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## **Research considerations when investigating psychological factors and health-related issues in online contexts**

### **Abstract**

The last decade or so has seen a significant increase in internet usage. Nearly half of the world's population now regularly access and communicate by computer-mediated communication channels - blogs, chat rooms, forums, MUDs (multi-user-domains), email, bulletin boards, video sites, audio sites, text chat, social networking, instant messaging and so on. One of the more popular online platforms is the online forum where people discuss topics, access and provide information, give and receive advice and talk about their experiences. Analysing discussion data provides researchers with an opportunity to understand psychological factors and health-related issues. In this chapter we discuss the theoretical, methodological and ethical considerations in undertaking this type of research; providing examples of discourse analysis in action.

## **Introduction**

The last decade has seen a significant increase in internet usage. In 2015, 86% of households in Great Britain had internet access, compared with 57% in 2006, and 78% of adults (39.3 million people) accessed the internet every day in Great Britain in 2015 compared with 35% (16.2 million) in 2006 (Office for National Statistics, 2016). Since the turn of the new millennium, worldwide usage of the Internet has grown by more than 832.5% and it is now used regularly by more than 46% of the world's population (Internet World Stats, 2016). The availability of wireless hotspots has also increased in the last ten years, and in 2015, 74% of adults in Great Britain had used the internet through mobile phones and other portable devices (Office for National Statistics, 2016). Ofcom (2014) reported that 66% of online adults in the UK have a current social networking site profile with 60% of these users visiting sites more than once a day.

One of the more popular online platforms for research is the online forum where people discuss topics, access and provide information, give and receive advice and talk about their experiences. These kinds of online discussions provide a useful source of information for researchers wishing to access people's accounts of a variety of experiences and behaviours, including experiences and embodiment and self-reported drug use. In this chapter, after reviewing work linking body image with social media and drug use, we draw on our recent work investigating discussions about using ephedrine and synthol in relation to sporting performance, health and body image. We discuss some of the theoretical, methodological and ethical considerations involved in undertaking online research, and also provide readers with practical advice on venturing into this type of investigation.

## **Body image and social media use**

In recent years, there has been an increase in interest in psychological factors related to body image and embodiment (Cash, 2012; Grogan, 2016a). The earliest published definition of body image was “The picture of our own body which we form in our mind, that is to say, the way in which the body appears to ourselves” (Schilder, 1950, p. 11), but since 1950, researchers have moved beyond Schilder’s focus on perceptual factors to consider a wide range of issues such as weight satisfaction, size perception accuracy, appearance satisfaction, body satisfaction, appearance evaluation, appearance orientation, body concern, body esteem, body schema, and body percept (Thompson, 2012). More recent definitions incorporate psychological concepts such as perception and attitudes towards the body as well as experiences of embodiment (Grogan, 2016a).

It is well known that body image can be influenced by exposure to thin/muscular ideals, so exposure to social media has the potential to impact on body image and embodiment. Social networking use has increased in the last decade, and around 61% of adults in Great Britain used social media in 2015 (Office of National Statistics, 2016) and many researchers have recently become concerned about the impact of thin-ideal imagery on social media, referred to as ‘thinspiration’, which is primarily aimed at women and promotes weight loss, often in ways that glorifies eating disordered behavior (National Eating Disorders Association, 2013). It has been argued that exposure to these kinds of images, in a context where they are socially endorsed, presents serious risks to women engaged in online communities (Ghaznavi & Taylor, 2015). The recent rise of social media sites devoted to ‘fitspiration’ reflects increased pressure to have a body that looks ‘worked out’ and muscular as well as slender and

represents a move in favor of a strong rather than thin body, though these sites also promote thinness; particularly for women (Boepple & Thompson, 2015).

