



THE SAHLGRENSKA ACADEMY

“For someone like me it’s probably good”

A qualitative inquiry of experiences, motivators and outcome determinants in a Quit-and-Win competition

Master’s Thesis in Public Health Science with Health Economics, 30 hec

Author: Ellen Brynskog, RN

Supervisor: Frida Smith, RN, PhD

Examiner: Ingvar Karlberg

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Part A

Introduction

Cigarette smoking is highly addictive and causally linked to adverse health impacts in nearly all organs of the human body (1). Tobacco has been called a global epidemic and one of the largest threats to public health by the World health organisation (WHO) (2). Tobacco consumption has decreased in Sweden since the turn of the century (3). However, ten percent of adults' still smoke daily (4). Snus use, where pulverised, processed tobacco is placed on the inside of the lip, is relatively common in Sweden; eleven percent of adults use snus on a daily basis (4). The annual death toll attributable to tobacco smoking in Sweden is estimated to 12,000 people (5). There is an evident social gradient; smoking daily is more common among Swedes with lower education and daily consumption of cigarettes *and* snus is more common among individuals with lower occupational status (4).

Although not as well researched as smoking, there is evidence that snus can cause both reversible and irreversible oral tissue damage and that consumption during pregnancy increases the risk of prematurity and intrauterine foetal mortality. Evidence also suggests an increased risk of type 2 diabetes, cardiovascular disease and some cancer forms at high consumption levels (≥ 5 packs/week) (6).

Cessation is a very effective way of mitigating tobacco's harms (7). Providing evidence based, effective cessation support is thus a crucial tobacco control effort (8). Cessation also displays a social gradient; educational level, perceived socioeconomic status and occupational status affect cessation attempt success where more affluent individuals seem to have the upper hand (9-11). Consequently, people of lower socioeconomic status carry a greater proportion of the burden that tobacco use constitutes, making it a pressing public health issue. However, if society manages to sustainably address this topic, it presents an opportunity to reduce inequity in health. This prompts critical evaluation and dissection of interventions.

Methods for achieving tobacco cessation stretch from legislative and regulatory initiatives on national and international level to individually oriented programs and tools (8). This thesis will scrutinize one such type of intervention, namely Quit-and-Win-contests (QaW). The purpose of the thesis is to

explore motivations and outcome determinants among participants in a QaW competition organized for employees in the municipality of Gothenburg, Sweden in the autumn of 2017.

What is Quit-and-Win?

QaW competitions are population-based tobacco cessation interventions. The usual procedures include inviting a target population to participate in a competition where they pledge to be abstinent during the competition period, usually one month. Contests are often promoted via the health sector, community organizations and/or media. Participants are then part of a raffle for prizes like trips, memberships, vouchers et cetera. Cessation validation is either self-reported or checked biochemically. During the competition, participants receive cessation support (counselling, brochures, access to hot-lines et cetera) (12). Since its conception, versions of QaW competitions have been carried out in a variety of geographical and organizational settings (13-15).

The origins of Quit-and-Win

QaW for smoking cessation was first introduced in a community intervention trial directed by the University of Minnesota in the 1980's (16). Researchers developed the intervention based on the rationale that the potential of winning a large prize would attract a lot of participants, which would create social support systems. The program developers also hoped that the potential of winning a prize would counteract the discomforts of quitting. Furthermore, the design was based on data saying most of the smokers in the programme who wanted to quit wanted to do so on their own rather than using counselling. The competition period was set to one month, as research showed that most relapses occur within that time frame (16).

Evaluating Quit-and Win, what does the evidence say?

Studies assessing effects and outcomes of QaW competitions have measured quit rates, cost-effectiveness and/or determined predictors of abstinence, predominantly in an European and north American context (15, 17-21). However, a Cochrane review (12), concluded that at the time of review (2008) there were only a handful of studies on the subject with desirable scientific rigor. Studies were non-randomized, lacked control groups and/or had small samples. Of the five studies they deemed appropriate for review (19, 22-25), significant differences in quit rates between participants and

control groups were found in three. The quit rates among participants ranged from 8-20% at twelve-month follow-up. They further concluded that the population level effect was small, since few smokers in the respective populations participated. They also concluded that there are several methodological and logistical difficulties when designing studies on this subject, foremost a difficulty in ascertaining the isolated effect of the intervention (12).

Few qualitative inquiries have been made regarding QaW. In a recent study, Thomas et. al. (26) explored social contingencies in quitting attempts among college students in a QaW competition in USA. They concluded that social support was of great importance when quitting and that the competition element was of secondary importance. 48% of the participants (n= 13) were smoking at the time of the focus group interviews, conducted approximately 1-2 years after the contest ended.

Health behaviour- theoretical framework

There are several models and theories trying to explain health behaviour and the mechanisms behind them. This section aims to briefly present concepts that have driven our understanding of cessation behaviour and their potential connections to QaW.

