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Understanding trade union usage of social media: A case study of the Public and Commercial Services union on Facebook and Twitter

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Abstract

This paper provides the first cross-platform examination of trade union social media posts, focussing on the online content of the Public and Commercial Services (PCS) union. Data scraped from the union's Facebook posts ($n = 282$) were compared with data obtained from the union's Twitter account ($n = 1554$) to investigate the extent to which social media reflects a union's identity and utilises the language of mobilisation theory to engage with their audience. Across a six-month period (July–December 2019), findings demonstrated PCS behaved in an interactive manner on social media, avoiding the pitfalls of a 'bulletin board' approach through using the language of mobilisation theory. However, content was engaged with users to different extents depending upon which platform the content was posted. Findings also suggest that social media posts can reflect a version of union identity.

KEYWORDS

Facebook, Internet, mobilisation theory, social media, trade union, Twitter, union

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INTRODUCTION

In recent years, there has been a renewed interest in the extent to which the Internet and social media present opportunities for trade unions to broaden their membership base and improve levels of activism and mobilisation (Panagiotopoulos, 2012; Wood, 2020). These studies have been undertaken in the context of the established academic debate on ‘union revitalisation’, where unions adopt a range of strategies and tactics fundamentally aimed at growth (Ibsen & Tapia, 2017). However, the extent to which union revitalization has been successful is questionable, with Kelly rightly noting ‘application of various organizing models of trade unionism, to which mobilization theory was one contributory element, has signally failed to halt, let alone reverse, trade union decline’ (Kelly, 2018: 706). The literature on trade unions and the Internet, and more specifically trade unions and social media, are dominated by research based on surveys and interviews with union members, activists and officials and examines the perceived ways in which social media is changing (or can change) union activities (see for example Panagiotopoulos, 2012; Thornwaite et al., 2018). However, despite this increased interest, there is still relatively little known as to *how* unions actually use social media platforms in terms of the content they post and extent to which the platforms are utilised to engage with other users. This is important as more unions are increasingly realising the potential of using such technologies to communicate with both existing and potential members (Simms et al., 2019; Upchurch & Grassman, 2016; Wood, 2020). This paper makes an important contribution to the growing literature in this area by providing the first systematic comparison of union use of social media, in terms of scope and content across two platforms, Facebook and Twitter, through a case study of the Public and Commercial Services union (PCS). We contribute to existing research in this debate by examining the ways in which PCS interact with users through their social media posts and reflect on the content of union communication on these platforms in relation to union identity (Hyman, 1994; Martinez Lucio, 2003; Martinez Lucio & Walker, 2005) and the language of mobilisation theory (Kelly, 1998, 2005, 2018). Our findings show that the PCS utilise the ‘linguistic framing’ of mobilisation in their messages and thus use the language of mobilisation to communicate (Hyman, 2007: 207; Kelly, 2018). This use of language enables the union to reflect their identity online; however, due to the nature of social media platforms and the ways in which the union uses the technology to communicate with their audiences, only a crude version of a union’s identity can be reflected. To fully understand a union’s identity still requires a more nuanced approach (Hodder & Edwards, 2015; Hyman, 1994). The remainder of the paper is structured as follows. The next section outlines the extant literature on union use of the Internet and social media. The background for the study is then provided, before presentation of the methods, findings, discussion and conclusion.

WHAT DO WE KNOW ABOUT UNIONS, THE INTERNET AND SOCIAL MEDIA?

Against the backdrop of union decline, strategies for union growth have been grounded in the academic debate on revitalization (Simms et al., 2019). Evaluations of union revitalisation in the UK and beyond suggest that unions have been limited in the extent to which they have been able to stem membership decline and attract new workers to the union movement (Ibsen & Tapia, 2017). As a consequence of this, there has been increased emphasis placed on the importance of the Internet and social media to assist with trade union revitalisation (Wood, 2020). Part of this agenda has been to understand the ways in which unions communicate with their members and

potential members through union organising, as the importance of communication to organising and mobilising workers has long been recognised (Hyman, 2007). Thus, as communication technologies have evolved over time with the growth of the Internet and the rise in usage of social media, it is important to understand how unions engage online due to the role that social media now plays within unions, as ‘digital technology provides a chance to significantly scale up organising campaigns’ (Simms et al., 2019: 338). However, the changing and evolving nature of the Internet impacts upon the ways in which it is used by various trade unions. Unions were slow to adapt to the Internet, but by the late 1990s and early 2000s, usage of emails and websites had become widespread.

The early literature on unions and the Internet was split on the extent to which the Internet presented unions and their members the opportunity to alter the face and shape of unionism. Those on the optimistic side of this debate argued that technological developments could facilitate decentralised communication which would enable what is known as a ‘distributed discourse’ by reducing the distance between union leaders and members, and open up a more participatory form of union democracy (Greene et al., 2003). For example, Greene et al. (2003: 288) argued ‘Electronic proximity facilitates the wider dissemination of information and resources, offers increased possibilities of tracking and evaluating actions of the hierarchy acting in the name of members, and potentially can offer easier participation and training opportunities to a wider group of members’. Others have, however, suggested caution in the extent to which the Internet can enable greater participation and thus revitalisation (Upchurch & Grassman, 2016). Thus, whilst a distributed discourse is theoretically possible and would be of benefit to union members and activists, there is the potential for employer surveillance (Taylor & Moore, 2019). In addition to this, the existing political dimensions and tensions within unions should not be understated – indeed, it should be acknowledged that ‘the Internet can be used by pre-existing technological and organisational elites both within and beyond leadership structures to close down or restrict discussions’ (Martinez Lucio et al., 2009: 117).

Clearly then, the identity of a union was viewed as important, but this requires a more nuanced debate than currently exists in the literature (notable exceptions include Martinez Lucio, 2003; Martinez Lucio et al., 2009: 117). For example, Martinez Lucio (2003: 337) argued that much of the early literature on union use of the Internet takes ‘an ahistorical view and tends to disregard issues of identity and ideology. Unions are discussed as unified and consistent entities vis-à-vis the challenge of the “new”’. Martinez Lucio goes on to point out the need to have an understanding of a union’s identity – ‘the direction a union is coming from, and the direction it is taking (whether it is a hybrid of different models or not)’ (ibid) in relation to how a union acts, and communicates online.

