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How health risks prevention shapes collective identities: a micro-sociological approach

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Sociological theories of health risks in late modernity emphasise the individualisation and increasing anxiety that results from prevention policies, while bio-sociality theories point to the creation of new, biologically or medically based social identities. In this article, we outline an alternative approach. We use micro-sociological interaction ritual theory to examine how health risk prevention technology shape interactions that generate collective identities. Drawing on fieldwork in two Dutch villages in 2008–2009 and again in 2014 that created interview, survey and observational data, we show that automatic external defibrillators turned into symbols of collective identity that elicited feelings of group membership, reflected moral values and filled community members with pride. We demonstrate that this collective identity formation process was shaped by the institutional and technological network of the automatic external defibrillators. In the concluding section of the article, we explore the conditions under which health-related collective identities might develop, particularly with regard to the institutions that create health policies and foster health risk awareness.

Keywords: health risks; health prevention; micro-sociology; collective identity; social cohesion

Introduction

In this article, we provide a micro-sociological analysis of how health risk prevention practices and health risk technologies contribute to feelings of group membership. Our approach was triggered by unexpected findings in a research we conducted in two villages in the Netherlands (Weenink, 2009). Villagers referred to a particular health risk prevention campaign – the introduction of automated external defibrillators in the (semi)-public realm – as a time of common engagement and a sign of solidarity. As we felt that prevailing sociological theories of health risks did not offer an adequate conceptualisation of this finding, the main aim of this article is to offer micro-sociological understanding of how health risk prevention practices and technology bring about collective identities.

Empirically, we examine how automated external defibrillators were turned into symbols of group membership that filled community members with pride. Earlier, Timmons and Crosbie (2014; also see Timmons et al. 2008) researched the implementation of automatic external defibrillators from a similar perspective, but without attending to solidarity. They showed that decisions to install automatic external defibrillators were rarely based on quantified risk calculations, but rather on beliefs about the omnipresence of cardiac arrests and the potency of the defibrillators. Companies installing automatic

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external defibrillators relegated risk handling to the devices and bolstered their image as responsible organisations (Timmons & Crosbie, 2014, p. 367).

Prevailing sociological analyses of health risk awareness tended to perceive health concerns as a form of individualised anxiety that is part of a culture of fear (Furedi, 1997), as related to a global system of multiple risks (Beck, 1992) or as a result of the withering away of collective frames of interpretation and identity (Giddens, 1991). Burgess has argued that recurring health scares create a sense of distrust in authorities and create a desire to formalise arrangements that aim to diminish risks as much as possible (Burgess, 2008). These theories of high modernity stipulate a decline of social cohesion and collective identities in general and, in the context of this article, they tend to view health risk prevention practices as the individualisation of risk in particular.

This is different from bio-sociality and bio-citizenship theories, which point to the emergence of collective identities on the basis of biological characteristics (Rabinow, 1992; Rose, 2007). According to this approach, people increasingly engage in collective action on the basis of shared health concerns and bodily characteristics. Advances in biomedicine enable new group formations and penetrate what it means to be human, according to Rose. The rise of (embodied) Health Social Movements (Brown et al., 2004) and patient organisations (Duyvendak & Nederland, 2007), for example around cancer risks and treatment (King, 2006), can be understood in this light.

Although we sympathise with this line of reasoning, our approach differs from both strands of theorising. Following Collins's (2004) micro-sociological theory of solidarity, we ask if and how health risk endeavours shape collective identity rather than individualised anxiety. We extend this theory by attending to the material semiotics (Law, 2009) of health risk prevention technology, asking how material properties and institutional networks affect emerging feelings of group membership and collective identity.

In what follows, we will first introduce the automated external defibrillators as health risk technology. After that, we provide a discussion of health risks and collective identity and explain our micro-sociological approach, leading to research questions. Subsequent sections describe the methodology of the study and the results. We suggest that our approach and findings apply to various other health risk prevention practices as well and we indicate the conditions under which health-related collective identities may develop, particularly with regard to the institutions that create health policies and foster health risk awareness.

Automated external defibrillators as health risk technology

The empirical case that exemplifies the proposed micro-sociological approach is our field research into two Dutch communities where automated external defibrillators were installed. Automated external defibrillators are developed to save people who suffer from an acute cardiac arrest outside the medical setting. In these cases rapid care is crucial. Hence, the automated external defibrillators are designed to be used by laypersons. While the device provides the defibrillatory shock that is necessary for survival in case of acute cardiac arrest, users must be able to apply mouth-to-mouth resuscitation and chest compressions (cardiopulmonary resuscitation). Also, users should have had some prior training in the use of the device, mainly in correctly placing the electro-pads and following the instructions it gives in a correct way. The automated external defibrillators determines whether resuscitation is necessary, based on measurement of heart activity. When someone suddenly falls down unconscious, bystanders need to be aware of the fact that this might be due to cardiac arrest in the first place. If they are aware of this, they

must know where to get an automated external defibrillators and consider whether there is enough time to get it, and whether cardiopulmonary resuscitation is necessary. The device then guides users through the resuscitation, for instance by indicating where to position the pads and when analysis of heart activity is required. Furthermore, the device 'tells' (in some types, indeed in the form of verbal utterances) the user to call an ambulance and stay calm.