The transtheoretical model of health behaviour

In the 1980's, psychologists began to nuance the view of smoking cessation, moving from a dichotomous view of a person being either a smoker or a non-smoker, towards a view of smoking cessation as a process (27). The transtheoretical model, also known as the stages-of-change model (28) has been seminal in the field and has affected the development of many health and public health interventions, not least in the field of addictive behaviours (29, 30). The model describes behavioural change as a process through six separate psychological stages, presented in table 1.

Stage	Description
Precontemplation	Where the individual does not have any intention to change their behaviour in the foreseeable future.
Contemplation	Where the individual has set out to make a change in the coming six months and becomes more aware of the pros and cons of their behaviour.

Preparation	The person intend to make a change in the immediate future, often measured as in the coming month, and plans <i>how</i> the change will be made.
Action	The person has made a specific and important modification of their behaviour in the last six months, for example stopped smoking.
Maintenance	People who have made a behavioural change work to maintain their new behaviour and not relapse. For some behaviours, maintaining the change demands a great deal of effort for a long time.
Termination	Occurs when the individual has no temptation to relapse and feels extremely confident in their new habit. Some might never reach this stage, but instead stay in maintenance. A person's ability to journey through these stages is described with other constructs such as pros and cons, decisional balance and other processes of change.

Table 1: The stages of the transtheoretical model, developed by Prochaska and DiClemente (29).

It has been suggested that stage-matching cessation interventions would promote successful quitting (29, 31). But, a relatively recent Cochrane review (32) concluded that stage matching neither benefitted nor obstructed cessation attempts. In some QaW studies, stage belonging has been measured at baseline (15, 19, 22) but I have been unable to identify any examples of stage-matched support in QaW competitions specifically. Examples of support provided in QaW interventions are generic written information, counselling and provision of nicotine replacement products (15, 20).

Without using the theoretical expressions of the transtheoretical model, participants of a college campus QaW competition expressed that the support given through the campaign was not robust enough to *create* motivation. To succeed, motivation had to be provided from other sources (26). On the same note, quantitative studies have found that participants in QaW competitions more often tend to be in the contemplation or preparation stages when entering the competition compared to control groups (19, 33-35).

Self-efficacy

Some researchers have come to criticize the transtheoretical model, saying that people are too multifaceted to be condensed to a few categories, and that the model at best is descriptive but of little analytical use (30, 36, 37). Some have instead pointed to the importance of self-efficacy. Self-efficacy is a primary component of social cognitive theory and refers to an individual's beliefs in their ability

to organize and execute certain behaviours and tasks (36). A high level of self-efficacy gives better preconditions to make use of skills and follow through with plans. Self-efficacy is significantly affected by one's social context (38), as it can be gained by seeing people you identify with succeeding or behaving in certain ways and by being told by others that they believe in you (36). Self-efficacy has been influential and has been incorporated into other health behaviour models (39, 40). Due to the complexity of the issue, caution is advised when analysing results, but studies from USA and China have pointed to a social gradient in self-efficacy on both individual and neighbourhood level, where people of higher socioeconomic status and people living in more affluent neighbourhoods report higher levels of self-efficacy (41, 42).

A meta-analysis of 54 studies explored the effect of self-efficacy levels on smoking cessation outcomes (43) and found that there was a significant relationship (= higher levels of self-efficacy correlated with higher levels of successful quitting), but that it was smaller and less stable than expected. The authors noted that the individual level of self-efficacy seemed to vary over time. This made them reflect that perhaps self-efficacy should not be thought of as a constant trait, but rather a snapshot of self-esteem (43), which would deprive the concept some of its analytical value.

Social capital and social network

Another influential concept with implications for health behaviour is social capital. The late sociologist Bourdieu defined it as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition-or in other words, to membership in a group” (44 , p 21). Social networks provide access to intrapersonal benefits and resources with potential effects on health and health behaviour. Individual level social capital is sometimes hard to distinguish from the social network (38).

The main ways in which social networks exercise influence on health is through social support, social influence, social participation and through access to material resources and services (45). Depending on its qualities, a social network can both enhance and deplete health (38). Although the concept of

social capital have been criticized for being too vague and lacking adequate measuring techniques (46), for monetizing social relationships by forcing an economic approach onto human interaction (47) and for being an inferior explanatory model to the social determinants of health as it ignores the structural inequalities in power across society (48), it is widely applied. Several studies have found a positive correlation between social capital and health (49). A Finnish study found that the odds of being smoke-free at two year follow-up were 1,26 times higher among those who had reported high social capital levels at baseline compared to matched controls who reported low levels of social capital (50).

Christakis and Fowler (51) found that smoking cessation is a very social phenomenon; if someone in a network stopped smoking, the chance that individuals close to that person also quit increased significantly. The ripple effect continued to impact cessation rates at three degrees of separation from the initial quitter, illuminating the significance of social context in health behaviour.