Thus, whilst it could be argued ‘Union websites tend to portray a union’s identity outward in a singular image’ (Hodder & Houghton, 2020: 42), only so much can be learned about union identity solely from websites, and understanding the relationship between union identity and the Internet is complex. The identity of a union can impact on the way in which the Internet is used, and the Internet platform can have an impact on the portrayal of a union’s identity. This is not to be technologically deterministic, but rather to acknowledge the different dimensions of the Internet and their wider political implications in an era of communicative capitalism (see Martinez Lucio & Walker, 2005). Union identity is not permanently fixed, and work needs to consider the extent to which a union’s online ‘projected identity’ is a reflection of reality, noting the dynamic tensions at play with regards to union identity (Hyman, 1994). In relating Hyman’s work on union identity to union use of the Internet, Martinez Lucio and Walker (2005: 143) suggest that ‘A market-oriented trade union will use the internet as a vehicle for a hierarchical

relationship with its members which stresses the delivery of services; a class-oriented union may prefer to highlight a broader range of industrial conflicts and use their internet presence on calls for forms of class action through reference to, and highlighting of, strikes, for example'. Such insights on the relationship between union identity and the Internet of Martinez Lucio (and colleagues) are key to understanding the complex interactions at play within unions, but need revisiting in the era of social media.

The changing nature of the Internet saw function and usage evolve from static webpages with limited functionality to a more interactive landscape, dominated by user-generated content. Social media platforms such as Facebook, Twitter and YouTube epitomise the accessible, interactive functions of the online world with users being able to engage, react (like), comment and share content. Social media usage continues to be widespread for individuals, companies and organisations, despite recent concerns about the perceived negative consequences that *can* be associated with social networking (Houghton et al., 2020). Whilst there are differences between the social media platforms, generally speaking, users are able to 'decide whose messages they wish to receive, but not necessarily who can receive their messages' (Murthy, 2013: 10). However, much like the slow adoption of initial Internet technologies, unions slowly began to embrace a range of social media platforms.

What, then, do we know about union use of social media? There is a growing body of work which outlines and establishes the ways in which union members and activists perceive and use social media as part of their union activities (Panagiotopoulos, 2012; Thornwaite et al., 2018). Such work is useful in grounding understandings of the extent to which trade unionists are currently engaging with social media and is complemented by qualitative case studies (Taylor & Moore, 2019) which examine the extent to which the Internet and social media can help 'overcome negative dispositions towards unions' (Wood, 2015: 259). However, these studies do not help us to understand the ways in which unions actually use social media in terms of message content and communication.

There have been numerous studies on how unions engage other users on Twitter, and whether this research is conducted at the macro-level or the micro-level, there are similarities in the findings. Each of the studies found that unions tended to communicate in a static, one-way nature, demonstrating the limited extent to which unions are utilising the interactive functions of social media. Macro-level studies such as Frangi et al. (2020) provide useful insights into general patterns of behaviour by unions online, but such work needs to be complemented by more micro-level insights through case studies of individual union actions and behaviours. However, there are also limitations with existing work in this area. Hodder and Houghton (2015) explicitly looked at the extent to which a union's messaging demonstrated evidence of mobilisation and found that the majority of original posts fitted the linguistic framing of Kelly's (1998) mobilisation theory. In a similar study, Hodder and Houghton (2020) examined the content of posts from the youth sections of three unions. However, in both these studies, Hodder and Houghton found limited use of the interactive capabilities of social media, with unions instead using Twitter in a static manner, much like an online noticeboard.

Although there is a growing body of work in this area, existing research almost exclusively examines one platform (most often Twitter), with limited research into the behaviour of unions or union organisations on other platforms. In a recent study, Carneiro and Costa (2020) examined the ways in which union federations in Brazil, Canada, Portugal and the UK used Facebook. Their study is among the first to systematically analyse Facebook posts but found evidence to support the aforementioned research into union use of Twitter, noting that the union confederations maintained 'an outdated "one-way" model of communication, hindering opportunities

to reach and engage with both union and non-union actor' (Carneiro & Costa, 2020: 1). Jansson and Uba (2019) have looked at the ways in which Swedish unions and union confederations use YouTube, focussing predominately on content and audience. Their findings show limited use of social media for mobilisation or recruitment, with content being focussed on internal matters. Only Fowler and Hagar (2013) studied union communication across multiple platforms, examining how Canadian unions utilised both Facebook and Twitter. However, as their focus is limited to political election campaigning, the generalisability of their findings is limited as they do not provide insight into the wider content of union posts.

As the concepts of organising and mobilising have been central to union revitalisation initiatives in the UK (Holgate et al., 2018; Kelly, 2018), further research is needed to understand the extent to which unions are utilising social media to communicate and engage in organising and mobilising activities (Simms et al., 2019: 338; Upchurch & Grassman, 2016). At this point, it is useful to distinguish between organising and mobilising, following both McAlevey (2016) and Holgate et al. (2018: 602): "Mobilizing" – or "moving workers into activity" – is a necessary step in the process of organising, but not all organizing work seeks to create a mass mobilization. While 'mobilizing' is an important tool and activity within organizing, it is not, on its own, organising'. Organising is a longer term activity, aimed at prolonging member engagement and activism within a union. Given the more immediate nature of union communications online, it is logical to examine the importance of the content of union messages in relation to the language of mobilisation. For example, Wood (2020) has demonstrated the importance of understanding how social media can contribute to union mobilising in the fast food industry in both the UK and the USA.

To understand this in more detail requires a discussion of mobilisation theory. Kelly (1998) outlined the relevance of mobilisation theory to discussions of union growth and revitalisation at both a micro-level and a macro-level (see also Kelly, 2005: 66–67). We are predominantly concerned with the micro-level of analysis, relating specifically to how unions engage and mobilise workers. As such, Kelly (1998, 2005) has outlined the central tenets of mobilisation theory as injustice, attribution and efficacy. That is to say, according to mobilisation theory:

[I]t is not simply dissatisfaction at work which triggers unionization, but a sense of injustice.... workers must either attribute blame for their problems to an agency, normally the employer or the government, or must feel the employer or government is liable for solving them. ... Finally people must have a sense of agency (or efficacy), that is the belief that collective organisation and action can make a difference

(Kelly, 2005: 66).