Most research linking body image to social media exposure focuses on women and *Facebook* use has been associated with higher body concerns (Mabe et al., 2014; Tiggemann & Slater, 2014). Posting and viewing selfies has also been linked with low body esteem and insecurity in teenage girls (Chua & Chang, 2016). There are very few studies focusing on extent of social media usage and body image in men, though existing work tends to find negative impacts (e.g. Fox & Rooney, 2015). Although some social networking sites may have negative impacts on body image, online support groups specifically designed to promote positive body image are likely to have more positive impacts. The National Eating Disorders Association in the USA (NEDA, 2016), The Butterfly Foundation in Australia (Butterfly Foundation, 2016), and B-eat in the UK (B-eat, 2016) have specific discussion and message boards for support on body image and eating-related issues. Data on impacts of body image support groups suggests some positive effects though data on effects have sometimes been mixed. There is some evidence that US women in breast cancer surgery groups discuss events that helped them recover a positive body image, offering other women support and encouragement (Winzelberg et al., 2012) and research has shown that UK women who were members of an online support group for young women post-mastectomy were positive about their bodies post-surgery and proud of their scars, rejecting media-idealised images of how women's bodies should look (Grogan & Mechan, 2016).

### **Analysing online discussion data on body image and drug use**

Analysis of what people say in online discussions has been used to understand a variety of health-related issues including support seeking in adolescents with cancer (Elwell, Grogan & Coulson, 2011), depression, anxiety, obesity, cancer (Tanis, 2010), those effected by suicide (Horne & Wiggins, 2009), eating disorders (Winzelburg, 1997) and sexual abuse (Moursand, 1997). Analysing discussion threads can help us to understand how people explain their behavior, including their use of drugs designed to enhance or change the look of their bodies.

The significant rise in the use of drugs designed to make men and women thinner/more muscular and concerns about health implications of some of these drugs, has inspired researchers to try to understand how experiences of embodiment may be impacted by drug use. Women remain under significant sociocultural pressure to look slender and toned (Grogan, 2016a), and many women of all ages are dissatisfied with aspects of their bodies (Cinelli & O-Dea, 2016; Murray, 2016). Use of diet pills is increasing despite links with anxiety, restlessness, insomnia and increased risk of myocardial infarction and stroke (Calfee & Fadale, 2006). Caffeine is also used to reduce weight and use has been implicated in serious health problems in women who use heavy doses to control their weight (Ramacciotti, Coli & Burgalassi, 2016). Stimulants designed to treat attention deficit disorder also suppress appetite and there is some evidence that people are using them for weight loss in spite of health risks (Jeffers & Benotsch, 2014). Also, substances such as ephedrine and orlistat can cause serious long-term problems if used without medical supervision (Baker, Davies & Graham, 2016). Cigarette smoking is also used to control weight, representing a serious health concern (Grogan, 2016b). Men are also under increasing pressure to become more muscular (Grogan, 2016a; Hildebrandt & Alfano, 2012; Smith et al., 2016) and may resort to

drugs to enable them to increase their muscle mass. Appearance- and performance-enhancing drugs such as anabolic steroids, used by men and some women (e.g. Grogan et al., 2006), can increase risk of heart attacks and strokes (NHS, 2015) and use is becoming increasingly widespread beyond body-building groups (Kimergard & McVeigh, 2014). Growth hormone is also widely available for non-medicinal use and can cause health problems if taken, without medical support, by those wanting to produce appearance-related changes (Graham, Baker & Davies, 2016).

Substances such as synthol which are injected into desired muscles in order to make those muscles appear bigger, are also widely available on the Internet (Hall, Grogan & Gough, 2016a; 2016b). These are associated with health risks including destroying the injected muscle (Ghandourah et al., 2012).

There are many discussion boards specifically related to different kinds of drug use and Internet pharmacies such as *AllinShop* not only supply bodybuilders with drugs such as anabolic steroids, stimulants (e.g. ephedrine) and muscle enhancement oils (e.g. synthol), but also enable people to initiate or contribute to, discussion threads. This makes internet discussions a particularly useful source of information for researchers who wish to focus on people's accounts of drug use in naturalistic contexts. In recent studies, we have analysed discussion threads to investigate how participants made sense of their use of two specific substances; ephedrine and synthol.