There seems to be two main hypotheses regarding the connection between social capital, socioeconomic status and health seem to coexist today. One argues that people of low socioeconomic standing benefit more from access to social capital as it can function as a buffer against risky health behaviour. The other claims that there is a dependency between social capital, other types of capital and the reproduction of inequality in health behaviours, suggesting that social capital is more serviceable for individuals of higher socioeconomic status (52). This argument lands in the idea that better preconditions due to higher socioeconomic status will make you more likely to succeed and maintain behaviour change; for example, a tobacco quitting attempt.

Workplace health promotion

The QaW competition under study in this master thesis, was launched through an employer. The workplace has been hypothesised to be a suitable arena for cessation interventions (31). The effectiveness of workplace smoking cessation programs has been evaluated in a Cochrane review (53) which rather unsurprisingly concluded that it is the quality and intensity of the intervention rather than the workplace-arena itself that determined intervention success. Still, the workplace as a field for

health promotion, with its opportunity to reach a diverse group of individuals, holds great promise from a health equity point of view (54).

Ethics and sustainability- a critical eye on Quit-and-Win

Sustainable development is a normative framework describing how economic, environmental and social development are intertwined and decisive for our wellbeing now and in the future (55).

Sustainability should be taken into consideration at all structural levels of public health work, as health is not only a desirable outcome, but a foundation for social inclusion, environmental protection and poverty reduction (56). The concept of sustainable development inherently carries ethical dimensions, as it deals with questions of right and wrong, responsibility and accountability (57).

A Swedish research institute estimated the costs for smoking related illness in Sweden to 31,5 billion SEK (approximately 3,8 billion USD) in 2015 (58). From an economical sustainability standpoint, smoking is a societal catastrophe (59). The question to consider here is; is QaW an effective path towards cessation? A few studies on cost-effectiveness of QaW has been performed in the Swedish context (18, 60). Compared to not intervening, the QaW-competitions studied were deemed cost-effective. However, as discussed by the authors (60), most cessation interventions are cost-effective in comparison with maintaining status quo. Also, there is a plethora of measuring techniques used to evaluate cessation interventions, further complicating comparison between different methods (61).

The tobacco industry have a negative impact on the environment; amongst other things it contributes to rainforest deforestation and the industry uses large amounts of pesticides and fertilizers in production, potentially harming the environment by contributing to polluting sensitive water supplies (62).

A unanimous theoretical definition of social sustainability seems absent (57). It involves the “quality” of society and encompass community’s abilities to develop structures which meet the needs of both current and future generations. It incorporates issues regarding human dignity, participation and justice (63). Tobacco has been called a threat to development by the WHO (62). This partly because the tobacco industry contributes to preserving poverty and illness among both workers and customers,

employ children and cripple budgets of communities (64). Combatting the tobacco epidemic is striving for social sustainability.

Regardless of what model or theory you choose when analysing tobacco cessation and health behaviour, the social context cannot be overlooked. A few of the underlying mechanisms that can help elucidate our understanding of the phenomena (the transtheoretical model, self-efficacy, social capital and social network theory) have been presented above. From a public health perspective, where equity in health is a core concept, adjusting interventions to best respond to the inequity in health is crucial. Voigt (65) argues that the unequal distribution of tobacco use and its related outcomes is a question of social justice, and that ignoring the social roots of the unequal distribution in tobacco use patterns makes policy weak and likely unsuccessful in generating cessation and reduce inequality. Choosing cessation intervention design must thus be regarded as a normative declaration. It has been described as a tug of war between efficacy and reach; either you reach many with a shallow intervention with lower efficacy or you focus more intensely on fewer individuals and likely achieve higher efficacy (8). Providing as many opportunities as possible to quit is an effective route to reduce user rates. However, merely providing an opportunity to quit without much support will not suit everyone, and there is a risk of increased inequity in health through such efforts (8).

QaW competitions attract a self-selected group and there is evidence that participants are more motivated to quit than the average smoker and the most successful participants more often tend to be higher educated than the average participant (12). Could QaW be cementing or contributing to inequity in health by offering a cessation model best suited for individuals with sturdy networks, high degrees of self-efficacy and motivation? If so, is that reason enough to dismantle the concept or could it still complement other initiatives? It is important that such effects of public health interventions are not ignored. The notion of social sustainability could possibly be a helpful tool in such a debate.

Conclusion

Tobacco cessation is an urgent public health issue. A comprehensive tobacco control scheme must involve action on several structural levels, acknowledging the unequal distribution of the negative effects of tobacco locally, nationally as well as internationally and across social, economic and

environmental spheres. Effectively incentivising and supporting cessation are vital parts of that quest. Evaluating and deepening the understanding of the efforts made to enhance the quality of such ventures is an important task. Previous research indicates that there is more to discover and analyse regarding the QaW concept. The purpose of this thesis is to utilize qualitative methods to explore experiences, motivators and drivers of outcomes among participants in a QaW competition organized for employees in the municipality of Gothenburg, Sweden. Qualitative research can be beneficial for deepening our understanding the mechanisms determining outcomes in this type of intervention. The insights from this thesis could contribute to improving potential future implementations of QaW interventions.