Thus, in the context of social media and union communication, 'if trade unions utilise social media to identify and isolate the employer as the source of grievance, than the prospects of collective mobilisation and identification with the union are enhanced' (Upchurch & Grassman, 2016: 643). As noted by Kelly (2018: 705), 'The role of language in mobilization has become a significant topic of research... [and] union discourses constitute one form of power and under certain conditions can prove highly effective in shifting public agendas in pro-union directions'. Hyman (2007: 207) has also pointed out the importance of how union messages are framed linguistically to members and potential members, noting that the 'battle of ideas is also a battle of words'. However, McAlevey (2016) and others have been critical of unions engaging with social media solely for mobilising workers (see also Wood, 2020 for a discussion). This is because 'At its most problematic, mobilization can create an illusion of strength (when activists are able to temporarily compensate for the inactivity of members

or the wider workforce), but is unable to be sustained because of a lack of power that comes with mass supportive activity' (Holgate et al., 2018: 602). Specifically in relation to social media, Wood (2020: 499) however argues 'it is a mistake to see social media only as a mobilising tool when, in fact, it can also facilitate organising'.

Summary, research questions and context

In summary, despite recent advances in the area of trade union use of the Internet and social media, further research is needed into this topic if we are to understand its value as a mobilising tool as some claim (Upchurch & Grassman, 2016; Wood, 2020). We still know very little about *how* unions use the Internet and social media in terms of message content, despite knowing increasing amounts about why unions use the Internet and social media (see for example Thornwaite et al., 2018). Whilst existing studies provide useful insights, they tend to focus on one form of the Internet (i.e. either emails, or websites, or a single social media platform – most often, Twitter), and as both the Internet and social media functions continue to evolve, then more contemporary research is needed to see whether their findings hold for other unions, and on other social media platforms. Surprisingly, few studies directly assess the role of mobilisation in relation to union communication through social media. As noted above, the identity of a union strongly influences union behaviour online (Martinez Lucio & Walker, 2005) and so in linking these two points together, one might expect to find evidence of the language of mobilisation (Kelly, 2018: 705) when examining posts of a militant, campaigning union (see Martinez Lucio & Walker, 2005: 143). We therefore propose to examine the social media activities of the PCS union to answer the following two research questions:

1. To what extent is the language of mobilisation (Kelly, 2018: 705) evident in PCS communications on social media?
2. How does PCS use social media more generally, and are there differences in the ways in which a union uses different social media platforms?

Public and Commercial Services was formed in 1998 following a series of mergers and predominantly represents lower and middle-grade civil servants, as well as those working in the private sector on Government contracts (Hodder, 2015). Civil service employment relations have been increasingly strained in recent years following decades of restructuring of government services, jobs and bargaining units, and this has been reflected in the changing nature of union identity in the civil service (Hodder, 2015). This has resulted in the union now being perceived as having a clearly defined identity as a militant, class-oriented union, and it is often held up as an exemplar for organising and mobilising to deliver on the union's ambitious bargaining agenda (Upchurch et al., 2014).

Due to the fragmented nature of bargaining in the civil service, the union has called various strikes over pay and other industrial issues at a departmental level since its formation (Lyddon, 2009). More recently, there have been attempts at co-ordinated, civil service-wide ballots for industrial action on pay since the introduction of the Trade Union Act (2016). However, the union has not been successful in meeting the 50% threshold required for industrial action, with failed civil service-wide ballots in both 2018 and 2019. The six-month period under investigation in this paper (1st July–31st December 2019) was purposefully chosen to avoid the data predominantly being about the failed industrial action ballot, conducted

March–April 2019. Nevertheless, there were various national employer disputes underway during the period of study, and these appear in our data (as can be reasonably expected). We take account of these by situating our findings in a discussion of union identity in relation to how PCS uses social media. As of the start of 2019, the union had 180,311 members (PCS, 2019). The union has been active on social media for some time, having first established a Facebook page in November 2012 and a Twitter account in April 2009, and has acknowledged the extent to which social media can assist with mobilisation as part of its strategic approach to organising (see PCS, 2015).

METHODS

Using the guiding principles of netnography (Kozinets, 2015; specifically the requirement for sufficient but not overwhelming data richness and quantity, and recognition of the immersion of researchers into a union's online communities), two platforms were selected for data collection to address the above research questions – Facebook and Twitter. Both platforms feature prominently in the list of top 50 global sites by Internet traffic. In January 2021, Facebook had a reported 2.74 billion active users making it the most popular social media platform, whereas Twitter had 353 million users (Statista, 2021). Posts were collected from Facebook and Twitter for the six-month period 1st July – 31st December 2019. Facebook posts ($N = 282$) were collected from the PCS Union 'Page' – an area that an organisation/group can operate to make public posts and encourage users to subscribe to these posts and create content in response – using the Facebook website, with data collated manually by the authors. Twitter posts ($N = 1554$) were collected from PCS's Twitter account (@PCS_union) using Twint, an open-source Python-based collation tool allowing Twitter searches to be saved into text files. All posts from this period on both Facebook and Twitter were collected. An overview of the posts available from the PCS accounts on Facebook and Twitter is given in Table 1.

There are a number of design choices that differentiate Facebook and Twitter in terms of their functionality. Where functionality is comparable, analyses were performed similarly for both platforms. All posts examined (both Facebook and Twitter) were cleaned to replace data artefacts, caused by incompatible text-coding systems, with their correct characters (e.g. 'â€™' in place of a quotation mark). Tweets were then identified as either *original* – a tweet originating from the PCS account and not a retweet of another user's tweets; or a *retweet* – posts created by another user and reposted by the PCS account. The PCS Facebook page only contained *original* posts, due to design choices implemented by Facebook. Throughout all stages of coding, any disagreements in the classification of a post were discussed until full agreement was reached, resulting in 100% agreement in coding for all stages of analysis.

There are differences between Facebook and Twitter regarding platform functionality. Thus, where functionality differed, analyses were conducted using a single platform. For example, with regards to user mentions and retweets, only Twitter data can be used. To identify the extent to which PCS were using Twitter to directly engage with other users, a Python script was used to identify, collate and count all mentions from the tweet data set and calculate the number of unique users mentioned to differentiate between total mentions and the total number of other accounts mentioned (see Table 8). Data were also analysed as to the number of unique users PCS retweeted during the period of investigation. Python was also used to identify, collate and count all unique usernames that PCS had retweeted and the number of times each username was retweeted (see Table 9).