In 2014, we used internet threads to investigate how users accounted for their use of ephedrine (Hall, Grogan & Gough, 2015). Ephedrine has been used as an asthma treatment since the 1930s, and is most commonly used in decongestants and cold medicines in the form of ephedrine hydrochloride. In the cardiovascular system,

ephedrine increases heart rate and can lead to a sustained rise in blood pressure (National Health Service, 2014). Ephedrine use in sport has long been known to be a common practice among men (Magkos & Kavouras, 2004). Less well-understood is men's use of ephedrine as a slimming aid. In this study, we investigated men's online accounts of ephedrine use through analysis of a thread on the *Men's Health site* containing nearly 296 posts (29 pages). Because we were interested in how men accounted for their ephedrine use, we used discourse analysis to examine their posts (Potter, 1996). In analysing the data, we noted that a "community of practice" (e.g. Ba, 2001) was constructed online, categorising legitimate (and barred) users, emphasising the benefits of ephedrine and downplaying health-defeating side effects. Our analysis highlighted how men account for — and justify — their ephedrine use to other users and contributors. The analysis also showed how membership of the ephedrine user community was policed, how use is predicated on certain attributes relating to health, body shape and lifestyle and how use is positively framed when undertaken by 'legitimate' users, including side effects otherwise viewed as unpleasant. Eligible users positioned themselves as rational, pragmatic, knowledgeable and in control. In this context, weight loss for men was framed as masculine — based on science, personal experience/expertise and logical intake plans linked to sport and muscularity. Analysis of online posts in this study enabled us to access original, naturalistic data and to add to the existing database around a relatively new but poorly understood phenomenon.

In 2015, we focused on accounts of synthol use (Hall, Grogan & Gough, 2016a; 2016b). Synthol is an injectable site-enhancement oil comprising 85% oil (often sesame), 7.5% lidocaine (a local anaesthetic) and 7.5% alcohol (steriliser) and is

used by bodybuilders to make muscles appear bigger. Through discourse analysis of 119 on-line posts from 17 contributors, we focused on how lay expertise was worked up by Internet forum contributors when providing each other with support and advice on synthol use. Discourse analysis showed that Epstein's (1995) five key elements of legitimation, support, credibility, trust and influence were all evidenced in accounts. Expertise was formulated through implied competence and forum members worked up positions of credibility through focusing on pragmatic, technical knowledge and were able to create a position of trust with others on the forum, presenting as expert users who could be trusted to provide helpful advice. Collecting our data directly from a unique forum thread where bodybuilders discussed their use of synthol enabled us to access accounts from seventeen self-identified bodybuilders and to look at how they interacted with each other online when discussing, and asking for information on, use. This gave us some insight into a relatively new community of users without requiring them to agree to be interviewed, which may have changed and restricted what they felt able to share with a group of university academics.

### **Methodological and theoretical considerations**

In the two studies noted above, we used discourse analysis to analyse what men said in online discussions. Discourse analysis (DA) has its foundations in ethnomethodology (Garfinkel, 1967). Ethnomethodological enquiry seeks to understand how people collectively construct meaning from their experiences of social phenomena. Meanings are intersubjective since they are co-created from people's interactions with each other and therefore meanings are rooted in people's actions and words. These experiences of the social world are seen as orderly and

intelligible because they comprise the combined corresponding activities of people. Thus people are not passive receivers of their experiences, but rather, the interpreters of the worlds which they act upon. Although there is a multiplicity of ways of interpreting events in the social world, people are able to understand how others are defining the world from what they do. In essence, people read the behaviour of others for what it tells them about how others understand a situation and so act on the basis of those readings. On the basis of this, people produce their own orderliness out of their own and others actions.

Discourse analysts (Potter, 1996) treat talk as social action. The focus is on action, not cognition, because people produce accounts, descriptions, formulations, versions, invitations, refusals, blamings, defences, identities, membership categorisations and so on during their discursive interactions with others. The particular version that is worked up during conversational interaction contains motives such as managing a specific stake or interest in something; for example, justifying the use of performance enhancing substances in sport. Former Tour de France cyclist Lance Armstrong is reported to have said “The Tour de France. Impossible without dope” (Lichfield, 2013). This example shows how talk may be presented as factual and rhetorically organized to undermine alternatives and so attending to agency and accountability. Therefore, these methods focus on how versions of ‘reality’ get worked up in online (and offline) settings during discursive interaction (Hepburn & Wiggins, 2005, 2007). In addition to these functions, discursive interaction is also sequential, relational and contextual. The importance of these is that the design and organization of people’s talk is not produced in isolation but is related to previous events and accounts and relevant to a particular context. This means that a number of things are in play during talk at any given time. For

example, talk about performance enhancing substances would necessarily be produced in relation to (1) the perspective at that moment of the person giving the account (pro-, indifferent, anti-), (2) the perspective at that moment of the hearer (pro-, indifferent, anti-), (3) the place in which the talk occurs (steroid forum, chat in the gym) (4) its relation to a previous sequence of talk (previous discussion; comments; news thread; print article) and (5) dominant discourse circulating in the local community and at national or international level (Wiggins & Potter, 2013, p.84).

