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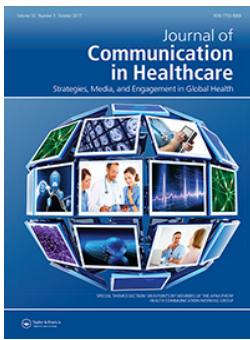
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Effective messages and media for employee health campaigns

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ABSTRACT

This study describes how the use of internal communication messages and channels contributed to engagement and improvements in health of NHS Wales employees who took part in a 6-month programme to improve their personal health. A mixed methods research approach was taken that incorporated a post programme evaluation survey and 13 semi-structured interviews conducted 9–12 months after the communication programme. Frequency analysis shows that email briefings, information on a website and text messages were the three most useful methods of communication for employees in this study. Information on the website, email briefings and regular recordings on the website were positively and statistically significantly correlated with a general health outcome. Three themes emerged from interviews: different communication channels appeal to people at a variety of levels; local support activity can enhance computer-mediated communication and social media; examples of real success stories are highly motivational. This study indicates that internal communication programmes that are based primarily on electronic and social media channels can be effective in behavioural change. However, this approach may not be appropriate for all employees as participants reported that they would like more control over the timing and frequency of communication, based on personal preferences and access and/or familiarity with a specific medium. A recommendation for practice is to provide employees with the ability to personalize channels and content.

KEYWORDS

Communications media; communication research; health communication; improvement; persuasive communication

Introduction

This paper considers associations between the channels used in a health improvement campaign and the health outcomes achieved. It reviews the channels and messages used in the Champions for Health campaign that was implemented by Public Health Wales which encouraged NHS Wales employees to sign up to a 6-month challenge to improve their health. Each participant was asked to select two or more healthy lifestyle changes from the following five options: smoking, alcohol consumption, body mass index, fruit and vegetable consumption and exercise. A questionnaire was administered with participants immediately after the campaign ended and interviews conducted 9–12 months later. The paper begins with a review of literature on the key concepts for the study. The review sets out the research questions investigated in the research. Next, the research questions and research methods used are outlined followed by analysis and discussion of the findings. Implications for theory, research and practice are provided in the conclusion.

Conceptual frameworks

As this paper is based upon a communication campaign with employees, two primary conceptual

frameworks are explored: internal communication and medium theory.

Internal communication channels

Internal corporate communication is defined as ‘communication between an organisation’s strategic managers and its internal stakeholders, designed to promote commitment to the organisation, a sense of belonging to it, awareness of its changing environment and understanding of its evolving aims’ [1,p.186]. In an alternative definition, it is described as ‘the aspiration (starting from the vision and proceeding to policy and mission statement and eventually to strategy) of achieving a systematic analysis and distribution of information at all strata simultaneously coordinated in the most efficient way possible’ [2,p.225]. The latter definition forms the focus for this paper as it emphasizes effective distribution of information. This is important as satisfaction with organizational communication practices is one aspect that has been ignored [3]. In this study, effective distribution is analysed with regard to the associations with behavioural change. In terms of internal communication channel usage, it appears that electronic communication is replacing print and social media inside organizations is increasingly used

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[4]. Despite the growing availability of internal and external social media that employees can access, studies suggest that email remains the preferred medium of most employees for internal communication, together with face-to-face communication [4–7]. The reasons for a preference for email as a medium are the ability to easily save, store and retrieve information plus the ability to find information on intranet pages [6]. According to Towers Watson, one-way electronic media is the most used medium for employee health and welfare in the workplace [8]. Notably, the report suggests that effective employee health communication is focused more on interactive electronic media and discussions with managers. The literature on health communication is primarily focused on external communication from service providers to patients or on wider health awareness in society [9]. Relatively few studies have evaluated factors shaping organizational members' perceptions of communication media [10]. This study investigates the effectiveness of communication media in a health improvement campaign targeting employees in a health organization. It is unique in exploring the effectiveness of healthy living messages to health employees that is associated with a health outcome.

Medium theory

Medium theory asks questions about message dissemination, about how the medium enables long-term messages to be established, and the ability to respond either individually or with everyone [11]. Information richness is defined as the ability of information to change understanding within a time interval [12]. In this context, media vary in the capacity to process rich information, where richness differences are related to the capacity for immediate feedback, the number of cues and channels used, personalization and language variety [13]. Rich media enable people to interpret and reach agreement about unanalysable, difficult and complex issues, while lean media are appropriate for communicating about routine activities [14]. The effectiveness of different media in an employee health improvement campaign is a primary concern of this paper.