These automated external defibrillators are now common in many western countries. They were first used in hospitals and later introduced into ever more (semi)-public places: shopping malls and airplanes, schools, universities, and restaurants and even in open space. Several countries have explicit policies for installing automated external defibrillators in public places, and companies successfully market these devices for private use (note, however, that in our research the installation of the automated external defibrillators was not part of a formal policy). The rollout of automated external defibrillators can be interpreted as a 'politics of hope' (Rose, 2007): the mobilisation of hope to prevent the shock of sudden death. In a similar vein, Timmermans (1999) analyses cardiopulmonary resuscitation as a way to turn a sudden death into a more gradual passing. However, our focus is on the question of how the automated external defibrillators emerged as symbols of group membership. The following section provides the theoretical grounding for this question.

Health risks and collective identity

Sociological analysts of health risks and medicalisation (Burgess, 2006; Furedi, 1997; Wainwright, 2008) often refer to the conditions of late modernity as outlined by Giddens (1991) and Beck (1992) to understand the changing ways in which people perceive and act towards their bodies and health. Two related notions seem to be of particular importance for the sociology of health risks: the idea of reflexive individualisation and the concept of the risk society. Consider first individualisation: Here, the idea is that in high modernity, collective moral frameworks that provided meaning and identity have dissolved. The declining role of religion is often considered as the prime example in this respect. Without these collective moral frameworks, people are left to themselves to fulfil the reflexive task of creating meanings and identities. As Shilling explains (2012: pp. 1–20), we live in a world full of anxieties and therefore attempt to achieve identity and existential security by focussing on the corporeal, material basis of our existence: our bodies. More precisely, the construction of self-identity centres on the maintenance of a healthy body. He noted that:

> Perhaps the most common example of the body as a project exists in the un-precedented attention given to the construction of healthy bodies. At a time when health is threatened increasingly by global dangers, we are exhorted to take individual responsibility for our bodies by engaging in self-care regimes directed towards maintaining our health or maintaining our existing medical conditions (Shilling, 2012, p. 7).

Thus, body projects may take the form of efforts to change and improve one's body in relation to a perceived or desired self-identity, which is often considered in terms of health. This tendency is strengthened by medicalisation 'from below' and 'from above'. The former type refers to peoples' attempts to secure medical diagnoses (Becker & Nachtigall, 1992; De Graaff & Bröer, 2012). Medicalisation 'from above' concerns the introduction of market mechanisms that enhance health awareness by requiring people to

make health care choices, the introduction of patient-centred approaches in health care and the pharmaceuticalisation of everyday life (Abraham, 2010; Ashton & Seymour, 1988; Conrad, 2005; 2007; Greco, 1993; Sullivan, 2003; Williams, 2001). As a result, patient–citizens are assigned much more active roles and are impelled to construct their identities on the basis of health (Barker, 2002; Furedi, 2004; Wainwright, 2008).

The notion of risk society (Beck, 1992; Douglas & Wildavsky, 1982) or a 'culture of fear' (Furedi, 1997) takes this high modern, individualised concern for bodies and health a step further. In a risk society, people are constantly aware of the possible threats to their health and are anxious to avoid situations that imply health risks. (Burgess, 2008). Importantly, while the institutions of modernity themselves are responsible for creating risks, they are largely unable to tackle these risks. This creates distrust among citizens who react to prevention programmes ambiguously. Preventive health programmes are called for by the public and can fuel health scares at the same time (for instance in the cases of radiation from mobile phones, see Burgess, 2002; or GM food, see Frewer, Miles, & Marsh, 2002). Taken together, these scares further a sense of uncertainty (Burgess, 2008).

Politicians, for their part, react to risk and uncertainty partly by shifting responsibilities to citizens. Health and prevention are turned into matters of choice and individual moral responsibility. Health risk awareness has become a new moral code, which Burgess describes as '*a new form of showing oneself to be a responsible citizen'* (2008, p. 61, italics in original; see also; Douglas & Wildavsky, 1982).

From a different, Foucaldian angle, risk and responsibilisation are also central to theories of bio-sociality. According to Rose (2007), bio-sociality denotes the forming of collective identities around shared physical traits: Chernobyl or AIDS victims are often cited examples. While the formulation of the collective identities of these victims occurs in response to health threats, bio-sociality can also be a response to new technological opportunities to modify 'life itself' (Rose, 2007). Genetic- and foetus-testing, bio-banking, performance enhancement and self-tracking are examples of new technologies that are health related. However, these health technologies do not seem to trigger visible collectives.