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Part B

Abstract

Background: Quit-and-Win competitions are common to incentivize tobacco cessation. Quantitative research has inspected the concept from various angles. However, there are many methodological issues attached to measurement and few qualitative ventures have been undertaken. This study can provide deeper knowledge of different aspects of Quit-and-Win competitions.

Aim: To explore experiences, motivators and determinants of outcomes among participants of a Quit-and-Win competition conducted for employees of the municipality of Gothenburg, Sweden.

Method: The intervention under study consisted of three consecutive two-month Quit-and-Win competitions where participants pledged to stay tobacco free in order to be eligible for a raffle at the end of each competition period. Cheerful messages were sent out to participants throughout. All participants in the first iteration of the intervention were invited to participate in this study. Semi-structured in-depth interviews were conducted with eleven participants. The sample consisted of five women and six men, ranging in age from 23-48, with various occupations. Eight of them had remained abstinent at the time of the interview. Data analysis was conducted using inductive qualitative content analysis as proposed by Graneheim and Lundman.

Results: Respondents reasons for entering the competition, their experiences of it and their thoughts on why they had the outcome they did can be said to be dependent on their siting along three dimensions; Their cognitive positioning, their social positioning and the organizational positioning of the intervention. Further, their perceptions were shaped by the intervention vigour, a category describing the strength and power of the intervention. Some found it satisfying, whilst others experienced it as insufficiently motivating and supporting.

Conclusions: Quit-and-Win competitions can spur individuals to make quit attempts and increase motivation to remain abstinent. However, participants outcomes are largely determined by factors unrelated to the intervention in itself, relating instead to the individuals personal and social network properties.

Key words: Tobacco cessation, Health behaviour, Quit-and-Win, Competition, Qualitative, Content analysis.

Introduction

Tobacco cessation intervention design and quality are urgent public health issues. This paper will scrutinize one such method; Quit-and-Win competitions.

Quit-and-Win competitions for tobacco cessation were first propounded through a community intervention programme targeting cardiovascular disease in USA in the 1980's (1). The concept includes inviting a target population to participate in a raffle under the condition that they stay tobacco free for the duration of the competition period. Often, participants receive various kinds of support during the intervention (2). The design is popular, and competitions have been carried out in a variety of geographical and organizational settings (3-7).

The Quit-and-Win concept is based on the assumptions that the potential of winning a price can counteract the discomforts of cessation and that many individuals quitting simultaneously will generate social support systems amongst participants. Further, the competition time is usually set to one month to encourage participants to sustain cessation during the first, most critical weeks (1).

Scientific examination of the concept (predominantly examining European and north American interventions) has taken various shapes; several measurements of quit rates have been done and some reported figures at 12-month follow up are 7,3% (8), 12% (7) and 30% (9). Cost-effectiveness calculations have shown favourable results in a Swedish context (10, 11) and more recent studies have focused on examining modifications of the intervention (adding counselling, adding small cash incentives et. cetera) and their effects on cessation rates (12, 13).

Due to the nature of the subject, many Quit-and-Win studies lack rigor and there are several methodological challenges (2, 14). For example, one study (8) found significant differences in

self-reported and biochemically validated quit rates. This indicates that there is risk of biased results, as many studies rely on self-reporting. Other studies have struggled with control groups not being well matched to intervention groups (15) and difficulties to ascertain the isolated intervention effect (16).

Some studies lack control groups and instead map determinants of successful quitting, usually defined in a binary manner (sustained/ un-sustained abstinence). Studies have shown that sustained abstinence in Quit-and-Win competitions is associated with higher education, higher age, having a partner, having high self-perceived health and fewer previous quit attempt (5, 7). One significant component is that participants by default constitute a self-selected group, spurring further inspection.

The transtheoretical model (17) has shaped our understanding of health behaviour change, not least addictive behaviours (18, 19). According to this model, individuals can be placed at one of six motivational stages describing their readiness to commit to and accomplish behavioural change. This method has been utilized to describe baseline characteristics of Quit-and-Win participants, indicating that a significant portion of participants were contemplating or preparing to quit prior to or at enrolment (5, 8, 15).

Self-efficacy is another influential health behaviour concept. It refers to an individual's beliefs in their ability to organize and execute behaviours and tasks (20). A high level of self-efficacy provides better preconditions to make use of skills and succeed with quests (20).

Self-efficacy is affected by social context (21) through the social networks capacity to encourage behaviours and/or traits and through its ability to provide behavioural role models (20). A meta-analysis has concluded that, although weaker than expected, there is evidence of a relationship between self-efficacy and sustained smoking cessation (22). No study has been identified that specifically measures self-efficacy in Quit-and-Win participants.

Previous research regarding Quit-and-Win have provided several insights, and health behaviour theories can help inform our understanding of those findings. However, mixed results in terms of effectiveness and issues regarding measurement feasibility indicate that there are knowledge gaps that could benefit from further dissection with novel approaches. To achieve that, this thesis utilizes qualitative methodology, suitable for seeking deep understanding and exploring insufficiently understood aspects of complex issues (23).