Internet-based modes of mass conversation and 'intercreativity', where participants create content in a collaborative partnership, provide new opportunities for health communication which has traditionally controlled content very tightly [11]. The defining attribute that new technologies share is the ability to exchange information between individuals and groups [15]. However, social media interventions 'require careful application and may not always achieve their desired outcomes' [16,p.15]. Channel expansion theory focuses on how individuals develop perceptions of a medium's richness or capacity to facilitate shared meaning. It is argued that perceptions are fluid and

contingent on one's relevant experiences, such as using the channel, the communication topic and one's communication partner. As experience increases, so should perceptions of a medium's richness [10]. There is also a further dimension of medium theory, the psychological affects of a particular medium on employees [6]. This raises questions of appropriateness and acceptability of the message and the medium used. In a health communication context, the proliferation of communication channels currently available seems to offer a wealth of opportunities to improve the effectiveness of health communication [11]. This study therefore seeks to explore the way that different media can be used to have the greatest impact on behaviour – an aspect of how medium theory can be applied to internal communication that has not previously been explored in a health setting.

Medium theory operates at both a macro and micro level [11]. At a macro level, medium theory focuses on the shift from an oral culture to print to electronic and the ways in which the introduction of a new medium ultimately affects the dominant institutional power arrangements in societies. At a micro level, medium theory can be used to make observations about the ways in which new communications technologies may be disrupting conventions and institutional practices. The focus of this paper is at a micro level: the media used for communication with employees about health improvements that is associated with behavioural change. Consideration of medium theory in the context of internal communication can encourage fresh perspectives such as a focus on the interplay between internal communication message content and its mediating format [1].

An emphasis on social aspects of medium theory is based on the premise that media richness perceptions are partly dependent on experiences with communication media utilized. There may be a focus on the 'technology' in new communication technologies and not enough attention to the human element and a more fruitful stance could be to look at how these technologies can sometimes change the contexts for human interaction and then to ask when and how contexts arise [15]. This approach emphasizes the knowledge-building process that modifies the way an individual assesses media richness. Four processes are highlighted: experience with the channel, experience with the subject, experience with the communication partner and experience with the organizational context [17]. Indeed, it can be concluded that 'the richness of a communication media is constructed socially and is related mainly to experience with the media and with the communication partner' [18,p.38].

In terms of media used, text messaging in health interventions is a relatively new practice. In a meta-analysis of 19 randomized controlled trials conducted in 13 countries, it was found that text messaging or

short-message service (SMS) interventions were most successful when focused on smoking cessation and physical activity, and, to a lesser extent, weight loss. Interventions that employed two-way communication (where participants can text back) were not significantly more efficacious than those employing one-way communication [19]. However, the researchers found evidence that message frequency moderated intervention effectiveness. For example, compared to communication that used a fixed frequency (e.g. once per month), variable schedules (i.e. where participants can set their own schedule and programmes with decreasing frequency over time) were most effective. Overall, the researchers concluded that text messaging-based health promotion interventions are efficacious and the effect compares favourably to behavioural effects reported in other meta-analyses of different health communication media.

Campaign, research questions and methods

The campaign in this study incorporated website information focused on news and resources, including tips and health advice for each of the five lifestyle challenges. SMS messages were sent such as 'To help keep you motivated to get out and exercise over the Xmas period – keep your trainers, hat and gloves by the door so you can get up and go!' and 'Last week 1 champion said "I've lost 1st 5lbs and my family and friends are all supportive and some have followed suit!" Can you share something similar?' Weekly emails contained 'read more' links which took the recipient to further related information on the website. The website also incorporated a password-controlled recording tool used by participants to record their weekly data for lifestyle challenges. The tool provided online forms to record weekly data, a 'personal dashboard' providing an at-a-glance measure of how the participant was doing against their challenges and a graph for each challenge providing a visual representation of their progress.

The research set out to answer the following three questions:

Which media are most useful to employees in a health improvement programme?

Which media are associated with an improved general employee health outcome?

How should media and messages be managed in an employee health improvement programme?

