatics*, 43(7), 1853-1864.
- Lang, A., & Ewoldsen, D. (2011). The measurement of positive and negative affect in media research. In K. Döveling, C. von Scheve, & E. Konijn (Eds.), *The Routledge Handbook of emotions and mass media* (pp. 79-98). NY: Routledge.
- Lee, C., & Sheufele, E. A. (2006). The influence of knowledge and deference toward scientific authority: A media effects model for public attitudes toward nanotechnology. *Journalism & Mass Communication Quarterly*, 83, 819-834.
- Lim, C. P., & Chan, B. C. (2007). microLESSONS in teacher education: Examining teacher education students' pedagogical beliefs. *Computers & Education*, 48(3), 474-494.
- Liu, S.-H., & Tsao, S.-C. (2013). How did the meanings constructed by Taiwanese pre-service teachers from educational news media affect their beliefs? *Educational Media International*, 50(2), 135-147.
- Lu, C. H. (2010). How national newspaper frame the image of southern Taiwan? *Journal of Southern Taiwan University*, 35(4), 81-106.
- Mattheoudakis, M. (2007). Tracking changes in pre-service EFL teacher beliefs in Greece: A longitudinal study. *Teaching and Teacher Education*, 23(8), 1272-1288.
- Meirink, J. A., Meijer, P. C., Verloop, N., & Bergen, T. C. M. (2009). Understanding teacher learning in secondary education: The relations of teacher activities to changed beliefs about teaching and learning. *Teaching and Teacher Education*, 25(1), 89-100.
- Metzger, M. J., Flannagin, A. J., Eyal, K., Lemus, D., & McCann, R. (2003). The concept of credibility into the 21st century: Integrating perspectives on source, message and media credibility in the contemporary media environment. *Communication Yearbook*, 27, 293-335.
- Milner, H. R. (2005). Stability and change in US prospective teachers' beliefs and decisions about diversity and learning to teach. *Teaching and Teacher Education*, 21(7), 767-786.
- Ng, W., Nicholas, H., & Williams, A. (2010). School experience influences on teacher education students' evolving beliefs about effective teaching. *Teaching and Teacher Education*, 26(2), 278-289.
- Nespor, J. (1987). The role of beliefs in the practice teaching. *Curriculum Studies*, 19, 317-328.
- Nettle, E. B. (1998). Stability and change in the beliefs of student teachers during practice teaching. *Teaching and Teacher Education*, 14(2), 193-204.
- Pajares, M. F. (1992). Teachers' beliefs and education research: Cleaning up a messy construct. *Review of Education Research*, 62, 307-332.
- Polat, N. (2010). Pedagogical treatment and change in teacher education student beliefs: An experimental study. *International Journal of Educational Research*, 49, 195-209.
- Puri, M. (2006). *Outlines of mass communication*. New Delhi: Pragun.
- Richardson, V. (1996). The role of attitudes and beliefs in learning to teach. In J. Sikula (Ed.), *Handbook of research on teacher education* (pp. 102-119). NY: MacMillan.
- Ryan, M., & Healy, A. (2009). It's not all about school: Ways of disrupting teacher education students' perceptions of pedagogy and communication. *Teaching and Teacher Education*, 25(3), 424-429.
- Schuh, K. L. (2004). Learner-centered principles in teacher-centered practices? *Teaching and Teacher Education*, 20(8), 833-846.
- Soldat, C. (2009). *Investigating the impact of a preservice program on beliefs about science teaching and learning* (Unpublished doctoral dissertation). Iowa City: University of Iowa.
- Sosu, E. M., & Gray, D. S. (2012). Investigating change in epistemic beliefs: An evaluation of the impact of student teachers' beliefs on instructional preference and teaching competence. *International Journal of Educational Research*, 53, 80-92.
- Tondeur, J., Devos, G., van Houtte, M., van Braak, J., & Valcke, M. (2009). Understanding organizational and cultural school characteristics in relation to educational change: The case of ICT integration. *Educational Studies*, 35(2), 223-235.
- Tseng, S., & Fogg, B. J. (1999). Credibility and computer technology. *Communications of the ACM*, 42(5), 39-49.
- Valcke, M., Sang, G., Rots, I., & Hermans, R. (2010). Taking prospective teachers' beliefs into account in teacher education. *International Encyclopedia of Education* (3<sup>rd</sup> ed.), 622-628.

- Warwick, I., Aggleton, P., & Douglas, N. (2001). Playing it safe: Addressing the emotional and physical health of lesbian and gay pupils in the U.K. *Journal of Adolescence*, 24(1), 129-140.
- Wilke, R. (2004). *How content area influences choice of instructional methods: an examination of one component of preservice teacher belief* (Unpublished master thesis). The Florida State University, College of Education, USA.
- Yang, K. C. C. (2007). Factors influencing Internet users' perceived credibility of news-related blogs in Taiwan. *Telematics and Informatics*, 24(2), 69-85.
- Yilmaz, H., & Huyugüzel-Cavas, P (2008). The effect of the teaching practice on pre-service elementary teachers' science teaching efficacy and classroom management beliefs. *Eurasia Journal of Mathematics, Science & Technology Education*, 4(1), 45-54.