Both biological citizenship theory and theories of high modernity identify ideal-typical phenomena that are said to indicate large-scale social transformations. What is less clear, however, are the dynamics that produce collective identities in one case but not in another. In some cases – like cancer prevention and 'Pink Ribbon' (King, 2006) – feelings of group membership are brought about in the process. In other cases, the emergence of collective identities might be possible but does not seem to occur, for example in the case if infant and perinatal mortality prevention measures for perinatal mortality have so far not occasioned collective action, even though the death of a stillborn might easily mobilise this.

To understand how health risk technologies bring about collective identities, we rely on Collins's (2004) interaction ritual theory, which offers a framework for analysing how interactions may result in feelings of group membership. In emotionally intense interaction rituals, the participants may lose themselves in the collective action, and they may become overwhelmed by feelings of group membership (Durkheim's idea of collective effervescence). Two important ingredients that generate these feelings are a shared focus of attention and the mutual attunement of emotions. The situational solidarity that emerges from intense interaction rituals may produce symbols of group membership. This happens when a strong collective focus of attention raises an object or person above normalcy. Now charged with feelings of group membership, that object or person becomes special

(sacral, in Durkheim's analysis) and subject to rules about how it (/he/she) should be treated, by whom and at which moments. People use these symbols to revive feelings of group membership. These symbols, whether ideas, material objects, humans or other living forms, are able to display the collective identity – in the sense that they arouse feelings of group membership – in one image.

Symbols have moral significance, and they honour what is socially valued in a group. Thus, they make people feel like their actions are worthy, valuable and good. In order to invoke group sentiments again, symbols must be 'celebrated' in repeated interactions. Collins (2004, chapter 3) distinguishes three dimensions of symbol circulation. First-order circulation consists of the original interactions from which these symbols emerged. In second-order circulation, people use these symbols in other situations than the one in which they emerged: they may talk about the symbol or respond to it in various ways (such as worshipping, exhibiting or carrying the symbol around). The internalisation of symbols is third-order circulation, whereby people use symbols in their thought processes, reminding them of and reviving feelings of group membership.

While the micro-sociological approach we rely on suggests that in principle anything could be turned into a symbol of group membership (humans, animals, material objects and even ideas), the automated external defibrillators we focus on here are not neutral. They are heavily imbued with expectations: responsible citizens should use them to save lives. Also, these objects reflect pre-given meanings such as the authority of medical technology and a belief that it is possible to overcome failing human bodies. Furthermore, automated external defibrillators provide opportunities and constraints for new social practices through their size and shape, their place in (semi)-public space and through the necessity of learning how to handle and maintain them.

Following Timmons and Crosbie (2014, p. 358), we regard the automated external defibrillator technology as a heterogeneous engineer (Law, 2009) that brings various elements together, in this case the technological and material properties of the device but also the medical-institutional knowledge that surrounds it. The local implementation may not be a smooth process. Automated external defibrillators require new sets of practices that contribute, interfere or compete with already existing practices and identities. In the material-semiotics or actor network approach, the process that enables actants (human and non-human objects) to be part of the network is called translation (Law, 2009). In order to network, actants must be given a meaning and must be treated by other actants in a certain way. From a micro-sociological perspective, we argue that these meanings display the degree to which they are seen and treated as symbols of group membership. Adding these insights from material semiotics, we wonder how moral expectations, pre-given (but not unchangeable) meanings, new social practices and institutional arrangements that revolve around the automated external defibrillators affect the micro-sociological processes in which collective identities emerge.

Based on these considerations, we can now specify our research questions. First, following Collins's (2004, pp. 95–101) 'rules for unravelling symbols', our initial inquiries address the first-order circulation of the symbol. This concerns the original interaction in which the object was turned into a symbol. Hence, we ask about the occasions at which the object has been the focus of collective attention, admiration and celebration.

Second, we consider the second- and third-order circulation of the symbol. Here, we question the invocation of the symbol in other instances than in the original interaction ritual, and the extent to which the object as a symbol of group membership is internalised. Also, we focus on the moral sentiments invoked by the object and ask if people believe that the object should be more widely distributed or advanced; conversely, we ask if the

object and its distribution is repudiated by others. Third, we analyse how the translation of the automated external defibrillators' material properties and institutional network affect and shape new interaction rituals.

Methodology

In this article we draw on fieldwork in two Dutch villages in 2008–2009 and again in 2014. We were originally invited to undertake fieldwork by a Dutch Catholic foundation for welfare work. It was concerned about solidarity in rural communities and declining participation in voluntary associations. To gain a better understanding of social life in contemporary rural communities, the foundation requested close-up analyses of two villages in the least populated areas in the Netherlands. We selected the villages using the following criteria: there should be a primary school in the village, local life should not be dominated by recent social upheaval (such as major agricultural restructuring policies) and the community should not contain over 1500 inhabitants. Eventually, we selected two villages, which we refer to in this article as 'Ledele' (about 1500 inhabitants) and 'Wierderhuis' (about 500 inhabitants).