A mixed methods research approach was used for the research. This incorporated short questionnaires during the campaign to test the satisfaction with media being used. At the end of the 6-month challenge period, participants completed a comprehensive evaluation questionnaire. All participants were from a homogenous group (health workers in Wales) who gave their time freely to be involved with the programme.

No payments for participation were made. This project did not fall under the NHS Wales Research Governance Framework for Health and Social Care (2009) and so did not require Research Permissions from the Public Health Wales Research and Governance Office and, as an evaluation study not including NHS patients, did not require NHS Research Ethics approval. The evaluation questionnaire included questions concerning the communication methods that were used throughout the campaign, such as 'How useful did you find the following aspects of the Champions for Health Campaign in completing your challenges?'. It also included the following question related to a general health outcome, 'In general, would you say your health is: excellent, very good, good, fair, poor'.

All employees who had registered to improve two lifestyle behaviours were invited to participate ($n = 1320$). All participants received the same general communication throughout the programme. A total of 189 respondents completed both the communication questions and health improvement questions in the questionnaire. Approximately 9–12 months after the programme ended, 13 semi-structured interviews were conducted. This time lapse was incorporated to analyse the impact of communication long after the programme had finished. An interview guide was developed that incorporated four core questions:

What do you remember most about the communication for Champions for Health?

How far did regular communication keep you engaged with the campaign?

What do you think about the brand and tone of voice used in communication?

What suggestions would you make for improvement for the communication around the campaign?

The interview guide also included prompts, such as 'Can you tell me a bit more about that please?' to elicit a deeper reflection about the communication used in the programme. Each interview was conducted on the telephone and lasted for around 30–40 minutes. Every interview was recorded and transcribed, generating 55,648 words for analysis. The telephone nature of the interview may have impacted on the ability to gain a rapport with the interviewee, although care was taken to get to know each interviewee as much as possible through a gentle opening question about their general participation in the programme. Analysis of the semi-structured interview transcripts was conducted separately by two independent researchers, using a manual coding approach. Each researcher identified comments that related to messages and channels and drew on these to establish core themes. The two researchers then discussed the themes identified independently and developed a new merged set of themes. One of the two researchers then re-read the transcripts and established the most prominent themes from the transcripts.

Quantitative data analysis

The campaign had a notable effect on the lifestyle of participating individuals. In total, 35.3% ($n = 122$) reported an improved general health status, 33% ($n = 110$) reported an improved mental health status and 84.2% ($n = 294$) stated they would continue with changes to their lifestyle after the campaign had ended [20]. Additionally, 67.3% ($n = 235$) indicated that they would pass on what they learnt from the programme to family and friends, an indicator of advocacy. A summary of the reported usefulness of channels is shown in Table 1. This shows that employees found email briefings (2.84, $SD = 1.24$), information on the website (2.79, $SD = 1.07$) and text messages (2.53, $SD = 1.40$) – the three most useful methods of communication. These findings for usefulness of email briefings for internal communication reflect usefulness of email reported in other studies. The relatively high level of usefulness reported for text messages reinforces research relating to the effectiveness of text messages used for health improvement. During the campaign, 192 employees responded to motivational text messages by sending text messages back. Of these, 139 responded to text messages on more than one occasion. As expected, a higher percentage of those who responded to text messages were in the 'active' group (those submitting a weekly record) than those who did not respond to any of the text messages (48 and 34.9%, respectively). This challenges the findings [19] that interventions that employed two-way communication (where participants can text back) were not significantly more effective than those employing one-way communication.

Usefulness of the face-to-face communication element of the campaign was notably rated lower than with other media. Mean results for varying dimensions of face-to-face communication are between 1.46 and 1.90. This is surprising as the literature reports high levels of usefulness for internal face-to-face communication. However, the results in this study may not reflect a general lack of usefulness for face-to-face communication. The resources required to deliver a full face-to-face component of the campaign were not available, so it was not possible to implement face-to-face communication support in every location. The results may therefore reflect limited awareness of the face-to-face element of the campaign. Usefulness of two social media elements was also relatively low; Twitter (1.89, $SD = 1.27$) and a forum discussion (1.87, $SD = 1.04$). This emphasizes the importance of understanding how media richness perceptions are dependent on experiences with the communication media utilized. This point is explored in more depth in the analysis of interviews in the following sections.