Although these methods of analysis allow us to see talk-in-action, analysts need to pay particular attention to the potential of over analysing the text and drawing on their own knowledge of social norms and expectations. Discourse analysts argue therefore, that to avoid analyst-led interpretations of real-world phenomena, analysts should instead read the interactions, that is only what is made relevant, of the participants involved. This latter point is one of the major differences between DA and other discursive methodologies (e.g. Critical Discourse Analysis or Foucauldian Analysis). Where discursive methodologies such as Critical Discourse Analysis (Fairclough, 2001, p.229-266) and Foucauldian Analysis (Foucault, 1980) become interpretative commentaries is when they attempt to make links between what emerges from a micro-analysis and the macro-issues such as the operation of power, ideology and persuasion. Discourse analysts argue that macro-structures can only be commented on if the participants in the interaction make it relevant; if not, then it is simply analyst commentary.

In order to reduce the possibility of analyst-led interpretations of real-world phenomena, discourse analysts focus on naturally occurring talk in situated

interaction; people's discursive practices in everyday (e.g. chatting to friends) and institutional (e.g. meeting) settings. Online computer-mediated communication channels are also forms of everyday (e.g. forums) and institutional (e.g. professional body websites) talk and so are appropriate sites for collecting naturally occurring data. However, unlike the collection of offline data via audio recording, no transcription is required with online data as the electronic text is ready for immediate examination. Favouring naturally occurring talk, discourse analysts avoid the researcher's/analyst's influence on data collection inherent during interviews, questionnaires, surveys and focus groups (Potter & Hepburn, 2005).

### **Discourse analysis in action**

We mentioned previously that we had recently focused on the use of ephedrine for weight loss (Hall, Grogan & Gough, 2015) and synthol for muscle enhancement (Hall, Grogan & Gough, 2016a; 2016b). In this section we reproduce one extract from our synthol study where sporting performance is discussed and one sequence from our ephedrine study showing health and body image-related discussions, to illustrate some of the issues noted above. We begin with a text of a synthol user telling others how to use synthol in order to get the best results:

You need to inject in EVERY head of the muscle, while rotating the shots daily within that head. This is the only way to ensure that the added size keeps to your natural look/shape of the muscle. The quickest way to get a muscle up to maximum size is to do the following regimen: 1ml for 10 days in each head of the muscle. 2ml for 10 days. 3ml for 10 days. If you do both, the biceps and triceps simultaneously, you can add up to 3" on your arms in those 30 days.

How do Site Oils work? To begin with, they do not stay in the muscle for 3 to 5

years. They get dissipated within months. However, during this time, they have stretched the fascia of that muscle. The fascia is a great constrictive factor in muscle growth. The more stretched the fascia is the more the muscle will grow and the more it will have that 'popping' look. Site oils stay in there long enough for the fascia to stretch. As they dissipate, the 'space' left by them is replaced with new muscle tissue growth. That is the reason why when x-rays/MRIs were performed on some of the people that have 25"+ arms, there was no oil found in there. The oil dissipated and it was replaced by real muscle....The pain will minimise the more you inject, until it will not hurt any more. Site Oils hurt, but not as much as site injections with, let's say, Sustanon or Testosterone Propionate.

