

## SHORT REPORT

### A physical activity intervention in a Bingo club: Significance of the setting

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#### Abstract

**Objective:** A Bingo club was selected for the design and delivery of a health intervention (Well!Bingo) in order to engage with older women living in areas of socio-economic disadvantage. In the light of our experience, we discuss the significance of the setting in relation to a typology of health promotion settings.

**Design and Setting:** The Well!Bingo physical activity intervention was piloted in a Bingo club in Scotland.

**Methods:** In a pilot feasibility study, women were recruited face-to-face at a Bingo club over two weeks. The 12-week intervention consisted of three different structured exercise sessions per week, followed by refreshments, with trained instructors delivering a schedule of simple pre-defined health messages. Participants completed a baseline questionnaire, and in-depth qualitative interviews were carried out with participants and instructors post-intervention. For this paper, using the framework method, we retrieved and analysed the data coded as relating to the setting.

**Results:** Eighteen women (55-92 years) took part in intervention sessions. Half lived in areas of socio-economic deprivation. Practical and social familiarity with the setting (a sense of belonging and being with people like themselves) encouraged them to take part, and implicit features of the setting may have enhanced recruitment and effectiveness.

**Discussion:** In settings-based health promotion, a Bingo club could be seen as a 'passive' setting, simply facilitating access to a target population. It cannot be an 'active setting', because health promotion will never be a core activity and features cannot be drawn upon to influence change. However, calling it a passive setting overlooks the importance of characteristics that may enhance recruitment and effectiveness. This highlights the need to extend current concepts of 'passive' health promotion settings.

**Keywords:** Bingo clubs, settings-based health promotion, physical activity; intervention; novel setting;

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## Introduction

In this paper, we discuss the settings-based approach to health-promotion and how our experience in using a Bingo club as a setting for health promotion activities in Scotland suggests the need to revisit Whitelaw's (2001) typology of health promotion settings (Whitelaw et al, 2001). A socio-ecological model of health underpins the ecological approach to health promotion, which recognises that individual, social and environmental factors all impact upon health. It sees an individual as embedded within environmental and social settings, and therefore cannot be treated in isolation from them (McLaren and Hawe, 2005). Settings-based approaches to health promotion are steeped in the ecological tradition, with the Ottawa Charter first identifying the creation of supportive environments as one of its key strategies (World Health Organisation, 1986).

Many such approaches were initially largely practice-led, resulting in innovative work in workplaces, beauty salons, sports clubs, churches, and so on (Kokko et al, 2013). Whitelaw later introduced conceptual clarity to the settings-based approach with his typology of five different settings (Whitelaw et al, 2001). At the bottom of the hierarchy is the passive setting, defined as 'a neutral and passive vehicle that simply offers access to populations and favourable circumstances to undertake a range of individually-focussed health promotion activities' (Whitelaw et al, 2001) This is independent of features of the setting. In contrast, the active model recognises that individual behaviours may be influenced by features of the setting itself, which can then be drawn upon to influence change. Development along a continuum of moving away from individual responsibility towards more wide-ranging solutions lying within the settings, produces the 'vehicle', 'organic' and 'structural' models of health promotion settings.

Our selection of a Bingo club as a health promotion setting was a direct response to the health inequalities agenda (Scottish Government Social Research, 2005), which recognises that women from socio-economically disadvantaged backgrounds are a priority group. Health inequalities by socio-economic status remain widespread despite continued concern and investment. When postcode areas in Scotland are divided into quintiles according to deprivation as defined by the Scottish Index of Multiple Deprivation (SIMD) (Scottish Government, 2006), women in areas from the most deprived quintile have 7.5 years lower life expectancy than those from the least deprived quintile (Audit Scotland, 2012). There is a concern that public health interventions, especially downstream ones, have the potential to widen health inequalities due to disproportionately low uptake by more socio-economically disadvantaged groups (so called intervention-generated inequalities) (Lorenc et al, 2013). This can occur because people from socio-economically disadvantaged groups, and especially women, have unequal access to settings commonly used for health promotion (e.g. schools, workplaces), and are also less likely to engage with general population interventions (White et al, 2009).