TABLE 1 PCS account overview on Twitter and Facebook

Platform	Total followers/ subscribers	Total following (by PCS)	Total posts from PCS	Sample size (01-07-19–31-12-19)
Twitter	29,543	837	29,700	1554
Facebook page	13,288	Not available	Not available	282

Analyses performed on the Facebook and Twitter posts utilised all details of the content posted and reflected the immersive nature of the researchers into the community according to netnography (Kozinets, 2015). However, we have opted to quote only posts from users who may reasonably expect their posts to be publicly available. These users comprise unions (including subdivisions and branches), politicians, journalists and organisations (such as news/media organisations). Where individual users post, we cannot redact their name in order to quote them, as the original post can be found using a search engine and the user subsequently re-identified. Therefore, where analyses rely on such posts they will be interpreted anonymously, rather than quoted, to protect the user from further record permanence through publication of this work. We acknowledge the limitation of this approach for data transparency in some areas, but consider this critical in being able to conduct this work at all.

FINDINGS

Mobilisation

To address the first research question, Facebook posts and Tweets were first coded as to their 'linguistic framing' (Hyman, 2007: 207) – that is to say, the extent to which social media posts contained the language of mobilisation (Kelly, 2018: 705). Four categories were used to code all *original* tweets ($n = 1331$) and Facebook posts ($n = 282$): *Framing*; *Attribution*; *Action*; and *Other*. These categories were chosen as they epitomise the central tenets of mobilisation theory at the micro-level (Kelly, 1998, 2005). Here, only *original* tweets were used as *retweets* do not represent content originally created by PCS. All Facebook posts were included as posts on the PCS Facebook page cannot originate from other users, and thus match the post origin of *original* tweets. A breakdown of this categorisation is given in Table 2, along with examples for each of the categories.

From this, we can see that 58.5% of original tweets and 67.0% of Facebook posts used the language of mobilisation (Kelly, 2018). A χ^2 analysis identified that social media posts which reflected mobilisation theory differed significantly between Twitter and Facebook ($\chi^2 = 90.625$, $df = 2$, $p < 0.001$). However, whilst the relatively lower frequency of posting on Facebook compared with Twitter suggests a different pattern of communication from PCS across the two platforms, these findings suggest that PCS are using the two platforms for different purposes. With regards to Framing, 33.0% of Facebook posts fitted this category, compared with only 11.7% of Tweets. Drawing on Beasley and Schumacker (1995), adjusted residuals were used with a Bonferroni correction ($p < 0.05/6$; therefore accepted at $p < 0.008$), which indicated the language of Framing was used significantly less often than expected for the number of Tweets on Twitter and Facebook significantly more often than expected for the number of posts ($\chi^2 = 67.90$, $p < 0.001$).

TABLE 2 Categorisation of original tweets and all Facebook posts for mobilisation theory

Mobilisation stage	Twitter		Facebook		Example message
	N	%	N	%	
Framing	156	11.70	93	33.00	'Access to local justice and face-to-face contact with justice services are being eradicated under the government's drive to make unprecedented 40% cuts which will see 6500 fewer staff by 2023 www.pcs.org.uk/localjustice' (Facebook)
Attribution	107	8.00	40	14.20	'With facilities staff at Foreign Office set to strike again from Monday (29) to 31 July, unless serious proposals are made at ACAS talks on Friday, PCS is calling on new foreign secretary Dominic Raab to intervene and resolve the dispute. www.pcs.org.uk/fcoraab' (Facebook)
Action	517	38.80	56	19.80	'Please write to your MP on this vital issue! https://twitter.com/PCS_NI/status/1148576340385443841 ...' (Twitter)
Other	551	41.50	93	33.00	'Would you like to work for #PCS? We have an exciting job opportunity for a strategic organiser. Closing date is 4 September. www.pcs.org.uk/stratorjob' (Facebook)
Total	1331	100.00	282	100.00	

The lowest category in terms of the language of mobilisation theory was Attribution of blame for injustice. Furthermore, adjusted residual z-scores indicated no statistically significant difference in the use of posts for attribution between Twitter and Facebook ($\chi^2 = 6.55$, $p = .010$; Bonferroni correction applied). It was not always possible to code PCS posts into just one of the central tenets of the language of mobilisation theory, due to a number of posts combining framing and injustice. Indeed, the example for framing (see Table 2) could also be applied to attribution, due to the nature of the post blaming government cuts for staff reductions. However, this post was classed as framing as the main focus of the message was on framing.

With regards to action, PCS were considerably more active in demonstrating action or making calls to action on Twitter when compared to Facebook. Further adjusted residual z-score calculations demonstrated this finding to be significant, with PCS using Twitter significantly more than statistically expected, and Facebook statistically less than expected ($\chi^2 = 84.64$, $p < 0.001$). The final category (other) contained remaining posts from PCS where the message content did not fit with mobilisation theory. Here, we found a large degree of overlap with posts identified as 'News' in the categorisation identified in Table 3.

Message content

In order to answer the second research question, we first needed an in depth analysis of how the PCS union were using each platform. Thus, posts were coded using a prescriptive framework,

TABLE 3 Coded category frequency of posts for Twitter and Facebook

Post category	Twitter				Facebook				Category use differences per platform (χ^2 , sig.)
	Original (N)	Retweets (N)	Total (N)	%	Total (N)	%	Total (N)	%	
Recruitment (membership/activism)	78	6	84	5.40	19	6.70	19	6.70	n.s.
PCS Campaigning	431	67	498	32.00	60	21.30	60	21.30	Twitter>FB (13.10, $p < 0.001$)
External campaigning (union causes)	86	50	136	8.80	1	0.10	1	0.10	Twitter>FB (24.40, $p < 0.001$)
External campaigning (political)	102	23	125	8.00	49	17.40	49	17.40	FB>Twitter (24.21, $p < 0.001$)
Strike building	45	6	51	3.30	26	9.20	26	9.20	FB>Twitter (20.98, $p < 0.001$)
Strike action	81	27	108	6.90	30	10.60	30	10.60	n.s.
Solidarity	141	26	167	10.70	3	1.10	3	1.10	n.s.
Engagement	38	2	40	2.60	0	0	0	0	Twitter>FB (25.50, $p < 0.001$)
News	134	7	141	9.10	54	19.10	54	19.10	n.s.
Union Democracy	66	0	66	4.20	10	3.50	10	3.50	n.s.
Services	81	0	81	5.20	19	6.70	19	6.70	n.s.
Other	48	9	57	3.70	11	3.90	11	3.90	n.s.
Total	1331	223	1554	100.00	282	100.00	282	100.00	

