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Understanding International Students' Misinformation Behavior

Rashika Bahl
University of Melbourne, rashikab@student.unimelb.edu.au

Shanton Chang
University of Melbourne, shanton.chang@unimelb.edu.au

Dana McKay
RMIT University, dana.mckay@rmit.edu.au

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Research-in-progress

Rashika Bahl
School of Computing and Information Systems
University of Melbourne
Melbourne, Australia
Email: rashikab@student.unimelb.edu.au

Shanton Chang
School of Computing and Information Systems
University of Melbourne
Melbourne, Australia
Email: shanton.chang@unimelb.edu.au

Dana McKay
School of Computing Technologies
RMIT University
Melbourne, Australia
Email: dana.mckay@rmit.edu.au

Abstract

Social media has made it easier for international students to draw on home country sources of information alongside establishing new connections to host country sources of information. However, social media has been shown to facilitate the spread of misinformation, which could lead to increased exposure for those who are using sources from multiple countries. This exposure may result in increased vulnerability to the negative effects of misinformation. Understanding the misinformation experiences of international students will allow us to better assist a growing population of migrants and help us reformulate digital literacy strategies to be more effective in combating misinformation. This research in progress article first synthesizes the literature on the spread of misinformation and information behavior of international students. It then identifies the gap in our knowledge about the misinformation behavior of international students. Finally, it presents propositions for areas of research to bridge this gap.

Keywords misinformation, international students, social media

1   Introduction

There are more than 4.8 million international students globally, a number that has doubled since 2000 (International Organization for Migration 2021). One of the key areas that institutions have focused on is how to communicate better with international students (Chang et al. 2012; Chang and Gomes 2017). Initial research shows the importance of social media for communicating and acquiring new information (Erdelez 2005; Zannettou et al. 2019). At the same time, research on migrants indicates that migrants use their social networks to acquire information throughout the process of migration (Dekker and Engbersen 2014). Social media, through its accessibility and ease of use, allows migrants not only to conveniently gather information from family and friends but also weaker social ties (Dekker and Engbersen 2014).

When they first migrate to a new country, international students are attempting to navigate new physical and digital environments to find information about current classes, future jobs, housing, and other day-to-day life issues (Chang and Gomes 2017; Gomes et al. 2014). This is true of all international students, regardless of their demographic makeup. For example, research shows that sharing a language does not necessarily mean that transitions will be smooth as language is only one aspect of culture (O'Reilly et al. 2015). Hence, speaking English as a first language does not mean international students will not have to digitally transition to new sources of information. As Chang and Gomes (2017) argue, no matter the demographic of the student, the physical transition to a new country means that a digital transition is also happening. Therefore, this paper is looking at international students in the broadest sense, recognizing that these transitions can lead to students having multiple digital ecologies.

Following a physical transition, international students need access to significant information to acclimatize to working, studying, and living in a culturally different environment (Meratian Esfahani and Chang 2012). Social media plays a pivotal role as a source of information for international students as it allows them to maintain contact with their families back home and also establish digital ties with new contacts in their host countries (Chang et al. 2012; Chang and Gomes 2017; Gomes et al. 2014). Like Preece (2001), we use social media to refer to any virtual space, including online communities, where people gather and share new information, support peers, and generally socialize.

While social media offers many advantages, one major disadvantage to social media is that it has facilitated the spread of misinformation (Wu et al. 2019; Zannettou et al. 2019). For example, throughout the COVID-19 pandemic, misinformation on social media has hindered health practices such as handwashing and has also contributed to vaccine hesitancy, resulting in poor health outcomes for individuals (Pool et al. 2021; Puri et al. 2020; Tasnim et al. 2020). International students, already vulnerable due to information overload and heightened emotions, may also have a heightened risk of the negative impacts of encountering misinformation, especially during high-stress, ambiguous situations (Meratian Esfahani and Chang 2012; Sawir et al. 2008). Their propensity to rely on just home country sources of information before making the digital transition to host country sources may mean international students miss out on crucial local information during high-stress situations. Additionally, they may have increased exposure to misinformation that is propagated during high-stress situations through use of multiple digital information ecologies after making the digital transition. We believe that because, unlike locals in their host countries, international students' information seeking occurs across multiple digital information ecologies (Chang et al. 2021; Chang and Gomes 2017; Gomes et al. 2014), they may interact with misinformation differently than locals.