In 2008–2009, we conducted 20 semi-structured interviews with inhabitants and representatives of the school, church and voluntary associations (including political interest groups) in both villages. Our initial analysis suggested that there was no lack of social solidarity and that feelings of group membership were clearly present. After this round of interviews, we distributed 503 questionnaires through which we investigated the circulation of symbols of group membership. The survey also provided a way for triangulating the results of the interviews and helped to assess the degree to which the opinions expressed by the interviewees – often more prominent villagers – were shared by a larger proportion of the villages' populations. Questionnaires were distributed to virtually every household in each village and were later collected or sent back by the respondents. In each household, one adult – selected at random according to our instructions (using a coin toss) – completed the questionnaire. The response rate was 52%, resulting in a dataset of 264 respondents. This response rate may seem low, but it equals the average rate for this type of questionnaire in the Netherlands (Kalfs & Kool, 1994). Moreover, the questionnaire was rather demanding, including a series of open questions that took more time and attention than the usual checking of closed answering categories in most surveys. As compared to the population, it turned out that only the category of people aged over 65 living in Wierderhuis were underrepresented in our sample.

We returned to these villages in 2014. This second stage of fieldwork focused on the questions of how the automated external defibrillators were used in the past period, whether they were still regarded as a symbol of group membership and how processes of translation had unfolded. We conducted four interviews with members of the automated external defibrillator committees, with the chairmen of the local political interest groups in both villages and with a local inhabitant who had been involved in resuscitation. In addition, one of us joined a one-day training in the use of automated external defibrillators, in which 10 inhabitants of one of the villages were present. Furthermore, we conducted a short online survey, which was completed by 164 inhabitants. Both the interviews, the observation at the instruction meeting and the online survey focused on the meanings and concrete actions (such as use, maintenance, training and organisation) associated with the automated external defibrillators as well as on the perception of health risks. In the following sections we report the results of the analyses, combining each of these various data.

We use pseudonyms for the villages and the interviewees. The pictures included in this article were produced with the aim of publishing them in regional newspapers. Permission has been granted to reproduce them and the people who are shown in these pictures have granted permission to be shown in them.

Findings

Health risk technology as the focus of group feelings

In both villages, groups of residents had launched a fundraising campaign and had several automated external defibrillators installed in their village and the surrounding region since 2006. In the survey we conducted in 2009, we asked about the social life in the village with the following open question: 'Could you mention things you have done together with other villagers that you find valuable or important?'. The automated external defibrillators project scored highest (mentioned by 19% of the respondents) together with village street parties and the (rebuilding) of the sports club facilities (17 and 19%, respectively). The online survey of 2014 asked whether the inhabitants found automated external defibrillators important; of the 164 respondents, 75% indicated they found them very important, 23% indicated they were important and the remaining 2% found them of neutral value (none of the respondents indicated that they considered automated external defibrillators not important). The interviewees spontaneously pointed to the installation of the automated external defibrillators as an object of pride and as sign of group cohesion. For instance, when the chairperson of the rural/agricultural association in Ledele, Evert Hertog, was asked to elaborate on what he referred to as the 'community spirit' of the village, he explained:

> *Don Weenink*: You just talked about community spirit... could you say a bit more about that?
>
> *Evert Hertog*: To give another example. Have you heard about the *AED* [automated external defibrillators]? That's a success story here. You know there are villages or towns who managed to install such a device. But we in Ledele, we installed seven of them! So these actions, that's how it works.

The chairman displayed his pride to belong to the group of inhabitants of Ledele. He called the project a success story, and compared Ledele to other villages that have installed fewer devices. The automated external defibrillators project was here presented as a symbol of the group, a source of pride. Jan Vlak, chairperson of the local political interest group in the same village said:

> *Jan Vlak*: ... for example, the first-aid committee came up with the idea to install *AEDs* in the village. And they said, we can't do this alone, so two of our board members joined them, as did the doctor of our village. They worked hard and within a year, we had seven *AEDs* in the village. This is how we are, we work together if we think it is important.

In this interview extract, the automated external defibrillator signalled the identity of the group ('this is how we are'). It also symbolised the group's ability to 'work together' to achieve goals, which also filled this interviewee with pride: 'within a year we had seven

AEDs in the village'. Feelings of group membership and collaboration among the villagers seemed very much alive in relation to automated external defibrillators. A married couple who were active in various associations in Ledele said:

> *Janine Brink*: You meet one another, everywhere… it's just one network of people knowing and meeting each other.
>
> *Kees Brink*: And that means we can really do something… like the action with the *AEDs*. There was this committee and they arranged a fundraiser… and they collected money for five *AEDs* and the doctor and the shopkeepers and small businesses give the money for another two. So we managed to install seven of these devices! Seven! In addition to that, over hundred people have attended a course to use the *AEDs*.