Analysis of the correlations between communication media and an improved general health outcome are

shown in Table 1. Information on the website ($r = 0.22$, $P < 0.01$) and email briefings ($r = 0.20$, $P < 0.01$) were positively and statistically significantly correlated with a general health outcome. Although the levels of the correlations are not strong, this provides additional empirical evidence that indicates that usefulness of email briefings and information on a website are also associated with behaviour change, in this study an improved general health outcome. This reinforces an argument that media richness incorporates processing difficulties such as the ease of accessing information on a website and the ease of using email [21]. It also supports the argument for media synchronicity theory for computer-mediated communication, based on fit of media capabilities to the communication needs of the task that influence the use of media which in turn influences communication performance [22]. The additional functionality of the recording of personal progress on the website is also positively and statistically significantly associated with an improved general health outcome ($r = 0.16$, $P < 0.05$). This reinforces the interactivity that Internet-based communication enables, which provides new opportunities for health communication [11]. Although there is evidence to suggest that employees find text messages useful, a positive correlation between text messages and a general health outcome was not statistically significant. This study does not, therefore, corroborate the conclusion that text messaging-based health promotion interventions are effective for behavioural change. It is also notable that there are no statistically significant associations between any of the various face-to-face communication aspects of the campaign and an improved general health outcome. Indeed, there is a negative association with local links at the start of the programme. However, this is not statistically significant and, as highlighted above, this may be attributable to the low level of face-to-face communication provided.

Qualitative data analysis

Three themes emerge from the 13 semi-structured interviews that were conducted 9–12 months after the campaign ended. Firstly, different internal communication channels appeal to different people at a variety of levels. Secondly, local support activity and face-to-face communication can enhance computer-mediated communication and social media. Thirdly, examples of real success stories are highly motivational. These three themes are reviewed in more detail in the following sub-sections.

Theme one: different communication channels appeal to different people at a variety of levels

Some interviewees expressed a high level of engagement with a particular medium as this quote illustrates:

Table 1. Means, standard deviations and correlations.

| | Mean | Std Dev | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| 1. Information provided on the website | 2.79 | 1.07 | | | | | | | | | | | |
| 2. Health assessments on the website | 2.07 | 1.05 | .41** | | | | | | | | | | |
| 3. Regular daily and weekly recordings on the website | 2.08 | 1.01 | .48** | .71** | | | | | | | | | |
| 4. Forum on the website | 1.87 | 1.04 | .47** | .56** | .63** | | | | | | | | |
| 5. Twitter | 1.89 | 1.27 | .29** | .28** | .17 | .27** | | | | | | | |
| 6. Text messages | 2.53 | 1.40 | .53** | .39** | .36** | .46** | .47** | | | | | | |
| 7. Emails | 2.84 | 1.24 | .59** | .46** | .42** | .40** | .44** | .74** | | | | | |
| 8. Local links: contact at the start of the programme | 1.73 | 1.06 | .22** | .25** | .27** | .19* | .32** | .34** | .33** | | | | |
| 9. Local links: ongoing contact over the programmes | 1.55 | 0.94 | .30** | .40** | .40** | .36** | .34** | .40** | .42** | .77** | | | |
| 10. Local links: information about your local resources and activities | 1.90 | 1.04 | .43** | .28** | .43** | .39** | .29** | .47** | .49** | .49** | .61** | | |
| 11. Local links: Opportunities to meet up with other people taking part | 1.46 | 0.80 | .30** | .45** | .37** | .28** | .43** | .39** | .38** | .59** | .66** | .59** | |
| 12. General health outcome | 2.25 | 0.66 | .22** | .08 | .16* | -.02 | .12 | .10 | .20** | -.10 | .05 | .11 | .00 |

Notes: Questions were asked as 'How useful was this aspect of the programme?' with following response options: 5, extremely, 4, very much so, 3, somewhat, 2, a little, and 1, not at all.

Correlations presented are between communication media and the 'improved general health outcome'.

**Correlation is significant at the 0.01 level (two-tailed).

*Correlation is significant at the 0.05 level (two-tailed).

N = 349.