To address this, there is a need to identify settings that have a wide reach and in which women from disadvantaged socio-economic backgrounds are well-represented. In March 2016 there were 583 bingo halls in the UK alone (The Gambling Commission, 2016), with over 3 million people playing regularly. A study in Canada provided some evidence that older women with limited income are disproportionately represented in Bingo clubs (O'Brien et al, 2011) and it

is certainly a common perception in the UK that Bingo is a 'working class leisure pursuit' (Lazenby, 2009). While it is very difficult to locate more precise information on the demographic profile of Bingo players in the UK, Bingo clubs run a number of sessions every day of the week and are accessed by hundreds of people. Playing Bingo is viewed as a social event and an enjoyable way to pass the time, with Bingo clubs offering safe refuge where women do not feel out of place if they are alone (O'Brien et al, 2011).

The Well!Bingo project was set up to involve women from a Bingo club in a city of 85,000 inhabitants in central Scotland, in the design of a health intervention using elements of a community-based participatory approach. In an earlier study, we sought engagement from Bingo players for input into the design of a health intervention (Evans et al, 2016). The proportions of respondents to a questionnaire and participants in focus groups who lived in postcode areas from the two most deprived quintiles were 57% and 45% respectively. This suggested that the Bingo setting has the potential to reach women from disadvantaged socio-economic backgrounds. We therefore conducted a feasibility study where we evaluated the delivery of the physical activity intervention that the women had co-designed during a participatory workshop (Evans et al, 2016). In this paper, we discuss the specific results that relate to the significance of the Bingo club setting, drawing upon Whitelaw et al's typology of health promotion settings (Whitelaw et al, 2001).

## **Methods**

The Well!Bingo physical activity intervention is tailored for women over the age of 55 years (henceforth referred to as older women) and consists of five core components, each of which can be adapted to suit the requirements of individual clubs. These comprise structured exercise sessions, intervention messages, a social component, Bingo-related attendance strategies and specific training of instructors (Evans et al, 2016).

The intervention was advertised over a 2-week period in the Bingo club where potential participants (older women) were recruited face-to-face as they went in and out of Bingo games. They were asked to fill in an informed consent form and a basic demographic questionnaire before they attended the intervention. The 12-week intervention consisted of three different instructor-led exercise sessions in the Bingo club each week (a chair-based exercise, a dancercise and line dancing) held before Bingo games started. The exercise sessions lasted around 20-30 minutes, with time for refreshments afterwards, with a trained exercise instructor present the whole time. The exercise instructors were three female exercise professionals who already delivered other exercise classes in the community on a self-employed basis. However, before they worked for the Well!Bingo project, they were required to attend a half-day training course and listen to a presentation on the principles of the Well!Bingo project and the components of the intervention. The simple pre-defined key health messages that they were required to deliver each week were also outlined.

We had drawn upon theoretical models (*e.g.* the socio-ecological and the trans-theoretical model) to inform the content of the educational messages and to incorporate behavioural strategies that had been used in other effective interventions. The participant-designed attendance strategy consisted of a loyalty card stamped each time they attended a session,

with rewards for attendance: a Bingo dabber (n=6 sessions attended), a bronze certificate (n=10), a Well!Bingo T shirt (n=18), a silver certificate (n=20) and a gold certificate (n=30).

Participants were asked to try to attend at least one exercise session per week, but more if they wished. Detailed records of attendance were collected and we conducted in-depth interviews with all participants who consented (eleven) and all three instructors, after the intervention had finished. These interviews were all held in the Bingo club in August 2015 within a month of the end of the 12-week intervention period, and lasted between 9 and 18 minutes. Alongside more general questions on their experiences with the intervention, three of the questions on the participant interview topic guide asked participants what prompted them to attend the intervention, what they liked or enjoyed about the intervention sessions and what were their views of holding them in the Bingo club itself. The instructors were also asked for their views on holding the sessions in the Bingo club but also specifically how women who attended the Well!Bingo sessions might differ from those that attended their own classes in the community. The interviews were all audio-recorded, fully transcribed and analysed using the framework method, which is often advocated for projects with multi-disciplinary research teams (Gale et al, 2013). Within this method, data are coded, indexed and charted systematically. Two members of the research team read and coded all transcribed interviews. For this paper, all data that had been coded as relating to the setting were manually retrieved and analysed, and discussed within the research team.

Ethical approval for this study was obtained from the Research Ethics Committee of the School of Health Sciences, University of Stirling, Scotland. All participants were given a comprehensive Participant Information Sheet, signed a consent form and completed the Physical Activity Readiness Questionnaire (PAR-Q) before taking part.

## **Results**

For this first pilot delivery, 24 women submitted an expression of interest form during the 2-week recruitment phase and were contacted. Of these, 15 women attended for informed consent, and 12 took part in intervention sessions. A further six women were recruited by word-of-mouth later in the 12-week period, therefore a total of 18 women attended at least one Well!Bingo intervention session (Figure 1).