The automated external defibrillators project formed a symbol of and chance for the realisation of collective goals. The idea of installing automated external defibrillators brought people together, and this movement underpinned the installation of multiple devices. While the communities we studied may have had had a strong sense of collective identity already before the arrival of the automated external defibrillators, our data show that the collective action in which these devices were the focus of attention provided these communities with a symbol that filled their members with feelings of pride and belonging. As we will show in the next section, participants in our study attached more importance to automated external defibrillators as symbols of local solidarity than to their role as mechanisms for reducing health risks.

Health risk awareness

The villagers indicated that the risk of heart failure was a major motivation for the automated external defibrillators fundraising. At the time they started fundraising, there was no ambulance station in the locality. In both villages, a specific incident raised awareness of the potential benefits of automated external defibrillators: in Ledele, a male resident in his forties had died from heart failure and in Wierderhuis interest in these devices was stimulated by a villager who had a relative (who was not resident in the village) whose life had been saved through the use of an automated external defibrillator. When we returned to Ledele in 2014, an ambulance station had been set up in the locality but the automated external defibrillators were still in use. The establishment of an ambulance station did *not* change the commitment of the inhabitants toward these devices: there was no change in villagers' willingness to donate money or in their willingness to attend the training sessions. As in Timmons and Crosbie's study (2014, p. 361), we found that the move to install automated external defibrillators was not driven by quantified risk assessments.

Rather than talking about 'resuscitation' or 'to resuscitate', inhabitants introduced us to a new verb: 'to *AED*'. The use of this term tended to highlight the value which villagers attached to the devices as symbols of group membership, whereas the use of the term 'resuscitate' would have focused more on the underlying health condition and risk. Even when the automated external defibrillator failed to save a life, its status as a group symbol remained uncontested. In Wierderhuis, a young man was resuscitated but died from heart failure only two weeks after being saved. This came as a shock to many villagers. They organised a meeting to share their grief. In this case, the automated external defibrillator

had not the prevented the death of a villager, but it stimulated the organisation of additional interaction rituals in which the villagers focused their attention on the sad loss of a fellow village dweller. The automated external defibrillator committee invited the certified instructor to join the evening, indicating that the arrangement of shared grief was also shaped and connected to the institutional web surrounding automated external defibrillators. The faith in the automated external defibrillator was evident from our 2014 online survey. We asked villagers whether they felt less safe after a failed resuscitation. Only 9.8% of the respondents felt less safe and the overwhelming majority indicated that a failed resuscitation did not undermine their faith in the technology.

When interviewees talked about the automated external defibrillator, they only mentioned health risks or feelings of anxiety in passing. When we explicitly asked inhabitants whether they felt more safe because of the presence of automated external defibrillators, their replies indicated that safety was not a major issue for them, as can be read in the following interview with two members of the automated external defibrillator committee in Wierderhuis:

Jolanda Boersma:	You mentioned a couple of times already that this is a thinly populated area. Do you have the idea that *AEDs* are specifically relevant here? I mean, the risk that something happens?
Loes Hoogveld:	I don't think so.
Monique Achterwal:	Well... when we started we did notice that, yes, we have seen it, if something happens and there is nothing...
Loes Hoogveld:	No, I believe that the folks around here are common-sense: 'OK great we have the *AEDs* and ehm, we all join', but they do not think like: 'Oh do we feel safer now?' That's not how they think about these things over here.
Monique Achterwal:	I don't think so either.

Even though Monique Achterwal indicated that the automated external defibrillators project started because 'there was nothing here', meaning no automated external defibrillators or ambulance service, both villagers also stated that their fellow villagers are not really concerned about these risks.

But risk calculations and prevention logics are not completely absent. One of the respondents reacted to the case we have discussed in which the automated external defibrillator 'failed' and the resuscitated villager died with the comment: 'So the chances are... both is possible. Well, if you do nothing, you will be sure that you will not achieve anything'. Other villagers including participants at the training sessions commented that 'if you don't act at all, you can be sure the person will die'. In the online survey we conducted in 2014, we asked the question whether respondents felt safer after the introduction of automated external defibrillators. Only a minority 8.5% indicated they felt much safer, 50% felt safer, while 41.5% had a neutral opinion about it. These results suggest that a majority of the respondents thought that automated external defibrillators contribute to a reduction of health risks when they were directly asked about this issue, however this awareness was not that evident in the interviews.

Thus we conclude that automated external defibrillators were predominantly seen in terms of pride and solidarity, rather than in terms of health risk. In the next section, we examine how the automated external defibrillators became a symbol of group membership and how this symbol circulated in the community. We will show how this process was shaped by the

material properties and the institutional webs surrounding the automated external defibrillators. Even if the collective action to install automated external defibrillators thrived on existing communal bonds, new groups – like the automated external defibrillators committee – and bonds emerged after automated external defibrillators were installed.

Arrival and translation of automated external defibrillators: primary and secondary interaction rituals

The primary ritual in which automated external defibrillators turned into a symbol of the group was a ceremony, in which the first devices were festively inaugurated in both villages. Figures 1 and 2 offer snapshots of this inauguration ritual. The initiators proudly presented the first device to the inhabitants of Ledele, at the entry gate of the local pub (Figure 1) and during the meeting that preceded its installation (Figure 2). In this ritual, the automated external defibrillator was the focus of attention (as can be seen in Figure 1) and became loaded with feelings of group membership, turning it into a symbol that says: 'we take care of each other's health and wellbeing'.