TABLE 4 Example coded posts from Facebook and Twitter

Post category	Example message	Platform
Recruitment	'Going to #CivilServiceLive in Newcastle this week? Join PCS at the event @NUFC on Thursday (4) – come along to our stall, take part in our workshop, get involved and join if you're not already a member. http://www.pcs.org.uk/cslnew pic.twitter.com/HEM1e7EuZk'	Twitter
PCS campaigning	'Following the general election  PCS is planning to engage quickly with the chief secretary to the Treasury to call  for the immediate end  to civil servants overpaying for their pensions and secure other pension improvements. www.pcs.org.uk/pensionsdemand '	Facebook
External campaigning (union causes)	'UCU general secretary @DrJoGrady highlighting the need for organisation when campaigning and discussing current ballots within the education sector pic.twitter.com/O2pPqivDSB'	Twitter
External campaigning (political)	'In his latest blog, PCS General Secretary Mark Serwotka explains  why trade unionists must mobilise  for a Labour victory in a general election www.pcs.org.uk/labmobilise '	Facebook
Strike building	'#PCS members working for private contractor ISS as cleaners in HMRC at Bootle and Liverpool are striking for 2 days from Monday (15) over low pay, poor conditions and job insecurity. http://www.pcs.org.uk/isscleaningstrike ... #ISScleaningStrike pic.twitter.com/ZzyhUa7Y1p'	Twitter
Strike action	'IT staff working for the Driver and Vehicle Standards Agency have gone on strike today for a month after last minute talks with the employer failed. http://www.pcs.org.uk/dvsait '	Twitter
Solidarity	'Solidarity  with all #PCS members taking part in the PCS national disabled members' seminar taking place in Birmingham this weekend (16–17 November)'	Twitter
Engagement	'@DawnButlerBrent and pcs president @FranHeathcote, thanks for your continued support pic.twitter.com/qjkn70jmK7'	Twitter
News	'  Major improvements to our digital  services are happening in the next few weeks which will make it much easier and far quicker for members to access and update essential information. www.pcs.org.uk/newdigital 	Facebook
Union Democracy	'The #PCS General Secretary election is now underway & you should receive your ballot paper in the post in the next few days. http://www.pcs.org.uk/look4ballot pic.twitter.com/6pHmvGPTaz'	Twitter
Services	'Are you a member of #PCS? You and your partner are entitled to a free will. www.pcs.org.uk/freewill '	Facebook

developed using a combination of King's (1998) template analysis and previous studies examining the interaction challenges facing unions on Twitter (Hodder & Houghton, 2015) and Facebook (Carneiro & Costa, 2020). Details of the number of posts in each category for each platform are given in Tables 3 and 4.

An examination of user engagement with PCS posts was conducted in two phases to identify (1) the extent to which users utilise platform functions to engage with posts (e.g. like, reply or retweet); and (2) the content that users engage with most frequently and at different engagement levels. Thus, a quantitative and qualitative examination of user engagement across platforms is conducted to address these points (see Tables 5 and 6, respectively). Hashtags ('#') are a function that allows users to associate their post with a particular topic and are used to group topics of interest so that other users can engage with, search for, and post to that topic directly (Tinati et al., 2014). Identifying the number of unique hashtags used across all *original* posts on Twitter and Facebook enabled analysis of the degree to which PCS were engaging with different topics. A Python script was used to identify, collate and count the number of unique hashtags and the number of instances each hashtag was used by the PCS Twitter and Facebook accounts (see Table 7).

A χ^2 analysis demonstrated that posts which reflect the categories identified were used by PCS with significantly different frequencies between Twitter and Facebook ($\chi^2 = 134.3182$, $df = 11$, $p < 0.001$). Further comparisons for each post category between each platform were conducted using the adjusted residuals to calculate a χ^2 significance, as per Beasley and Schumacker (1995), and a Bonferroni correction applied ($p < 0.05/24$; significance accepted at $p < 0.002$). Five of the 12 post categories differed significantly in their use between Twitter and Facebook (statistical results in Table 3). *PCS Campaigning*, *External Campaigning (union causes)* and *Engagement* were used more frequently on Twitter, and less frequently on Facebook (all $ps < 0.001$). *External Campaigning (political)* and *Strike Building* were used significantly more frequently on Facebook, and less frequently on Twitter ($ps < 0.001$). This suggests that while there were differences in the frequency of different types of post for these five categories between platforms, they were using Twitter and Facebook similarly for the majority of categories.

TABLE 5 Statistical comparison of engagement with platform posts in order of engagement level

Engagement	Twitter mean rank	Facebook mean rank	Mann-Whitney U (sig).
Likes/reactions	811.06	1510.56	52,152.500 ($p < 0.001$)
Replies/comments	862.94	1224.65	132,779.500 ($p < 0.001$)
Retweets/shares	831.77	1396.46	84,328.500 ($p < 0.001$)

TABLE 6 Engagement with platform posts in order of engagement level

Degree of engagement	Twitter		Facebook	
	N	%	N	%
Tweets with >5 Likes; Facebook Posts with >5 Reactions	757	48.71	270	95.74
Tweets with >5 Replies; Facebook Posts with >5 Comments	23	1.48	39	13.83
Tweets with >5 Retweets; Facebook Posts with >5 Shares	555	35.71	229	81.21
Comments with PCS reply (of 148 posts with comments – Facebook only)			11	7.43

Further qualitative enquiry examined all of the post categories to identify the messages being posted on each social media platform, as well as where the content differed between platforms (e.g. *PCS Campaigning*, *External Campaigning (union causes)*, *External Campaigning (political)*, *Strike Building and Engagement*; see Table 3). On both platforms, *PCS Campaigning* was the most frequent category of message. These were posts that promoted awareness of the union's campaign activities. The second most frequent post type was *Solidarity* on Twitter, posts that displayed solidarity to and from PCS and others, and *News* on Facebook, posts reporting news relevant to the union. News was the third most frequent category on Twitter, whereas this was *External campaigning (political)* on Facebook. *External campaigning (political)* referred to posts that promoted awareness of political campaign activities that were of direct relevance to the union. Examples of other categories included: *Recruitment*, posts that encouraged users to become union members or activists; *Strike Building*, posts that encouraged participation in forthcoming industrial action; *Strike Action*, posts that evidenced industrial action; *Engagement*, posts that demonstrated interaction between PCS and other users on Twitter/Facebook; and *Union Democracy*, posts relating to democratic union events, such as national union conferences. The category *Services* identified posts offering free advice or access to services such as insurance. For example posts from these categories, please see Table 4.