'the forum was really good. I don't think enough people used that'. Others had little engagement with that medium at all: 'I think that the forum facility that was set up could have been used a lot better'. Another interviewee said 'I read the forums, but didn't participate'. Other participants did not use the forum at all, 'I didn't have anything to do with the forum'. The appeal of certain channels was often expressed as being dependent upon the stage of the health challenge journey. This suggests that personal and social aspects may impact media choice and the way that the symbolic meaning of technology is jointly produced through interaction with the technology and broader social structures [23]. Reminder communication was the most referred to of all the messages used as illustrated in the following quote: 'Just having that sort of reminder pop up on a weekly basis to get going and sort of see how you're doing, and sort of update your information was useful'. It was therefore very effective for many interviewees in terms of awareness and visibility of messages about the campaign. For others, reminder communication was irritating. This highlights an often neglected aspect of internal communication research and it extends the discussion of irritation that has been reported for print newsletters [6] to that expressed about the timing of text messages.

A number of interviewees described how some communication left them feeling 'guilty' as their engagement tailed off. For many interviewees, the use of Twitter was mentioned as a positive channel, although fear of using it was a barrier for some people. The potential use of Facebook was also highlighted for informal, community-based, discussions. This supports the contention that the defining attribute for new technologies is the ability to exchange information between individuals and groups.

Email and text messaging were the most talked about media, especially email. Interviewees who signed up for text messaging generally liked the tone of voice and timing of texts, especially when connected with a social or topical event that was not work related. Twitter was enjoyed by those who used it: 'Certainly seeing the retweets of other people and some of the tweets from Will Power was really, really good'. For others a lack of confidence or pre-conceived ideas was a barrier to Twitter adoption. The interviews also suggest employees liked the choice of media, although some commented that it got a bit 'noisy' or 'annoying' at times. People who 'fell off' their challenge could feel a bit bombarded later in the programme. Timing therefore emerges as a critical consideration together with judgment about adapting the communication as the programme progresses. This reinforces observations that message frequency moderates intervention effectiveness and the suggested use of variable schedules where participants can set their own schedule and programmes with decreasing frequency over time.

Theme two: local support activity and face-to-face communication can enhance computer-mediated communication and social media

Many interviewees expressed a wish for greater local support during the programme, in terms of local groups, local events and 'buddies'. The lack of available face-to-face communication highlighted by interviewees suggests that it is the absence of it that may account for the relatively low levels of usefulness for face-to-face communication reported in Table 1. Indeed, where local face-to-face activities were in place, interviewees highlighted the benefit of them. This reinforces a key finding in the Towers Watson [8]

study that indicates that effective health communication for employees is focused more on interactive electronic media and discussions with managers. However, some interviewees in this study also took the opposing view about face-to-face communication, commenting that they were doing this campaign 'on their own' and did not need any outside help: 'I didn't feel the need for that particularly'. For these employees, computer-mediated communication and social media did not need to be supplemented with more traditional face-to-face communication.

Theme three: examples of real success stories are highly motivational

A number of interviewees described how the case studies and featured champion stories in the communication were motivational: 'I think it was motivating because people were sharing their successes with each other so, you know, I did think that was really positive'. Those interviewees who had used the discussion forum or followed the Twitter account also mentioned the value of hearing through those channels how other people were getting on. The point was made, though, that these stories needed to be 'real'. The success story of a person who enters triathlons in their spare time would be less motivational than that of someone who has just started exercising and is in training for their first ever fun run.

Discussion

The results in this study have three important implications for practice. Firstly, the study provides empirical evidence that the selection of channels used in a health improvement campaign is an important factor in the success of the desired behavioural outcome. A combination of frequent email briefings that are associated with more information on a website was positively and significantly associated with an improved general health outcome in this study. The additional website functionality of daily and weekly recordings was also positively and statistically significantly associated with an improved general health outcome. The campaign in this study was based on general health behavioural categories, such as exercise or losing weight. Although some academics argue that the most effective behaviour-change communication is directed at changing specific behaviours (e.g. walk for 20 minutes three times a week) rather than general behavioural categories [24], this study also challenges this approach and suggests that general communication can be positively associated with health improvement.

Secondly, the study suggests that employees have personal preferences for channels. The ambiguity reported in this study for the usefulness of computer-mediated communication, social media and face-to-

face communication reinforces what is highlighted in other research [10]: perceptions of media are fluid and contingent on one's relevant experiences, such as using the channel, with the communication topic, and with one's communication partner. In this study, participants interviewed 9–12 months after the campaign ended highlighted how different media were found to be useful and the choice of media was often described as a personal decision. This highlights a practical challenge for communication practitioners in designing effective campaigns as it requires formative research to understand which channels are the most appropriate to use. Furthermore, it illustrates the potential of offering opportunities for employees to personalise the channels they wish to use for information.