Existing literature on the spread of misinformation currently accounts for a multitude of experiences ranging from students to professionals such as historians (Leeder 2019; Rush 2018; Wineburg and McGrew 2019). It also provides us with frameworks for understanding why people spread misinformation (Marwick 2018). In contrast, although past work categorizes the differing information seeking behaviors of international students across multiple digital information ecologies (Chang et al. 2012, 2021; Chang and Gomes 2017; Meratian Esfahani and Chang 2012), it does not specifically look at international students' interactions with misinformation across those ecologies. Thus, to address this gap in literature, we propose the following research question:

How do international students who use multiple digital information ecologies interact with misinformation?

In this paper, we will start by defining misinformation. We will then look at why people spread misinformation. Following that, we will characterize the information seeking behavior of international students across multiple digital ecologies and illustrate how it impacts their encounters with misinformation through research propositions. We will conclude by specifying a two-pronged research approach that involves gathering data through semi-structured interviews and an exercise.

2 Misinformation

Although misinformation has been widely studied, terms used to describe it are diverse and include disinformation, fake news, rumor, urban legend, spam, troll (Wu et al. 2019). With the exception of 'disinformation,' these terms are colloquial terms used in place of 'misinformation' (Wu et al. 2019). The key distinction between disinformation and misinformation is that misinformation is inaccurate or false regardless of the intent of the sharer/creator whereas disinformation is deliberately inaccurate or false (Pool et al. 2021). Like Wu et al. (2019), we choose to use misinformation as a shorthand for all inaccurate and false information.

2.1 Social Media and Misinformation

Social media supports a vast information ecosystem by making it easier for users to generate, co-create, discuss, share, and modify information (Kietzmann et al. 2011). In particular, this ecosystem is comprised of multiple information ecologies – systems made up of the people using the platforms, the technologies that support the use of those platforms, and the values that drive the use of those platforms (Marwick 2018; Nardi and O'Day 1999). One such value is communication. The 'social' in social media implies that an exchange is happening between people – information is being shared. People use social media to communicate with one another, find like-minded people, and become aware of society at large (Kietzmann et al. 2011).

In their new environments, international students have pressing present and future information needs and heightened emotions as they attempt to navigate new physical and digital environments to find information about current classes, future jobs, etc. While seeking this information, they may have access to a variety of sources but a degree of unfamiliarity regarding how to use them, where to find them or what it is they need to look for (Meratian Esfahani and Chang 2012).

When faced with daunting new environments, international students may turn to social media, due to its accessibility and ability to facilitate conversation, to make new connections in their new physical environments. They can then gather information from weaker social ties (Chang et al. 2012; Chang and Gomes 2017; Dekker and Engbersen 2014; Gomes et al. 2014). Twitter, for example, facilitates conversation by allowing people to exchange short, 280-character messages that other users can respond to and interact with through likes and retweets (Kietzmann et al. 2011). Users can also cultivate the list of users they follow to those they want to engage with or gather information from. Further, people rely on others' beliefs and actions to inform their own in online environments (Colliander 2019). Ultimately, this conformity can go on to inform an individual's self-concept - that is their collection of beliefs about themself (Colliander 2019). So, if a user comes across misinformation online, and sees that it has a large number of likes or shares, they may be more likely to believe it and share it due to both their desire to conform (Colliander 2019), as well as the perceived reliability of something with a large number of likes/shares/comments.