Aims and objectives

This thesis aims to explore experiences, motivators and outcome determinants among participants in a Quit-and-Win competition arranged for employees in the municipality of Gothenburg, Sweden. The following research questions will be investigated:

- Why did the respondents choose to enter the competition?
- How did they experience participation?
- How (if in any way) did the intervention affect their motivation to make and sustain a quit attempt?
- What factors impacted their outcome?

The setting

Gothenburg municipality, Sweden, employs circa 54,000 people in a wide range of occupations (24). A Quit-and-Win competition was launched for employees in the autumn of 2017. Intervention information was sent out through the employer intranet, e-mail and through outreach efforts at selected worksites using printed materials and give-aways. All employees using any form of tobacco to any degree could participate. Registering meant making a pledge to attempt cessation starting at the latest on the first competition date. The competition period stretched over two months and was concluded with a raffle. The grand

price was a choice between a spa stay and a gym membership. Additionally, there were smaller prizes like cinema tickets and tote bags. Cessation was self-reported and only those reporting complete abstinence during the competition could win prizes. Three consecutive rounds of the competition were held, and participants chose themselves which to participate in. Those who signed up for all three rounds were eligible for an additional raffle.

When enrolling, participants received written information including tips and contact information to suitable instances. They were also offered a referral to a primary care tobacco cessation nurse.

Throughout the competition period, e-mails and Facebook posts were provided following a predetermined schedule with cheerful messages meant to support participants.

Methods

Respondents

The first competition iteration attracted 159 participants. As width of experiences was sought, all of those who could conduct an interview in Swedish or English were eligible for study participation. Thus, the inclusion criteria did not incorporate limitations regarding age, gender, occupation, type or degree of tobacco use or cessation attempt outcome. Two rounds of invitations were sent out to all 159 via e-mail in October 2017 by the author, describing the study. Eleven individuals responded and were recruited. Their tobacco consumption varied from circa thirty units (cigarettes or portions of snus per day to a few units per month. See table 1 for demographic and other sample variables.

POSITION OF TABLE 1 (see appendix)

Interviews

Semi-structured in-depth interviews were deemed the most appropriate method of data collection, as sensitive and personal topics (regarding lifestyle and health) were likely to emerge (25).

Interview arrangements were made in dialogue with respondents and conducted circa 3-5 months after contest initiation, between November 2017 and January 2018, utilizing an interview guide developed in collaboration of the author, thesis supervisor and with input from a researcher with far-reaching field experience. Interviews were conducted in Swedish, lasting on average forty-five minutes. They were audio-recorded and transcribed verbatim. When appropriate, non-verbal cues were noted in transcripts. At the time of the interview, participants were asked to fill in a short demographic survey.

Informed consent and anonymity

Participants received written informed-consent information prior to interviews. Before the interview commenced, the consent form was (re)read by the respondent, and issues that needed clarification were resolved. All eleven then provided their written consent.

Respondent were assigned a code used in all relevant documents. The code key has only been available to the author. Data will be stored securely for the customary storage period.

Analysis

Data consists of audio files, interview notes and interview transcripts. Data was analysed utilizing Microsoft Office 15.26, NVivo 11.4.3 and analogous tools.

Inductive qualitative content analysis as described by Graneheim and Lundman (26) was deemed an appropriate analysis tool given the study aim. It has been frequently applied in qualitative health research and builds on the epistemological assumption that data is co-

created by respondent and interviewer and that the analysis is a co-creation between the researcher and the body of data, acknowledging existence of multiple realities (27).

Between interviews, previous transcripts were revisited. Memos concerning initial understanding of the meaning of statements and early ideas were crafted after most interviews as a part of the study audit trail.

Approaching the last of the scheduled interviews, many themes and ideas had recurred frequently; saturation of data was impending. Thus, no efforts to recruit additional respondents were made.

After interview completion, all transcripts were read repeatedly to gain a sense of the whole. Meaning units relating to the study aim and research questions were extracted into a separate document. There, the meaning units were condensed and coded in tables. Codes from all interviews were sorted into content areas, where subcategories and categories were constructed based on the manifest content. The tentative categories were further developed in an iterative manner, where emerging ideas were checked against the raw data regularly. A creative and reflective process driven by the question “what this really means?” followed, concluding in categories being defined. This led into a second process, where categories were lastly assembled under an overarching theme.

Results

An overview of the results is presented in table 2. Briefly, respondent’s experiences, motivation and capacity to commit to their quitting attempt and outcomes can be described to be largely determined by their siting along three axes; their cognitive and social positioning and the organizational positioning of the competition. Further, their experiences were affected by how they perceived the intervention’s vigour, which for some was sufficient, whilst other

were disappointed by the degree of support provided. Figure 1 provides a visualization of the categories. Each category is described below and illuminating quotes have been selected to describe their complex content.