Medical and pharmaceutical discourses enjoy high social status, thus they are excellent anchoring discourses in which to provide legitimate advice (Foley & Faircloth, 2003). We can see this in the way that poster draws on medical and pharmaceutical knowledge of where to inject "in EVERY head of the muscle", appropriate dosages "1ml for 10 days in each head of the muscle. 2ml for 10 days. 3ml for 10 days", the length of drug cycle "30 days", longevity of the substance in the body "They get dissipated within months", the anatomical effects "they have stretched the fascia of that muscle", its level of detection "when x-rays/MRIs were performed... no oil found" and its comparison to other pharmaceuticals "Sustanon or Testosterone Propionate". These are presented as 'facts' bolstered with claims that are presented as absolute (e.g. "This is the only way", "The quickest way") and by the use of extreme case formulations (e.g. "EVERY", "only"). Extreme case formulations are discursive devices which people draw on when describing or accounting to minimise the potential of others to refute their claims (Pomerantz, 1986). Thus the poster constructs his sporting performance advice as legitimate and credible (Epstein,

1995). In the following sequence the responding poster works up legitimate, credible and trustworthy advice on health and body image in a less technical way:

Post 1:

Hi there, I am new to all this and been reading that I need to eat six times per day. I am a terrible cook and don't know what complex carbs and wholegrains are etc. I looked at stuff online and it all seemed American with yams etc. I weigh 16st and want to get down to 13. I currently eat: Breakfast – Rice Crispies & 2 rounds of toast Lunch - Large white roll with ham salad packet of crisps dinner - meat and veg, broccoli & potatoes etc. After gym - protein shake. Are there any guide menus out there like an idiot's guide? Sorry for my ignorance guys, but I need your help.

Post 2:

You eat Rice Crispies for breakfast, white rolls and crisps and you don't know what a complex carb is. You should DEFINATELY stay away from ephedrine!! You weight 16 stone, so it will be dangerous anyway, despite the fact you don't actually have a CLUE what you're doing. You're going to kill yourself. Its people like you that get their hands on steroids and end up dead.

Post 1:

I definitely think it's not for me and I am too inexperienced to use it. I didn't realise it was such a powerful supplement. But if I don't ask, I will never know these things.

This sequence of talk was part of a larger body of text in which discussions of who should/should not use ephedrine. The main theme of Poster 1's thread centres on diet ("I need to eat six times per day" "I currently eat....." and weight loss "I weigh 16st and want to get down to 13."), which is readable as seeking advice on this topic alone ("Is there any guide menus out there like an idiot's guide?"). Yet we can assume ephedrine advice is sought by posting in an ephedrine discussion thread. Indeed, Poster 2 hears it this way: "You should DEFINATELY [sic] stay away from ephedrine!!" (see Sacks, 1992 for a discussion on how people 'hear' discursive activities without them being explicitly stated). What is also evident is that Poster 2 uses the emphasised (capitalised) extreme-case formulation "DEFINITELY." Extreme-case formulations are ways of invoking minimal or maximal properties, especially in delicate situations (Pomerantz, 1986; Silverman, & Peräkylä, 2008).

Delicacy arises because Poster 1 positions himself as a complete novice and naive “Sorry for my ignorance guys”. Whilst this advice seeking invites experienced community members to offer guidance, it also signals “risk”, indicated by an apology. That is, if Poster 1 does not display a basic level of knowledge (“I am a terrible cook and don’t know what complex carbs and wholegrains are etc.”) on the prerequisites of ephedrine use (e.g. health, body fat level under 20%) then it might be “too risky” to provide any guidance. Poster 2 attempts to deter ephedrine use based on a body weight (“You weight 16 stone, so it will be dangerous anyway.”) Indeed, the final attempt at dissuasion becomes is expressed vehemently (“Its people like you that get their hands on steroids and end up dead.”) Poster 1 seems to hear Poster 2 as trustworthy and takes this advice on board (“I definitely think it’s not for me”), although it is not clear whether Poster 2 is genuine or a hoaxer (Ba, 2001; Schegloff, 2007). These data show how online discussions can give researchers access to accounts to which they would not normally be privy. However, when accessing these accounts online, careful attention need to be given to the rights of the participants and other ethical issues inherent in this kind of work.

### **Ethical considerations in analysing data from online discussions**

The British Psychological Society guidelines (BPS; 2013) point out that:

Internet-mediated research (IMR) can raise particular, sometimes non-obvious, challenges in adhering to existing ethics principles...These include: the public-private domain distinction; confidentiality and security of online data; procedures for obtaining valid consent; procedures for ensuring withdrawal rights and debriefing; levels of researcher control; and implications for scientific value and potential harm (British Psychological Society, BPS, 2013, p.1).