Most people do not use social media to seek out misinformation. They may use social media to perform routine activities and generally keep up with what is happening in their social circles as well as the world around them (McKenzie 2003). It is while performing these routine activities on social media, they may then encounter misinformation online (Erdelez 2005; Fletcher and Nielsen 2018). And if the user is unaware they are encountering misinformation, functionally their experience will be similar to if they were encountering factual information. That is, if the misinformation resonates with them, whether it be because it may seem useful, interesting, resonate with their existing beliefs, or address a need, incidental information acquisition may occur (Erdelez 2005; Fletcher and Nielsen 2018). Thus, users encountering misinformation on social media may gain a feeling of satisfaction as they no longer have to seek out information (Erdelez 2005; Fletcher and Nielsen 2018). International students who have recently migrated are overwhelmed by the variety of sources of information available to them in a new digital environment. They may gain increased satisfaction when the result of encountering that information is that they no longer have to seek out information in a digital environment they are new to. Thus, we propose the following:

Proposition 1: International students who have recently migrated may be vulnerable to misinformation due to their present and future information needs.

2.2 International Students and Misinformation on Social Media

Upon migration, international students need access to resources to accustom themselves to working, studying, and living in a culturally different environment (Meratian Esfahani and Chang 2012). How they go about looking for this information, and when they make the digital transition to host country

sources of information, is contingent on a multitude of factors such as stress, social support, local language proficiency, country of origin, how long they have lived in their host country, social interaction with locals, self-efficacy, gender, personality, etc. (Gomes et al. 2014).

Sawir et al. (2008) found that in the first few months of arrival in Australia, many international students reported experiencing loneliness and isolation. These feelings could be exacerbated by external factors such as living far away from their university. If the students are using social media to establish new connections, they may share personal information in an attempt to make friends or gain approval of their new peers. International students that may have a limited understanding of their host country's language and limited pre-existing information literacy, might in theory have access to a wide variety of sources but are unfamiliar with how to use them (Meratian Esfahani and Chang 2012). They may experience stress because of information overload and may turn to social media due to its accessibility. However, social media use can also often lead to information overload, due to the vast array of information available, which can cause users to selectively share information rather than verifying facts before sharing in the hopes of retaining some degree of activity on their feed (Marwick 2018; Talwar et al. 2019). Thus, we propose the following:

Proposition 2: The information overload that international students experience may make them vulnerable to misinformation.

People are more likely to share misinformation online if the news aligns closely with their opinions and beliefs (Leeder 2019; Marwick 2018; Talwar et al. 2019). Additionally, Talwar et al. (2019), found that trust, self-disclosure, fear of missing out (FoMO), and social media fatigue were positively associated with sharing misinformation. When users trust a user or a source of information, they are more likely to share it without authenticating (Talwar et al. 2019). When users have high self-disclosure – that is they are prone to sharing personal information with others – they are more likely to share misinformation in an attempt to seek approval or gain popularity without authenticating sources (Talwar et al. 2019). When users are afraid others are having a more rewarding experience online or that they are being excluded from something, they tend to be more reckless online and less likely to self-regulate, thereby more vulnerable to sharing misinformation (Talwar et al. 2019).

Keeping these factors in mind, international students who have recently migrated may unintentionally share misinformation due to the doubling of information overload they experience, due to a desire to maintain activity on their social media feeds, due to increased self-disclosure. Thus, we propose the following:

Proposition 3: The cognitive and information overload international students experience may make them prone to sharing misinformation.

Once international students have made the digital transition, their wide and varied social networks both online and in-person are no longer exclusively connected to "a singular national home-based identity" (Gomes et al. 2014). They tend to inhabit multiple information ecologies at once. They may use their home-based social media platforms such as Minihomphy and Weibo to keep in touch with family and friends, but use Facebook to keep in touch with their new acquaintances and friends in their host nations (Gomes et al. 2014). The impact of inhabiting multiple ecologies likely comes into effect when international students start relying on localized social media ecologies in their host countries for information.