Key within this analysis is the use of both social media platforms for *PCS Campaigning* most frequently, suggesting that the union recognise the potential for informing their members about key issues and achievements, perhaps motivating the continued posting of messages of this kind. That News features highly on this list for both platforms suggest the union are using the platforms to distribute information updates, akin to a bulletin board as found on Twitter by Hodder and Houghton (2015) and Facebook by Carneiro and Costa (2020). However, in order to more fully understand this, we need to know more about the degree to which interaction occurs, that is, lessening the proportion by which the platforms act as merely bulletin boards. This is reported below.

Interactions and engagement

The ability for users to react, or display a reaction, to the content posted by other users is a central feature of social media platforms. Using the framework identified by Leek et al. (2019), reactions

TABLE 7 Hashtags used by the PCS Twitter and Facebook accounts

	Unique hashtags (N)	Total hashtags (N)	Mean hashtags per post	Top 5 hashtags
Twitter	162	1367	1.03	#pcs (n = 338) #tuc19 (n = 151) #ge19 (n = 44) #toriesout (n = 37) #pay (n = 35)
Facebook	54	155	0.55	#pcs (n = 26) #toriesout (n = 12) #pcssanta (n = 8) #universalcredit (n = 7) #lettertosanta (n = 7)

to social media posts can be classified as to the extent to which users were engaged. For example, clicking 'like' requires relatively low cognitive engagement, but is greater than no reaction at all. Adding a comment or replying to a post publicly requires further cognitive engagement to establish what to write in response and such cognition may require a stronger motivator. Viewing a post then re-sharing it on one's own account requires recognition of the content as useful, motivation to perform an action, and often cognition in adding a comment to the post when re-sharing it, thus representing the greatest level of engagement.

Tweets and Facebook posts were collated as to the number of Likes (Twitter) and Reactions (Facebook) for the lower level of engagement, the number of Replies (Twitter) and Comments (Facebook) for the intermediate level of engagement, and the number of Retweets (Twitter) and Shares (Facebook) for the highest level of engagement. Three Mann–Whitney U tests were conducted to compare engagement type between the two platforms for each of the three levels of engagement. Results indicated significant differences for all three levels of engagement, such that Facebook posts are significantly more likely to be liked/reacted, replied/commented upon and retweeted/shared (Table 5). These results suggest that while there were substantially more posts on Twitter than on Facebook in the same 6 month period, each post on Facebook was much more likely to be engaged with across all three levels of engagement.

To understand the content of messages with which users were inclined to engage, a qualitative examination of tweets and Facebook posts was conducted. First, tweets and posts with sufficient user engagement were identified (those with >5 engagements for each level). On Facebook, 95.74% of the posts were responded to by audiences at the lower level of engagement, through the Facebook reactions feature, whereas 48.71% reacted similarly with Likes on Twitter. Facebook also saw greater engagement with posts receiving more comments than Tweets did replies. Similarly at the highest level of engagement (sharing), 81.21% of Facebook posts were 'shared' more than 5 times, whereas only 35.71% of Tweets were 'retweeted'. On both platforms, the data suggest a bimodal split for engagement level. Users are either motivated to react with a simple 'like' or 'reaction', or with much greater engagement and re-post the content through their own accounts, leaving the intermediate level of engagement (replies and comments to PCS posts) relatively unused. It is also evident that users of Facebook more frequently engage with posts made by PCS than do users of Twitter; comparatively, each level of engagement sees a greater proportion of the posts engaged with on Facebook than on Twitter (see Table 6).

Public and Commercial Services used the hashtag feature of Twitter and Facebook to engage with other users. For these analyses, only *original* tweets were used in comparison with Facebook posts. On Twitter, PCS used 162 unique hashtags, with a total 1367 instances (Table 7). Further evidence of the consistency of PCS's use of the hashtag function on Twitter is that a mean of 1.03 hashtags was used per tweet, suggesting that for every tweet posted, PCS were labelling their content for grouping into 162 topics for other users to engage with. Each of the top five hashtags used by PCS were directly relevant to their campaign activity or wider engagement with causes relevant to the union, including trade union conferences, and the General Election (see Table 7).

On Facebook, the use of hashtags by PCS was substantially less frequent. To correct for the number of total posts on each platform, the mean hashtags per post metric demonstrates the difference in the frequency of engagement with hashtags between Facebook and Twitter. On Facebook, PCS used only 0.55 mean hashtags per post, indicating a much lower focus on the grouping and curating of Facebook posts. A Mann–Whitney U test demonstrated this observed difference in the mean hashtags per post between Twitter and Facebook to be significant

($U = 126,747.000$, $p < 0.001$). When comparing if PCS used a hashtag or did not use a hashtag between Twitter and Facebook, similar evidence was found. Twitter posts were significantly more likely to use a hashtag at all, than to not use a hashtag, and Facebook posts were significantly less likely to use a hashtag than to use a hashtag ($\chi^2 = 114.046$, $df = 1$, $p < 0.001$). However, the lower frequency of hashtag use on Facebook contrasts significantly with overall post engagement, where Facebook posts were engaged with by users to a greater extent than users on Twitter. Across both Facebook and Twitter, it is noteworthy that PCS's most frequently used hashtag was #PCS, which indicates an intention to raise awareness of their posts, curating them for easy access. However, such curation is only useful for users who already know to search for #PCS or what the union do, although these posts may be found by simultaneous use of other hashtags, for example #pay.