One of the central ethical challenges inherent in collection and analysis of online data

that relates to all these issues is whether consent to use the person's data can be obtained. The key concern for many researchers is whether the electronic text is considered 'public' or 'private' because 'public' text is unlikely to require informed consent. Some scholars (Hookway, 2008; Rodham & Gavin, 2006; Walther & Boyd, 2002) argue that in open access online websites people understand that their 'selfies' 'bitstrips' 'posts' 'comments' 'blogs' and so on are public and so consent can be 'waived' because if the individual deemed those posts to be 'private' they would have posted them as 'friends only' or on a restricted access forum. Rodham and Gavin (2006) similarly point out that people realise that open access online space means others will observe and respond to their texts and so accessible electronic talk may be 'personal' but it is not 'private'. However, whilst interviewees on the BBC's *Bang Goes the Theory* (BBC, 2014) seemed aware of unchosen online audiences, they were surprised at who was actually looking, what their data might be used for and how much of their data which they had thought was private was publicly accessible. Thus we would urge researchers to make every attempt to gain informed consent via the various available modes of communication, placing greater emphasis on informal copyright (BPS, 2013; Winder et al., 2012). For example, rather than using only the moderator's email, enquiry page or electronic post to try to gain permission, researchers should also try to obtain consent via the website's other contact routes and also try to contact posters, where possible, via other sites they may use rather than just the one in which the researcher is interested. Where contact cannot be made it should be down to the discretion of the researcher, following guidelines from professional organizations such as the British Psychological Society, to determine whether data should be used. In our opinion the emphasis is on the researcher considering the dignity of the participants, paying attention to issues of social responsibility and minimizing harm through attention to the key areas noted by the

British Psychological Society; privacy, consent, anonymity, exploitation, authenticity, invasiveness, intrusiveness and disclosure (see BPS, 2013; Rodham & Gavin, 2006 for a more detailed discussion of these issues).

## **Conclusion**

We have argued that the exponential increase in internet use provides researchers with opportunities afforded by computer-mediated communication channels - blogs, chat rooms, forums, MUDs (multi-user-domains), email, bulletin boards, video sites, audio sites, text chat, social networking, instant messaging and so on (Internet World Statistics 2016). These online spaces offer researchers the opportunity to examine how participants discuss topics, access and provide information, give and receive advice, and provide accounts of a variety of experiences and behaviours, including self-reported drug use and experiences of embodiment. Arguably these spaces offer people the potential for greater freedom of expression than face-to-face interactions because they only require turning the computer off in difficult situations (Hargitta, 2008). One of the more popular modes of online interaction is the internet forum - an electronic bulletin board where forum members begin threads for discussion, building bonds and reaching other interested parties. We have argued that a discourse analysis (Potter, 1996) of these textual interactions is able to show how and why people produce accounts, descriptions, formulations, versions, invitations, refusals, blamings, defences, identities, membership categorisations and so on and is an appropriate methodology for studying people's talk about their experiences of embodiment and drug use, and the impact of body image and appearance on drug use.

Before collecting online data, we suggest researchers should make every attempt to

gain informed consent through all available forms of communication such as the moderators email, enquiry page, and electronic posts, and if necessary try to contact posters if they have a presence on another site (BPS, 2013; Winder et al., 2012).

Where contact cannot be made, researchers should determine whether it is ethical to use the data considering the dignity of persons, social responsibility and potential harm. Where consent has been granted, a discourse analysis should consider the sequential, relational and contextual importance of how the participants are designing and organising their talk; taking into account (1) participants' perspectives, (2) the space in which the talk occurs, (3) the talk's relation to previous accounts and, d) the current discourse (Wiggins & Potter, 2013).

When analysing electronic data, we suggest that analysts work through three key analytical steps (Baker, 1997). Firstly, locate the central categories that are named and/or implied by their activities in the talk; secondly, focus on the activities and predicates associated with each category; and finally, look at how members produce categories, activities and predicate connections for the implied social actions. That is, the 'descriptions of how categories of actors do, could or should behave' (Baker, 1997). The focus here should be on commenting on what participants are making relevant in their talk. Following these steps allows discourse analysts to provide a micro textual account of how people posting on on-line forma 'do' social realities in situ.

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