Finally, the evidence in this study reinforces the argument that a defining attribute that new technologies share is the ability to exchange information between individuals and groups.

For example, participants highlighted success stories about other participants as a motivational aspect of the communication and employees reported the website to be 'supportive and motivational when things got tough'. This 'humanizing' aspect of the communication in the campaign is not, according to the results in this study, wholly reliant on face-to-face communication. However, although some participants stated that completing the regular challenge data 'acted as a conscience for the number of units you consume' and provided an 'incentive' to keep going, other interviewee comments indicated a mixture of emotions, combining a sense of irritation and guilt inducement with a recognition that it is something that is required to maintain engagement with the health improvement challenge. Communication practitioners may therefore need to be more aware of the potential negative impact of messages and incorporate mechanisms for dealing with this into campaigns. Despite the positive results reported in this study for associations with computer-mediated technology, social media and an improved general health outcome, it is sometimes argued that there is too much focus on the 'technology' in new communication technologies [15]. Instead, it would be better to look at how technologies can sometimes change the contexts for human interaction. In this study, some interviewees highlighted the way that Facebook and online communities can be an alternative support group where face-to-face communication is not available or not required. The results in this study therefore indicate that campaigns based primarily on computer-mediated technology and social media, without substantial face-to-face human interaction, can be effective.

Conclusion

This study illustrates how internal communication is associated with health improvement outcomes for

employees working in a health setting in Wales. A mixed-medium, high frequency strategy focused on email, information on a website, and a progress recording facility on a website had the most impact on health improvement actions. This indicates that internal communication programmes that are based primarily on electronic and social media channels can be effective in behavioural change. However, this approach may not be appropriate for all employees as participants reported that they would like more control over the timing and frequency of communication, based on personal preferences and access and/or familiarity with a specific medium. The implications for internal communication practice and medium theory are that providing employees with a choice of the channels that they prefer to use and at the same time allowing them to control the frequency and timing of when they receive communication might be an even more effective approach.

The study emphasizes how real-life stories are useful examples that enable employees to assess their own achievements and struggles, often acting as a motivational incentive. This point illustrates the importance of stories about employees 'like me' and how, in a health communication campaign, they can resonate more than general corporate based communication. Although internal communication in this study is focused around the specific theme of health improvement, the results suggest that definitions of internal communication can be extended beyond corporate based communication in some circumstances. The study also highlights further sources of irritation for employees that can arise from internal communication, related to the frequency and timing of emails and text messages. This is an often overlooked aspect of theory and practice that could be researched in more depth. Although the results suggest that electronic communication can be very effective, there is also evidence that some, but not all, participants would value more opportunities for face-to-face communication to complement social media based communication. Understanding how to better balance and, more importantly, personalize the combination of traditional and internal social media is a significant challenge for internal communication practice in the next decade.

A comprehensive review of the communications undertaken for the campaign is available [25].

Disclosure statement

No potential conflict of interest was reported by the authors.

Ethics approval

This project did not fall under the NHS Wales Research Governance Framework for Health and Social Care (2009) and so did not require Research Permissions from the Public Health Wales Research and

Governance Office and, as an evaluation study not including NHS patients, did not require NHS Research Ethics approval.

Notes on contributors

Kevin Ruck is a co-founder of PR Academy, the largest provider of Chartered Institute of Public Relations (CIPR) qualifications in the UK. He is also the editor and co-author of the text book 'Exploring internal communication'.

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Andy Hurley is a freelance/software developer. He has over 20 years of experience in supporting, building, creating, developing and creating content for websites across the private, public and third sectors.

Kathryn Ashton is a public health researcher at Public Health Wales, where she has managed evaluations of health promotion initiatives in Wales. Her research interests lie in the fields of Adverse Childhood Experiences (ACEs) and their affect on health across the life course, the early years, substance misuse and the night time economy.

Chris Lines has more than 30 years of experience in professional communications in the private, political and public sectors. This includes 10 years in public health culminating as director of communications for Public Health Wales. More recently he has headed communication for the Office for National Statistics.