POSITION OF TABLE 2 (appendix)

POSITION OF FIGURE 1 (appendix)

Cognitive positioning

This category describes participants' cognitive state at enrolment and during the intervention. It is comprised of four subcategories: Participants' *preparedness to quit* when learning of the competition, their cognitive *motivators* to stop using tobacco, *methods utilized* during their attempt and how the *competition component* of the intervention affected them. The continuum can be said to stretch from the well prepared with good self-esteem, spurred by the competition element, to the unprepared with weak motives to quit who cared little of winning. The cognitive motivators described were for example an urge to be in control, avoid future or current ailment or cognitive dissonance between their beliefs and/or knowledge and their habits.

Respondents outlook on these factors impacted how they navigated through the intervention to a great extent and can be connected to all stated research questions. Those who had started planning or seriously contemplating quitting prior to the competition (seven out of eleven respondents) and had sources of motivation that were urgent and real to them, rather than vague, distant or external, more often managed to abstain.

Unprepared

R: So when I saw this campaign I just thought perhaps this can sort of be a motivator for me to stop. Some colleagues were also pointing it out to me; “have you seen this, maybe you should join?”

I: Other colleagues that also smoked?

R: No, it’s only me and one other that smokes. So it was people who didn’t smoke that just “yeah, you should be a part of this”

Woman, 26

Well prepared

I had planned to quit at new-years, and then I expedited that idea, why wait so long? And then I saw it on the intranet, “Win your health”. And then I thought;” There it is! There is the springboard!”

Woman, 46

Seven respondents expressed that they were allured and motivated by the competition element. For some of them it was the decisive factor to attempt cessation. For others, it expedited an already planned quitting attempt. The remaining saw the prices and the competition as symbolic or uninteresting and joined for other reasons, like wanting to quit in a structured forum.

Social positioning

This category captures where respondents were socially situated. The subcategories contain statements where respondents have described the social sphere as a source of *motivation*, how the *properties of their networks* affected them and how the form of the intervention in itself functioned as a social entity and *context*. The content of this category resonates with all research questions.

As a rule, support from the social network around respondents were expressed to be vital for quit attempt outcome. For some, other people were the reason to give up their habit.

In three cases, respondents network aggravated their attempt, as significant network members were uninterested or unsupportive. In two cases, respondents claimed to be rather unaffected by their social context when asked specifically about it, but mentioned support from others as important at other points during the interviews.

Regardless if the social sphere eased or aggravated their quitting attempt, all respondents expressed that cessation was to some degree conditioned by others.

Less supported by private network

And then with the E-cigarette, when I bought the E-cigarette, he said "what is that shit? You can just as well smoke cigarettes. You don't know what the oil contains and this and that". And in a way, he was right, but it was something I believed in.

Woman, 30

More supported by private network

The support from home has been the most important, because it's been great support. At some points I have even asked my partner to buy a pack of cigarettes on the way home, but he hasn't done that. If he had, I'm sure I would have smoked one. So he has encouraged me

"continue, don't stop!"

Woman, 32

Only one respondent quit with colleagues. However, nine respondents expressed that knowing that unknown others were quitting simultaneously was appealing. For some it functioned as a complementary network that provided motivation. Two respondents mentioned this feature as a reason for joining the intervention.

It's great that people want to quit. That people want to win their health. And it's a context for many, that they feel like they are not alone in the city. Many others are competing. That is well done by the municipality actually. I didn't think that there was going to be many that wanted to quit, but it seems like there is!

Man, 39

Nine of eleven respondents longed for deeper commune with other participants. They wanted to meet, share experiences and be supported and motivated by others in a similar position.

When asked what they would do differently if they were to arrange a cessation-competition, a kick-off, support meetings, group activities and an interactive app were suggested. The remaining did not crave more interaction with others; they found the “perceived connectedness” satisfying.

No need for more interaction

Longing for community

I don't think it would help me either. Because I have people close to me that has quit smoking.

I have missed a group, belonging to a group. Rather than being by myself. Because now, you

But I still don't want to, like, not. It's not

are on your own quite a lot.

interesting for me.

Woman, 30

Woman, 29

Organizational positioning

The workplace setting was discussed by most respondents in two ways (the subcategories); the employer as the intervention *consignor* and *ripples* resulting from the organizational positioning. This category expresses statements resonating with the research questions of how respondents experienced participation and their sources of motivation. Having the employer

as the consignor was generally viewed as suitable, encouraging, responsible, and for some, positively surprising.

Even if this is a decision that goes beyond work hours, I think that it is responsible of the employer to say that “this is so important that we will support you on this, even add extra funds to really convince you”. It would have been difficult to do this outside of work, so it feels encouraging. It reflects positively on the employer.

Man, 42

Five respondents referred to their responsibility for co-workers and welfare service users as a reason to quit; they wanted to lead by example in their professional role and not expose users. For them, that resonated well with their employer providing them this opportunity.

The organizational positioning of the intervention generated *ripples*: It contributed to that ten of eleven respondents informed colleagues of the intervention and/or had conversations regarding their attempt or cessation in general. Five respondents actively tried to inspire co-workers to quit or change habits, with mixed results.