But the installation is only a first step. To play its role in the network, both the material properties and the institutional networks of the device have to be translated. Consider the role of training sessions for volunteers for instance. In the following extract from an interview with Iteke Jansveld, who was the chairperson of the automated external defibrillator committee in Ledele at the time of the interview, highlighted the importance of the training sessions:

> *Jolanda Boersma*: And who is most knowledgeable how to use the device?
>
> *Iteke Jansveld*: Well,... we have a luxury position in our village, because we have five [note that most other interviewees said seven] devices, and we also have 200 volunteers who have to receive training each year in the use of the device. So that makes for a whole lot of people, because we – our village amounts 1,100 inhabitants, so 200 volunteers is a very large part. All those volunteers take this training and also the follow-up training. So we have two instructors who train all those volunteers.

Iteke Jansveld did not answer the question, but instead proudly points to the large proportion of inhabitants who are involved in the networking of automated external defibrillator in the local community. Hence, these training sessions can be seen as secondary rituals that focus attention on the automated external defibrillator. In both villages, villagers, and in Ledele even school children aged 12, participated in annual or bi-annual automated external defibrillator training sessions. At these sessions, the 'theory' of the device was rehearsed and individuals were trained in its use. These half day events were attended by 10 to 20 people; the first course for each villager was free of charge, and they paid a small fee for further sessions.

When one of us attended a training session – officially opened by the mayor – she was struck by the very lively and convivial atmosphere. This seemed more of a social event, a day out, than a course in life saving techniques. There were several other ambiguities as well. First, at some points in the session the trainers stressed the role automated external defibrillator played saving lives. However, at other points they suggested that automated external defibrillators were an 'in between solution' and that

Figure 1. First-order interaction ritual: Automated external defibrillators turned into a symbol. The installation ceremony in Ledele (photo taken by a member of the automatic external defibrillators committee in Ledele who has given permission for its publication).

Figure 2. First-order interaction ritual: Automated external defibrillators turned into a symbol installation ceremony in Ledele (photo taken by a member of the automatic external defibrillators committee in Ledele who has given permission for its publication).

other responses to medical emergency such as calling the ambulance or manual resuscitation were crucial. Second, the sessions were held to equip villagers with knowledge and techniques to handle the devices. Understandably, villagers were worried that if they used the equipment they might make a mistake. But then the trainers and other trainees replied that it was better to do something than nothing and some suggested that automated external defibrillators were effectively fool-proof. Thus, the defibrillator was both portrayed as a 'dumb device' that needed the skill of a human handler but also as an autonomous being with human-like capacity to intervene and save life.

But these ambiguities did not undermine the trainings sessions. They were dealt with humour and rule of thumb prevention logics. Most importantly, the training sessions contributed to social integration, more specifically the formation of a new group of volunteers. Figure 3 offers a view of this type of second-order interaction ritual, focussing on villagers in Wierderhuis. The photograph shows a group forming a heart, after having successfully completed a course in operating automated external defibrillators.

Villagers saw learning to handle the devices as a moral task, especially for the younger generation. In Wierderhuis, members of the automated external defibrillator committee visited the school regularly to talk about the device, indicating where they were located and why they were installed there. In Ledele, pupils at primary school learnt to use the devices. As the following couple explained:

Janine Brink: It's one thing to get these instruments installed, but then, you need people to attend that course to handle these *AEDs*... if nobody wants to learn how to handle them, well then it would have been a waste. And also, we wanted to maintain this in the future... so the youth...

Kees Brink: The primary school was on national television. Because our school was the first to teach children how to deal with *AEDs*. ...Moreover, now they learn these instruments and can save lives. So, if they will be 16, become drunk and make a mess, they will demolish anything but leave these things intact. So, if you can manage just that, than it's already a good thing in my eyes.

Guus van Born, the teacher of the primary school in Ledele noted that:

> We have that situation with the *AEDs*. We have now seven of them. Those things, they reflect togetherness. Because so many villagers contributed generously, we could buy so many of these instruments. We had an evening with a psychologist, because some parents were a bit afraid whether it would be good for their children to learn how to handle these instruments. Because... it might be traumatising when you need to resuscitate someone. But well, the larger part of parents agreed we give a resuscitation course at school. But some couples worried about it or they had doubts. But in the end... all children had attended that course and received a credential, and it even was on national television.