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References

- [1] Welch M, Jackson PR. Rethinking internal communication: a stakeholder approach. *Corp Commun Int J.* 2007;12(2):177–198.
- [2] Vercic AT, Vercic D, Sriramesh K. Internal communication: definition, parameters, and the future. *Public Relat Rev.* 2012;38(2):223–230.
- [3] Chen J, Silverthorne C, Hung J. Organisation communication, job stress, organisational commitment, and job performance of accounting professionals in Taiwan and America. *Leadersh Organ Dev J.* 2006;27(4):242–249.
- [4] Ruck K, Welch M. Valuing internal communication: management and employee perspectives. *Public Relat Rev.* 2012;38(2):294–302.
- [5] Weber Shandwick [Internet]. Employees rising: seizing the opportunity in employee activism; 2014 [cited 2016 Dec 12]. Available from: <http://www.webershandwick.com/uploads/news/files/employees-rising-seizing-the-opportunity-in-employee-activism.pdf>

- [6] Welch M. Appropriateness and acceptability: employee perspectives of internal communication. *Public Relat Rev.* 2012;38(2):246–254.
- [7] Hewitt P. Electronic mail and internal communication: a three-factor model. *Corp Commun Int J.* 2006;11(1):78–92.
- [8] Towers Watson [Internet]. The 2011–2012 change and communication ROI study report; 2012 [cited 2016 Dec 12]. Available from: <https://www.towerswatson.com/en/Insights/IC-Types/Survey-Research-Results/2012/01/2011-2012-Change-and-Communication-ROI-Study-Report>
- [9] Dorfman L, Wallack L, Woodruff K. More than a message: framing public health advocacy to change corporate practices. *Health Educ Behav.* 2005;32:320–336.
- [10] D’Urso SC, Rains SA. Examining the scope of channel expansion: a test of channel expansion theory with new and traditional communication media. *Manag Commun Q.* 2008;21(4):486–507.
- [11] Humphries S, Roger D, Flabouris M. Understanding the role of medium in the control and flows of information in health communication. *Asia Pac Media Educ.* 2013;23(2):291–307.
- [12] Daft RL, Lengel RH. Organizational information requirements, media richness, and structural determinants. *Manag Sci.* 1986;32(5):554–571.
- [13] Daft RD, Wiginton JC. Language and organization. *Acad Manag Rev.* 1979;4(2):179–191.
- [14] Suh KS. Impact of communication medium on task performance and satisfaction: an examination of media-richness theory. *Inf Manag.* 1998;296(35):295–312.
- [15] Yzer MC, Southwell BG. Communication technologies, old questions. *Amer Behav Sci.* 2008;52(1):8–20.
- [16] Korda H, Itani Z. Harnessing social media for health promotion and behavior change. *Health Promot Pract.* 2013;14(1):15–23.
- [17] Carlson J, Zmud RW. Channel expansion theory and the experiential nature of media richness perceptions. *Acad Manag J.* 1999;42(2):153–170.
- [18] Fernandez V, Simo P, Sallan JM, et al. Evolution of online discussion forum richness according to channel expansion theory: a longitudinal panel data analysis. *Comput Educ.* 2013;62:32–40.
- [19] Head KJ, Noar SM, Iannarino NT, et al. Efficacy of text messaging-based interventions for health promotion: a meta-analysis. *Soc Sci Med.* 2013;97:41–48.
- [20] Van Woerden HC, Ashton K, Garlick C, et al. Evaluation of a web based tool to improve health behaviours in healthcare staff. *Intern Arch Med.* 2014;1(7):1–4.
- [21] Otondo RF, Van Scotter JR, Allen DG, et al. The complexity of richness: Media, message, and communication outcomes. *Inf Manag.* 2008;45(1):21–30.
- [22] Dennis AR, Fuller RM, Valacich JS. Media, tasks, and communication processes: a theory of media synchronicity. *MIS Q.* 2008;576(32).
- [23] Vishwanath A. The effect of the number of opinion seekers and leaders on technology attitudes and choices. *Hum Commun Res.* 2006;32(3):322–350.
- [24] Fishbein M, Cappella JN. The role of theory in developing effective health communications. *J Commun.* 2006;54(56):S1–S17.
- [25] Public Health Wales [Internet]. Champions for health a review of the campaign’s communications; 2012; [cited 2016 Dec 12]. Available from: www.championsforhealth.wales.nhs.uk/opendoc/219362