Intervention vigour

The Quit-and-Win concept was perceived to have a low participation threshold, which attracted respondents. The other side of that coin was that six respondents perceived the support provided from the intervention as too low and their expectations of the intervention were unmet, spurring feelings of frustration. This category relates strongly to the research question regarding factors impacting outcomes.

Several respondents longed for a more intense intervention. Additional types of support, medical check-ups and stronger commitment devices were advocated. The non-existent control of their and others progress was depicted as frustrating by five respondents and they

craved a higher degree of monitoring. Contrastingly, the remaining participants perceived the low level of interaction and support as sufficient. They were self-reliant and described the intervention to be of little importance for their quitting process.

If they are in a position where they are still smoking and are like “well, I haven’t thought about if I should, I haven’t set a date for when to quit”. I think that is really important. If they haven’t done that, then I wouldn’t recommend this kind of campaign. I don’t think it will work. They probably need something more personalized. But for someone like me it’s probably good.

Male, 37

Insufficient vigour

I think I had little higher expectations on what the campaign would entail. There was information that you would get text messages or e-mails continuously. And, like, I have gotten e-mails, but I don’t think they have given me proper inspiration or motivation. It has felt kind of lame in a way.

Woman, 26

Sufficient vigour

I: So why did you feel like signing up for this?

R: Well, it was a good spur.

I: Yes, in what way?

R: Well, you could win something and there were fun prizes and then there is someone that sends out e-mails all the time

I: Yea, has it been good with the e-mails?

R: Yeah, I think so. It’s been nice.

Man, 48

Theme

The theme of an inductive qualitative content analysis is a recurring regularity, a thread of latent meaning through and across meaning units, codes and categories (26). For this dataset, the theme that emerged during analysis could be expressed as *The consonance of personal and intervention resources*. Respondents can be said to move along several continuums (the categories cognitive, social and organizational positions) during their quitting attempt, where their individual and network properties were inwrought with components of the intervention. Together with the overall vigour of the intervention, these resource levels largely determined respondent's outcome and helps answer the research questions.

Discussion

Summary of findings

Respondent's intervention journey was largely affected by their position on three axes; their cognitive and social positioning prior to and during the competition and the organizational positioning of the intervention. Further, an important leitmotif was the intervention vigour; although perceived as accessible, it had too little potency to create and uphold motivation for some, whilst for others it was sufficient. A key to the research questions can be found within these categories, often interlinked and in a composition unique to each respondent. For most, the intervention played a relatively little part in their attempt, other factors mattered more. Many perceived it as a positive addition to their attempt. In a few cases, the intervention somewhat worsened the conditions by creating frustration and unmet expectations.

Social and cognitive positioning

The vision expressed by the founders of the Quit-and-Win concept was that the collective quitting feature would generate social support systems amongst participants (1). Inconsistent with that intention, respondents in this study, with one exception, did not come into contact

with other participants. Interestingly, simply knowing that anonymous others were quitting simultaneously was enough to create a sense of community for some, a noteworthy finding that to our knowledge have not been expressed in previous research.

In line with the findings of Thomas et. al (28), the results indicate that user satisfaction will likely increase if the level of support and/or interaction is increased. A majority of respondents expressed a longing for deeper connection with other participants. Social support has been found to be of importance for cessation attempt outcomes in several studies in different contexts, see for example (29-33). A New Zealand study (34) examined the effect of a Quit-and-Win competition where participants competed in teams of ten people, and reported quit rates of 26% at six month follow-up. Utilizing both peer support and social control in this way could be considered in the Swedish context and might be an especially feasible approach in a workplace context.

Nevertheless, the significance of social support for smoking cessation has also been challenged; one study (35) found that making an undisclosed quit attempt was associated with higher short term cessation success than disclosing (long term cessation rates were similar between the groups). Worth to mention is that the undisclosed quitters smoked fewer cigarettes per day prior to their attempt than the disclosing study participants and were less nicotine dependent, had higher levels of self-efficacy and higher income.

That notion could be discussed in relation to these study findings; that it is the consonance of personal and intervention resources that predict intervention outcomes. Personal resources seem to be of great importance in a low intensity intervention. They demand of the individual to bring a lot to the table in terms of coping strategies, methods, a supportive social network and a certain degree of motivation. With this in mind, and considering the self-selection feature of Quit-and-Win, one could interpret the findings from a Cochrane review (2)

concluding that those who chose to participate in Quit-and-Win competitions were younger (15, 36), better educated (8, 15, 36, 37), heavier smokers (15, 36) and more motivated to quit (8, 9, 38) compared to control groups or average smokers.

No computations of how this samples characteristic compare to those results can be made. Nevertheless, many of the respondents were well prepared to quit prior to learning about the competition, and those who were generally had better outcomes. Providing an intervention best suited for this group could be viewed as reaching for “the low hanging fruit” of the tobacco using population. Although possibly an effective way of lowering overall tobacco use rates, it will fail to care for those with complex support needs. Considering the above-mentioned characteristics of participants, interventions of this kind could have negative effects on equity in health, an insight that should be seriously considered when choosing intervention strategy.