If hashtags are a useful and well used mechanism by PCS to curate tweets and posts around a common thread that is searchable, it is prudent to identify whether using a hashtag resulted in greater engagement for each engagement level, than did posts without a hashtag. Thus, three Mann–Whitney U tests were conducted, one for each level of engagement to determine the effect of hashtag use on user engagement (coded as a dichotomous variable for each post: used one or more hashtags = 1; no hashtag = 0). A Bonferroni correction was applied, such that $p < 0.05/3$; accepted at $p < 0.017$. Results showed a negative relationship between hashtag use and user engagement for all three engagement levels, that is, using a hashtag is associated with fewer likes/reactions ($U = 256,527.00$, hashtag mean rank = 751.57, no hashtag mean rank = 892.16, $p < 0.001$), replies/comments ($U = 275,497.5000$, hashtag mean rank = 770.98, no hashtag mean rank = 862.33, $p < .001$) and retweets/shares ($U = 268,680.500$, hashtag mean rank = 764.01, no hashtag mean rank = 873.05, $p < .001$). This suggests that audiences of PCS were more likely to engage with a post if it contained no hashtags, compared with a post that contained one or more hashtags, regardless of social media platform.

Within the Twitter platform, evidence was found to show the extent to which PCS instigated engagement with other Twitter users directly through the use of mentions (a way to tag another user in a post to stimulate interaction). Across original tweets, 29.23% utilised the mention feature, a total of 180 accounts were mentioned 579 times (see Table 8 for the most frequently mentioned accounts). However, PCS were also similarly selective in the mentions they used across all tweets (original and retweets). Whilst there were a total of 992 mentions, with 315 unique users, accounts mentioned were either directly relevant to other parts of the union or their wider political campaigning. In original tweets, PCS mentioned 12 unique accounts associated with the union, whereas 24 unique PCS accounts were mentioned in retweets. This suggests to some extent that Twitter was being used strategically to engage in matters of relevance to the union and its members or potential members, with some consistency. However, this also means that in their original tweets, 168 other users were mentioned. It is therefore suggested that PCS were beginning two-way dialogues with other Twitter users outside the union, that is utilising the features of Twitter to a greater extent than a bulletin board for updates.

Further evidence of PCS's engagement on Twitter is found in analyses of the different users they retweeted (Table 9). However, PCS's use of this feature is relatively limited, with only 14.35% of tweets being retweets. Within this activity, however, it is evident that PCS were utilising the feature to engage predominantly with other parts of the union, and those key to their union activity, such as the Institute for Employment Rights (see Table 9). Although these were the accounts most frequently retweeted, only 16 of the 98 unique users retweeted were PCS accounts, suggesting 83.67% of the retweet activity originated beyond the confines of PCS.

TABLE 8 Mentions of other Twitter users by PCS Twitter account

Tweets with mentions	Total mentions		Unique users mentioned		Top three users mentioned (<i>n</i>)
	<i>N</i>	%	<i>N</i>	<i>N</i>	
Mentions (originals only)	389	29.23	579	180	pcsfc0 (32) jeremycorbyn (22) laurapidcockmp (22)
Mentions (all tweets)	557	35.84	992	315	pcs_union (131) pcsfc0 (40) jeremycorbyn (25)

TABLE 9 PCS retweets by unique user

Retweets	Unique users retweeted	Top three users retweeted (<i>n</i>)
<i>N</i>	<i>N</i>	
223	98	@pcsl_se (16) @ieruk (14) @pcs_proud (11)

DISCUSSION AND CONCLUSION

This paper makes a substantial contribution to the growing literature on how trade unions use social media platforms and is the first study to examine the content of messages sent by one union across two platforms (Facebook and Twitter). This is important as whilst there have been various calls for unions to engage more with social media generally (Carneiro & Costa, 2020; Simms et al., 2019) and specifically in relation to the language of mobilisation (Hodder & Houghton, 2015; Wood, 2020), little research has actually examined the content of such communication. Thus, we make two contributions. First, we develop and extend the earlier debates on union use of the Internet (websites) in relation to union identity (Martinez Lucio, 2003; Martinez Lucio & Walker, 2005) and mobilisation (Kelly, 1998). Second, we contribute to the existing literature that examines union use of social media on single platforms (e.g. Twitter, Hodder & Houghton, 2015; Facebook, Carneiro & Costa, 2020; YouTube, Jansson & Uba, 2019) by examining the activities of PCS across both Facebook and Twitter.

We now turn to our research questions in detail. Given the increased focus on the role that social media can play in union mobilisation (Upchurch & Grassman, 2016; Wood, 2020), our first research question sought to examine the ways in which PCS used the language of mobilisation (Kelly, 2018) in its posts on social media. Our findings show that across both Facebook and Twitter, the majority of PCS posts are aligned with the ‘linguistic framing’ used by unions to mobilise workers (Hyman, 2007: 207), thus reflecting the way in which the PCS union approaches both organising and mobilising (Hodder, 2015; PCS, 2019). Our findings are comparable with the only previous study to directly examine this (Hodder & Houghton, 2015); however, there are some clear differences between our findings in this paper and those of Hodder and Houghton (2015). Several days of national strike action in higher education occurred during the data collection period in the study of the University and College Union (UCU), which the authors acknowledged

may have impacted on their findings. By comparison, there were relatively few instances of strike action reported in the PCS data (and no instances of civil service-wide industrial action) with only 9.9% of tweets and 19.8% of Facebook posts included in the combined categories of Strike Building and Strike Action, compared with the 51.46% reported across the same two categories in Hodder and Houghton (2015). Thus, despite reporting fewer instances of strike action, when compared to UCU, a similar percentage of PCS posts utilised the language of mobilisation theory, and this could potentially be attributed to the union's identity.

Both online and offline, PCS portrays (and is perceived to have) a more class based, militant identity than UCU had in 2014 (see for example Upchurch et al., 2014 for PCS and Carter, 2008 on UCU).¹ A union's identity can be communicated in a number of different ways, ranging from constitutions and policy documents, to specific actions, processes and protests. The Internet and social media platforms are natural extensions of this, and increasingly important ways for unions to project how they want to be perceived to both members and potential members. Our findings support the suggestions of Martinez Lucio and Walker (2005: 143) as to how a more militant, class-orientated union may use the Internet to reflect their identity. We found that 59% of all Tweets and 58.6% of Facebook posts were categorised as either PCS Campaigning, External campaigning (union causes), External campaigning (political), Strike building or Strike action. Clearly, all unions engage in these activities, but to varying degrees. Therefore, some caution is required due to the complex nature of union identity (Hyman, 1994). Any projection of identity online via social media needs to be grounded in both an understanding of union identity offline (Martinez Lucio, 2003; Martinez Lucio & Walker, 2005), and an understanding of any potential technological limitations (for example, it is difficult, but not impossible, to constantly and accurately reflect a dominant union identity within the character limits of posts on Twitter). We return to this point further below. Thus, this study raises questions as to the extent to which the Internet generally, and social media platforms specifically, represents or creates crude versions of a union's identity.