The moral dimension of the automated external defibrillators was evident in Kees Brink's comments when he said that drunken youth would demolish everything except the automated external defibrillators. Guus van Born, the teacher, noted that automated external defibrillators indicated the 'togetherness' of the village, thus highlighting their symbolic quality. It can be argued that when village children are taught to handle automated external

Figure 3. Second-order interaction ritual: group formation. The picture shows the participants of a course in operating the automatic external defibrillators in Wierderhuis (photo taken by Theo Keizers who has given permission for its publication).

defibrillators at school, they are learning a moral rule: 'we take care of one another'. Thus learning how to deal with these devices reproduced the moral order. This was also evident in the results of the 2014 online survey. Here, we found that young inhabitants under 26 years of age did not differ significantly from the older inhabitants with regard to the importance they attached to the automated external defibrillators, nor did they differ with regard to the number of automated external defibrillators they could locate (significance of differences based on chi-square tests). In fact, 76.8% of the young villagers found the automated external defibrillators very important and 42.0% knew to locate 'many' of them, while this was 73.7% and 29.5%, respectively among all other age categories. Automated external defibrillators represented a broader moral order, rather than being just pieces of health risk technology that was relevant for specific categories at risk.

The findings we have presented up to this point indicate that the symbolic power of the automated external defibrillators was pervasive: it seemed that our interviewees were proud of the automated external defibrillators and the solidarity it stimulated. There was some discussion amongst villagers of the appropriateness of teaching primary school children how to handle the devices, but generally the value of the technology was not questioned (compare this to Timmons and Crosbie's 2014 comments). There was just one notable exception. While the local political group of Ledele was unanimously in favour of the installation of automated external defibrillators, Gert Jansen, the chairman of the local interest group in Wierderhuis found it 'useless':

> They wanted support from us, but we think it is a waste of time and effort. It's a mere symbolic project I am afraid. The chance you can actually save someone with these *AEDs* is really too small.

When we asked other interviewees whether they knew anyone was not convinced of the value of the automated external defibrillators, they either reacted with the rhetorical question 'how could anyone oppose against it?' or they acknowledged that 'perhaps some people might think that seven of these devices are a bit overdone but they keep it to themselves'.

Based on our 2009 survey, we analysed the extent to which various social categories may feel different about the automated external defibrillators project. Here we relied on the survey question: 'Could you mention things you have done together with other villagers that you find valuable or important'. We coded all answers that mentioned the automated external defibrillators as 1 and all others and missing answers as 0 and related the outcomes to gender, age and educational level (captured by a scale with four categories, indicating the highest level of education attained by the respondent: primary school, lower level secondary education, upper level secondary education and higher education). The data showed that inhabitants who indicated that they found the project important reported a higher educational level (t-test value −2.08, $P = .039$) and were more often female (24.8% of the female inhabitants versus 10.1% of the male inhabitants, chi square test value 9.55, $P < .001$), while there was no difference with regard to age (t-test value 0.38, n.s.).

Taken together, although the automated external defibrillators did not seem to trigger conflict and controversy, not all villagers adhered to them equally: some social categories are specifically attracted and committed to this form of health risk awareness.

Secondary interaction rituals that resulted from automated external defibrillators in action

In the period 2006–2014, four people who had acute cardiac arrest in the villages were treated with automated external defibrillator and survived. The villagers recounted these episodes and they circulate as community stories that again, as secondary rituals, recharge feelings of group solidarity. Iteke Jansveld, chairperson of the Ledele automated external defibrillator committee reflected on this in the interview:

> The first time it happened, that guy went to hospital, and they said to him: 'The only reason you are still alive is because you are from Ledele'. Well, those kinds of stories, they travel fast here. And, they make it easier to get people committed to attending these trainings and to donate money for maintenance.

Talking about automated external defibrillators elicited feelings of pride and belonging in the villagers, which was boosted when outsiders praised the community: for example in Iteke Jansveld's comment that the medical staff at the hospital had said that the caring community of Ledele had saved this man's life. Iteke Jansveld was aware that the retelling of enhanced feelings of solidarity, encouraging a continued commitment to the symbol. Such reflexive awareness of the role that automated external defibrillators played as local symbols, supported the development of relatively stable social-material practices, such as training and fundraising, for which automated external defibrillators acted as a catalyst.

Another community-forming practice stimulated by the new technology was the development of a mobile phone text-alert system. In case of an emergency, all villagers who were trained to respond and who were included in the scheme, received a text message alerting them to a medical emergency and supplying the location of the heart-

attack victim. Villagers expressed their pleasure and pride at the number of people who responded to these text alerts. Loes Hoogveld and Monique Achterwal, members of the automated external defibrillator committee in Wierderhuis said:

Loes Hoogveld: In the end, she [the woman who was the subject of the alert] regained consciousness [without defibrillation]. Anyway, we had everything going, I mean the text-alert. It worked well.

Monique Achterwal: It worked extremely well.

Loes Hoogveld: In a split second, we even had two *AEDs* and a number of people who were able to resuscitate her.

And Iteke Jansveld, chairperson of the automated external defibrillator committee in Ledele, told us:

> Well, in case you start to live here in the village, and you might be confronted with a heart problem, you dial 112, well at that moment, twenty volunteers are called, they receive a text-alert. Half of them are asked to get the *AED*, the other half are asked to go over to your house, or wherever you are at that moment. I received such a text once, and it said I had to get the *AED*. I ran to it, but when I arrived at the address, I could not even get into the house, because there were some many people there. We had three *AEDs* and about eleven volunteers. The whole village was there!.