Organizational positioning

Respondents were positive towards their employer providing this intervention. However, one can hypothesize that anyone feeling offended by the arrangement opted out of participation and was thus not considered for study participation.

Previous research indicate that the workplace is a promising arena for tobacco cessation interventions (39, 40). Advantages include the potential of reaching large groups, accessing otherwise hard to reach populations and a low participation threshold (41). A cross-sectional study examining effects of workplace health promotive efforts in Swedish municipal organizations reported a positive association between the degree of, and employee satisfaction with workplace health promotive efforts and employee health (42). The findings from that and the current study indicate that the Swedish public sector is well advised to advance such ventures.

However, the rate of daily smoking among unemployed Swedes is twice that of the employed (16% and 8% respectively, 2016. Daily snus use does not display the same gradient) (43). As well meant and effective as workplace interventions are, they might contribute to steepening the social gradient in health. A holistic, sustainable and justice-driven outlook when distributing intervention resources is paramount.

Intervention vigour

In line with the findings of this study, a qualitative evidence synthesis of workplace smoking cessation interventions (41) found that employees readiness to quit was very important for outcomes, as the intervention in itself provided relatively little support. This indicates that the examined interventions abilities to lift unmotivated tobacco users into a cessation attempt might be low, but that they effectively can spur motivated individuals to get to grips with cessation plans. Based on these findings, Fishwick et. al. (41) suggest that workplace interventions should either focus on changing attitudes towards smoking or target smokers with pronounced quitting desires. Another interpretation could be that there is room for improvement in intervention design and their ability to motivate and support employees.

The consonance of personal and intervention resources

Even though the usefulness of the transtheoretical model has been challenged (19) and our comprehension of self-efficacy might be lacking (22), both are relevant for our understanding of health behaviours. Although these concepts were not explicitly examined in this study, the results can favourably be examined through their lens. Respondents expressed that self-efficacy and motivation were some of the most potent ingredients to add to the formula of their cessation attempt. Since the interventions vigour was low in terms of how much support it provided, personal properties largely determined participant's outcomes.

Strengths and limitations

To my knowledge, no other study has explored Quit-and-Win using inductive qualitative content analysis. This novel design complements other research aiming at understanding Quit-and-Win interventions. Strengths of the study further include that respondents were interviewed in close proximity in time of the competition, reducing recall bias, and that individuals with mixed outcomes were interviewed.

There is reason to be critical of this study's sampling technique, which at best can be described as purposeful, but could be labelled as a convenience sample. This has implications for the study's overall trustworthiness and credibility (26, 44). There is risk of selection bias, as those with the strongest views might be keenest to share their experiences and no actions were taken to shape the sample. A maximum variation sample might have been able to enhance analysis quality (25).

Collegial deliberations is a way of increasing credibility and reliability of qualitative study results (26). Hence, this study is limited by the fact that the prevailing perspective was provided solely by one, inexperienced researcher. The author has no professional or personal experience of tobacco cessation. Further, no triangulation or member checking were done.

Due to time constraints, no ethical approval was sought for this study. As this study deals with people speaking about their health and their quitting attempt, an outside perspective of the soundness of the research would of course have been preferable.

Future research

Future studies could dissect the topic further by examining which individuals opt out of an offer to participate in a Quit-and-Win competition and their reasons for doing so. Examining the role of self-efficacy in the Quit-and-Win context could also be of interest.

Conclusion

Quit-and-Win competitions might spur individuals to make quit attempts, but the outcome could be said to be largely determined by factors unrelated to the intervention itself. Instead, this study found that experiences, motivation and outcomes were essentially affected by participants individual and network capacities. This has possible implications for equity in health and should be taken into consideration when deliberating on what tobacco cessation intervention to pursue.

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Appendix

Table 1: Demographics and tobacco related variables of study participants (N=11)

Female, N (%)	5 (45%)
Age, mean (range)	35 (23-48)
Acquired university education, N (%)	5 (45%)
Occupation (N)	Assistant nurse (3) Civil servant (1) Operations manager (1) Preschool assistant (1) Property technician (1) Social worker (3) Youth recreation leader (1)
Living with partner, N (%)	8 (72%)
Living with partner consuming tobacco, N (%)	4 (36%)
Type of tobacco consumed, N (%)	Cigarettes, 5 (45%) Snus, 3 (27%) Cigarettes and snus, 2 (18%) Cigarillos, snus and water pipe, 1 (9%)
Sustained cessation at time of interview, N (%)	8 (72%)
Had made quit-attempt prior to enrolment, N (%)	11 (100%)
Had thought about or planned quitting prior to learning about competition, N (%)	11 (100%)

Table 2: Results

Theme	The consonance of personal- and intervention resources											
Categories	Cognitive positioning				Social positioning				Organisational positioning		Intervention vigour	
Sub-Categories	Preparedness to quit	Cognitive motivators	Methods to sustain attempt	Competition component	Social motivators	Network properties	Quit in context	Longing for deeper connection	Consignor	Ripples	Low threshold	Low impact

Figure 1: Visualisation of results