Turning to our second research question, we examined how PCS used social media more generally and assess the differences in union communication on Facebook and Twitter. Results show that the majority of posts across both platforms were in the areas of campaigning, news, solidarity and strike action. Whilst previous studies have shown a tendency for posts to emphasise campaigning and news (Carneiro & Costa, 2020; Frangi et al., 2020), that solidarity and strike action were topics PCS often posted about is likely to reflect their identity as a militant, campaigning union (see Upchurch et al., 2014).

Related to this point, with regards the extent to which PCS was using social media for the purposes of recruitment, our findings show relatively few posts related to recruitment, despite surveys of union members and activists suggesting that social media would be a good avenue for recruiting new members to the union movement (Panagiotopoulos, 2012). However, as noted above, as PCS were projecting an online identity as an active, militant and mobilising union, such online behaviour may indirectly help with recruitment without undertaking specific recruitment activities in the content of their messages, similar to the way in which having a strong visible presence in a workplace helps union recruitment, organising and mobilising (Simms et al., 2019).

The extent to which this is possible, however, depends on online audience size and engagement. In terms of audience size, as previous studies have demonstrated, union engagement on social media does not begin to match the realities of union membership numbers. PCS is no different here, with 180,311 members but only 29,543 Twitter followers and 13,288 subscribers to their page on Facebook. This means (assuming all followers and subscribers are union members, which is unlikely) the social media penetration of PCS accounts for just 16.38% (on Twitter) or

7.37% (on Facebook) of the union's membership. In terms of engagement and interaction, our findings show that unions appear to be using social media in an engaging way in terms of the extent to which users interact with the union's posts, compared with the findings of previous studies (Carneiro & Costa, 2020; Hodder & Houghton, 2015). In addressing the differences between Facebook and Twitter, we found that whilst there are some differences in message content between the two platforms, the main differences are in relation to the extent to which users interact with posts. However, this is largely a consequence of differences between the platforms, which may warrant them being used in different ways.

However, some context and caution should be applied with regards to our interaction findings. One example is the extent to which PCS responded to posts on Facebook (see Table 6). Of the 148 comments with user replies, PCS only responded to user comments 11 times (7.43%), despite numerous queries being raised by users. Unions can sometimes be criticised for not being seen to respond to posts on social media – as noted by Wood (2009: 632–633), 'By entering social networks, unions are in effect offering to develop some form [of] relationship with network users, and will increase those users' expectations of a genuine interaction with the union. If this expectation cannot be fulfilled, the disappointment could damage users' perspectives of the union'. However, evidence suggests that not replying to messages is not down to a desire to be undemocratic, but more due to resource constraints, both in terms of time and money (Fenton & Barassi, 2011: 187;). Further research is needed to explore this.

It is also useful to reflect on the way in which PCS used hashtags. Our findings show that users were more likely to engage with posts containing no hashtags compared with posts containing one or more hashtags. This suggests it is likely that neither the union (nor the users with whom they interact) are fully utilising the benefits of hashtags to increase visibility and interaction of issues of note. In addition to this, in terms of the accounts mentioned or retweeted on Twitter, to a large extent, the union is still amplifying its own voice. Thus, when you combine this finding with the above points about membership size and social media penetration, the question could be asked as to the extent to which the union finds itself stuck in the online echo chamber (Clarke & van Slyke, 2010), engaging only with existing committed activists. However, it should be acknowledged that unions have long had to deal with the challenge of an active minority and a passive majority (Gumbrell-McCormick & Hyman, 2019), and although PCS is taking steps to address this issue (PCS, 2019), there is clearly still work to be done. This in turn has implications for the extent to which social media can actually engender union mobilisation offline (Wood, 2020), despite our above findings regarding the prevalence of the language of mobilisation theory in social media posts.

In conclusion, we have presented one of the first detailed examinations of union use of multiple social media platforms in the UK. The technological landscape within which unions operate is constantly evolving and is now vastly different to the focus of earlier studies published almost twenty years ago (Greene et al., 2003; Martinez Lucio, 2003). Social media in particular is a broad and ever expanding tool for unions to assist in their organising and mobilising activities (Simms et al., 2019). The different features of the various social media platforms mean they can be used in a multitude of different ways. What we know from union use of Twitter is not necessarily going to be the same as union use of Facebook, YouTube or Instagram. In this sense, our paper makes a clear contribution to the literature in examining union behaviour across two platforms. However, *how* unions use the Internet and social media is also influenced by a union's identity. Whilst earlier work looks at the nature of union identity in relation to the Internet and websites (see for example, Martinez Lucio & Walker, 2005), our paper is one of the first to extend this debate into

the era of social media through a detailed examination of how a union with a strong, militant identity uses the language of mobilisation in its message content.

We found that PCS is using both Facebook and Twitter in a relatively interactive manner, reflective of their identity as a militant, mobilising union (Upchurch et al., 2014). However, further research is needed into union activities online to further our understanding. For example, research needs to continue into union use of the Internet more broadly, and not focus solely on social media (Rego et al., 2014). The complex interplay between identity, the Internet, democracy and social media also warrants further investigation. Specifically in relation to democracy, studying the official public profiles of unions on social media platforms can only go so far to engaging with the earlier debates on distributed discourse as set out by Greene et al. (2003), among others. As such, more work is needed into the extent to which union members use closed Facebook groups (following the approach of Taylor & Moore, 2019) or other forms of online social networking beyond the dominant corporate platforms such as Facebook and Twitter as a ‘safe space’ (see also Wood, 2009). Related to this, further research is needed to examine how unions deal with the nature and extent of employer surveillance (Taylor & Moore, 2019) and the potential for employer counter-mobilisation (Thompson et al., 2020). Despite these calls for further research, our paper builds on the work of Carneiro and Costa (2020) and Hodder and Houghton (2015, 2020) and makes a considerable contribution to understanding how trade unions use social media.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ENDNOTE

1. It should be noted that the identity of UCU has evolved in recent years (see Bergfield, 2018).

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