Figure 1 about here

It was unusual for participants to plan to attend all three sessions each week as these varied in intensity. For each participant we therefore calculated the number of sessions that they attended throughout the 12-week intervention, as a proportion of the total that they had had the intention of attending at the start of the intervention (one, two or three per week). Of the 18 who attended at least one session, 15 attended at least 60% of the sessions that they had planned to. These retention data suggest that the intervention was acceptable to participants. Further details are provided in Figure 1.

## **Reach**

Thirteen participants (of 15) returned questionnaires. Seven of them (54%) lived in areas defined as being in the two most deprived quintiles and seven had no formal educational qualifications. Participants ranged in age from 55 to 92 years (median 65 years). Eleven women reported ill health, including partial sightedness, arthritis, angina, asthma and high blood pressure. Four women were current smokers; four were previous smokers.

Data from the qualitative interviews with the Well!Bingo instructors supported findings from the questionnaire data (above) indicating that the Bingo club setting facilitated our original objective of attracting women who were 'hard-to-reach', in terms of socio-economically disadvantaged backgrounds.

*I would say the ladies were from, dare I say it, poorer backgrounds. Instructor 2*

The instructors felt that would have been unlikely to have come into contact with many of the participants through their own classes in the community, even though some were already advertising classes for the 50+ age group.

*And they were definitely ladies that hadn't been to exercise classes before..... I would say 95 per cent of them hadn't ever been to an exercise class before. Instructor 2*

They perceived the Well!Bingo participants as being older than women who attended their own exercise classes in the community, and with more health problems.

*The ladies in the group were somewhat older. Not all of them. They had a lot more medical ailments..... So a lot of ladies with sticks, hip problems and all sorts of problems going on medically. There were lots of smokers in the group which I'm not used to either, and you could see clearly that they weren't as healthy – or I could see – clearly that they weren't as healthy as a lot of my other groups. Instructor 2*

### **The Setting: Practical Familiarity**

The interview transcripts were scrutinised to identify comments from Well!Bingo participants and instructors relating to the significance of the Bingo club setting. Two of them seemed to indicate that the setting was irrelevant to their participation:

*Well, I don't know about it being in the bingo hall, it doesn't make any difference. It's just it's...it wouldn't matter where you were... Participant 9*

*But I mean I would try it somewhere else. Participant 14*

Among the others, however, two main themes emerged. The first was that familiarity with practical aspects of the setting facilitated their continued attendance at the Well!Bingo sessions. This included knowledge of how to get there:

*'because all the ones that were there, they were used to going to the bingo anyway, we can all get there....Because it's central. Participant 3*

*They know the hall. For me, I knew I'd get a bus no problem, ken [know] what I mean.* Participant 5

*because it's handier.....because I come to the Bingo.* Participant 10

*Because it was in the bingo hall, it is just so convenient.* Participant 21

The convenience of the setting was also recognised by the instructors:

*Well I think wherever is handy for a person, if they can get to a place without [without] any trouble I would say, and I mean tae [to] me that was, they knew that place ...* Instructor 3

### ***The Setting: Social Familiarity***

Alongside the 'practical' familiarity, there was also a 'social' familiarity associated with the Bingo club. There was a shared social identity and a sense of belonging and feeling comfortable at the Bingo club, because the participants knew they would either be with women that they knew, or with women 'like themselves'.

*It's people like ourselves that go .....We were all in the same boat. We're either disabled or elderly.* Participant 5

*Well in my case because it was new to me, it gave me more confidence of going into a situation where I knew nobody and that's one of the reasons why I went to do it because for me it is difficult to go into new situations and meet new people.* Participant 7

*Well, it's a bingo hall. I know everybody in it. It wasn't going to cause me any embarrassment because everybody knew me and I knew everybody who was coming too, ken [know] what I mean?* Participant 5

Feeling at ease was particularly important because the Well!Bingo intervention involves exercise, which is usually associated with a specific type of location and participant, and this generated discernable concern.

*I just, I feel out of place in a gym. You know. And older women, they just feel, as young, fit people looking at you..... Old women at the gym just dinnae [don't] fit....* Participant 14

The instructors discerned a lack of confidence among the women who attended; a lack of confidence which Participant 7 had also alluded to (above).

