#WOMENINSTEM: A Corpus-Based Multimodal Critical Discourse Analysis of STEM Identity Construction and Advocacy Performance on Instagram

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Paper Abstract

Digital spaces have paradigmatically altered the way we communicate, giving people the opportunity to speak freely and reach potentially infinite audiences (Sergeant & Tagg, 2014).
Such affordances, typical of social media, have been progressively and intrinsically exploited by minorities, thus allowing them to resist social, cultural and institutional power (Buktus, 2023) and renegotiate identities.
Historically, women have been quite marginalised in STEM (Science, Technology, Engineering, Mathematics) fields: still in 2023, they made up on average only 28% of the STEM workforce globally (Piloto, 2023); prejudices and biases are actually at the core of the persistence of such *status quo*, resulting in the perception of STEM fields as male-dominated (Lee, 2008).
Nevertheless, in recent years an increasing number of STEM women has undoubtedly started to take advantage of social networks affordances (Montgomery, 2018) to construct public counter-discourses against patriarchal institutions and culture, as it is the case with hashtag feminism (Linabary et al., 2020; Semenzin 2022).
Indeed, by recounting their day-to-day experiences, women aim to 'own' the narrative of what being a woman in STEM actually is and implies, redefining therefore their STEM identity (Kim et al., 2018), providing at the same time genuine representation and inspiration for the "next STEMM gen".
This works aims at analysing how STEM identity and advocacy have been both discursively and visually constructed and performed during the two weeks surrounding both the International Day of Women and Girls in Science (11th February) and the International Women's Day (8th March).
Our dataset stems from a search of the #womeninstem: hanging out on Instagram, we identified several accounts of women working both in Academia and Industry in different STEM fields; we therefore selected 15 accounts belonging to the former category. Firstly, the linguistic and visual content of the posts selected for that day were analysed employing Multimodal Critical Discourse Analysis tools (Machin & Mayr, 2012); afterwards, an *ad hoc* corpus of comments of the posts was created to observe wordlists, collocates, and frequencies (Hunston, 2022): both methods combined helped us investigate how both textual and visual content were used to perform STEM identity and advocacy and helped us reach the preliminary conclusion that such identity is performed discursively (with women constantly appealing to the women in the STEM community), multimodally (with

visual elements fostering diverse representation) and lastly by means of co-construction through the comment section.

Keywords: Corpus Linguistics, Identity, Instagram, Multimodal Critical Discourse Analysis, STEMinism

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