Because international students inhabit multiple ecologies, they may come across the same misinformation, multiple times, and potentially in different ways. This can be harmful as Pennycook et al. (2018), for example, found that if people saw a story enough times, they were likely to believe it even if, in the instances they saw it, the story was being debunked. However, the ecologies they inhabit may be driven by different cultural values from different countries. Research has shown that misinformation can be framed differently in different environments (Porshnev et al. 2021). So, international students may come across the same piece of misinformation across different ecologies that is framed differently in each ecology. What might be framed fairly in one place and be true, could be framed inaccurately in another and be false. Biased information is a form of misinformation (Zannettou et al. 2019). This difference in framing may impact how international students behave when they come across that piece of misinformation in each ecology, potentially assisting them in identifying it. Thus, we propose the following.

Proposition 4: Increased exposure to misinformation across multiple social media ecologies may help international students identify misinformation.

Localized social media ecologies are social media ecologies geographically grounded by the location of the frequent users of the ecology (Chang and Gomes 2017; Meratian Esfahani and Chang 2012; Nardi and O'Day 1999). They are driven by the specific set of values shared by those users. Research shows that when students may make the transition to local social media ecologies for information, their experiences in those local ecologies are influenced by their cultural values. For example, Binsahl and Chang (2012) found that female international students from Saudi Arabia tended to not post personal pictures on Facebook. In contrast, posting photos was a major activity performed by young undergraduate students in the US as they considered posting photos an important means of self-expression (Pempek et al. 2009). Thus, as international students navigate their new localized social media ecology, they bring their values that were developed in different environments. Leeder (2019), Marwick (2018) and Talwar et al. (2019) established that users are more prone to sharing misinformation online if the news aligned closely with their opinions and beliefs, but international students are exposed to their host countries values and already have an existing set of values from their home countries. A cross-pollination of ideas may then occur for individual students as they draw on information from multiple information ecologies. A cross-pollination of ideas may also occur across ecologies if international students introduce misinformation from one ecology to another. Additionally, if they share misinformation, they may frame it in a manner influenced by the amalgamation of values from inhabiting different ecologies. Thus, we propose the following:

Proposition 5: Cross-pollination of ideas through use of multiple social media ecologies may influence how international students evaluate misinformation.

3 Agenda for Future Research

This paper establishes that there is an abundance of research that examines why people share misinformation. Similarly, there is extensive literature on the information behavior of international students. The two fields have never been brought together, though: we have very limited understanding of the misinformation behavior of international students. This includes how often they encounter misinformation, and what happens when they encounter it. On the one hand, international students who have made the digital transition may be better equipped to identify misinformation due to increased exposure. On the other hand, they may be more vulnerable to it. More research is needed to understand the misinformation experience of international students, and information systems as a discipline, looking at the nexus of people, information, and systems, is ideally placed to do this research.

The propositions we have highlighted showcase how international students' use of multiple information ecologies may impact their experiences with misinformation. To address these propositions, we will employ a two-pronged approach. Like Binsahl and Chang (2012); Chang et al. (2012); Wineburg and McGrew (2019), we will first conduct semi-structured interviews with international students to generate data about user experiences with misinformation. Inspired by Jones-Jang et al., (2019); Leeder (2019); Tarchi (2019), we will follow the interviews up with a short exercise, where participants will be asked to evaluate social media posts that may or may not contain misinformation. This will help contrast their self-evaluation of their misinformation experiences with their actual behaviors, which can then be mapped to factors that influence those behaviors to develop a conceptual framework of their misinformation behaviors. This research will begin to address the gap, however, there is scope for a wide range of approaches and focuses to be applied to the topic of international students' misinformation behavior.

4 Conclusion

International students face many challenges as they transition into living in their new host countries. Exposure to misinformation may further accentuate the vulnerability of migrants as they navigate developing information practices in a new physical and digital environment. This results in unequal access to the accurate and timely information that any migrant needs to be able to access to successfully transition into living in their host countries (Ruokolainen and Widén 2020).

The results of our proposed research will allow us to better understand international students' misinformation experiences and thus make information more accessible to international students. Results of this research can also be used to incorporate the experiences of international students into digital literacy strategies, that could prove beneficial not just for international students but also for internet users globally. Essentially, our research will contribute to the literature by helping provide a holistic overview of the misinformation practices of international students.

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