*There were women there that definitely wouldn't have the confidence to go along to a regular class and walk in on their own and go to a regular class. I think being in a familiar environment, the bingo environment, really helped them to have the confidence to actually turn up in the first place.* Instructor 2

*I think you, you, you can have a lot o' difference, because I think as well, the women who are, are attending us dinnae [don't] have a big fitness level, you know, they're, they're, they're at that sort o' just needing tae [to] get moving to reduce their risk of falls and to improve their confidence and to improve their self-esteem ... Instructor 1*

## **Discussion**

Initial findings suggest that delivering a physical activity intervention in a Bingo club setting is a promising approach to recruiting women from areas of socio-economic disadvantage and/or who might not normally engage in health interventions. There were only two participants who explicitly indicated that the setting might be irrelevant. One of them (Participant 9) had come along through word-of-mouth rather than directly through the Bingo club. The other individual (Participant 14) had previously attended exercise classes in several different settings and suggested she would try them somewhere else, but it is interesting that this same participant expressed wariness of the gym setting. In general though, the setting appeared to be have significance for the majority of women in this study.

A key question is whether the Bingo club is simply a 'passive' setting that offers nothing more than access to a 'hard to-reach' group, or whether there is added value associated with the setting. There were certainly practical (but passive) characteristics of the setting which made it favourable. Location, convenience and knowing how to travel have already been recognised as generic predictors of intervention uptake (Scottish Government Social Research, 2008). However, there was an additional sense of 'social' familiarity and belonging to a Bingo club, which appeared to play a part in women's attendance, even if they were unable to articulate exactly why. This was the case for women who wanted to be with women they already knew, but if they did not know them, they wanted to be with ones like themselves. They also stated that they did not belong in traditional gym environments. Underpinning all of this, there was a current of low self-esteem, which was recognised by the instructors.

Given the above, we would argue that the Bingo club setting offers more than just access. Characteristics associated with the setting itself are conducive to successful recruitment. Social Identity Theory purports that individuals are categorised into social groups, and that there is an assumption of similarity among those (i.e. Bingo players) who are categorised together (Tajfel and Turner, 1979). Working within pre-existing social structures may enhance recruitment and participation because people feel more confident being with others like themselves. The importance of being with like-minded people was similarly observed in a weight loss programme for men set in Scottish football clubs (Hunt et al, 2014). So, although the Well!Bingo participants did not necessarily sign up in social groups and know each other beforehand, there was something about their shared identity (as Bingo players) that encouraged and gave them confidence to participate. We believe that this may be particularly apposite to the group we were targeting; it is well-established that people from poorer backgrounds have less confidence in their ability to succeed (Fell and Hewstone, 2015) so a shared social identity may be particularly important to them.

There is a surprising absence of conceptual frameworks for considering recruitment to public health interventions (Foster et al, 2011), contrasting with an extensive focus on the theories

behind how the interventions actually work (Kwak et al, 2006). Correspondingly, there is little theoretical discussion of recruitment in the settings literature. Such a focus on recruitment would highlight a limitation of Whitelaw's typology that our study has uncovered, where the Bingo club was more than a passive setting (and particularly so for hard-to-reach groups). The fact that it has characteristics that may actually enhance recruitment are overlooked by calling it a 'passive' setting. However, to be defined as an active setting, aspects of the setting would need to be explicitly used to support the changes required in the priority group. This is unlikely given that health promotion will never be core business of a Bingo club.

We therefore argue that there is now a need to revisit Whitelaw's typology, developing and extending the concept of the 'passive' setting to take account of implicit features that may impact upon intervention delivery and effectiveness. We agree with Poland et al who advocated the 'systematic unpacking' of features of settings that matter most in order to understand the variability of health promotion practice (Poland et al, 2009).

To conclude, it is encouraging that we were able to carry out health promotion activities in a Bingo club successfully, and public health practitioners might wish to explore other uses of this setting as a way to reach women who do not engage with health interventions elsewhere.

#### **Declaration of Competing Interests**

The authors have no conflicts of interest in relation to the submitted work.

#### **Authors' Contributions**

All authors had full access to all of the data in the study and can take responsibility for the integrity of the data and the accuracy of the data analysis. JE was the Principal Investigator, managed the project on a day-to-day basis and wrote the paper. All authors contributed to analysis and design of the final intervention, commented on drafts of the paper and approved the final version.

#### **Role of Study Sponsor**

The University of Stirling was the study sponsor. The researchers conducted their work independently of the study sponsor.

#### **Data Sharing Statement**

Data sharing: Participant level data are available from the corresponding author. Informed consent was not obtained for data sharing but data are anonymised and risk of identification is low.

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**Figure 1: Flow chart of recruitment**