Jan Willems, a volunteer, inhabitant of Ledele, who had been present while someone was being resuscitated, said:

Jan Willems: If someone has cardiac arrest to say it like that, everybody will receive a text, and then everybody goes there. I have been there. There are always enough volunteers on the spot.

Boersma: What happens then?

Jan Willems: People come running from all sides, and they bring the nearest *AED* with them. It happened we had four *AEDs*, while we only needed one of course.

Underpinning these descriptions of events is a sense of pride. Rather than talking about the technology and its advantages, they talked about the community spirit. As Jan Willems said fellow villagers 'come running from all sides', and they were too many villagers and automated external defibrillators.

To conclude, the training, fundraising, text-alerting system and even the sharing of grief when a villager died from heart failure can be regarded as translation processes that were part of the networking of the automated external defibrillators. At the same time, these translations processes acted as a catalyst for secondary rituals in which the group, through activities that focus on this health risk technology, recharged feelings of solidarity.

Discussion

Daily life is full of campaigns to increase healthy lifestyles and health risk awareness. While theories of late modernity emphasise the individualisation of risk, bio-sociality theories point to collectivising forces herein. In our micro-sociological perspective, the

case of automated external defibrillators shows how health risk awareness and the related prevention technology can turn into a collective endeavour that provides a sense of group membership. Through action, automated external defibrillators make visible matters of life and death and at the same time they suggest control through their pre-given status as medical technology. Translated into mundane objects, leaflets, training sessions or fundraisers, this medical technology reconfigures existing local networks, revolving around the defibrillators as a symbol of the group. The health risk-related identities in the networks under study proved to be enduring: even the failure of automated external defibrillators to save life did not shatter their symbolic value. The introduction and maintenance of the automated external defibrillators did not engender much controversy in the villages studied. Rather, differences were smoothed out by pragmatic prevention logics and positive feelings of group membership, which were, however, not shared by everyone to the same degree. All in all, our case demonstrates how health risk awareness forges collective identities.

We will now discuss three shortcomings of this study that could be regarded as issues and challenges that can be taken up in future research. First, our study is restricted to health risk-related identities at a local level, where a sense of community was already in place. This may give rise to the objection that the micro-sociological approach lends itself only to such local settings. However, interaction rituals can expand into translocal networks. Consider for example the healthy school food programme which was developed in Rome and travelled to many cities and countries around the globe (Sonnino, 2009). In Rome, municipal policy makers engaged in a series of intensive interaction rituals and proclaimed a 'quality revolution'. They dismissed the 'bad food' Rome's children had to eat at school (Liquori, n.d., 3). Instead, their aim was to introduce 'quality food'. This kind of prevention campaign, which has attracted worldwide attention and following, in turn increases the chance for cohesive action to arise in particular schools. The micro-sociological approach could be usefully applied to study such health risk movements. One question for future research then is how the interaction rituals and networks that create health risk-related collective identities depend on opportunities that are shaped by already powerful actors.

A second limitation of this study is that we focused on a successful case only (we 'selected the dependent variable'). To work towards a theory of the relationship between health risk prevention and collective identities, it is important to also pay attention to cases with a lack or absence of cohesive effects. Studies that focus on the question why in some case health risk-related collective identities come about whereas in others they remain absent, will not only provide important theoretical insights but also will contribute to the development of successful health risk programs that are energetically supported by participants. More specifically, future research could focus on the role of pre-existing feelings of group membership, the translation of the institutional and technological webs surrounding health risk technology, the pre-given medical meanings as well as the relationships between them to evaluate the conditions under which health risk-related collective identities emerge.

A third limitation of our inquiry is that our case is clearly a very positive and urgent one: the technology discussed here aims to save lives. However, other forms of health risk technology serve less spectacular goals and the question is to what extent less urgent forms of health risks are equally likely to bring about collective identities.

Conclusion: collective health identities as symbolic interaction in actor networks

Our contribution shows that the study of health, risk and society benefits from perceiving health risk prevention endeavours as symbolic interactions within actor networks. In this last section, we address the question under which conditions health risk-related collective identities can arise. The following propositions provide preliminary answers to these questions.

(1) Prevention policy is relevant as a context in which feelings of group membership can flourish. In the automated external defibrillators case, citizens' initiatives met fertile ground in general prevention policy and in the policy to install automated external defibrillators in public buildings. Therefore, we suggest that it is worthwhile to further explore how policy influences the chance for cohesive action to take place. This might work as follows. First, the chance of collective identities to develop increases if prevention policy facilitates mutual co-presence. Conversely, if prevention policy physically separates people, collective identities are less likely to develop. Second, the chance that collective identities arise is greater if health policy allows for or stimulates shared attention and emotional attunement by providing symbols, material objects and interaction through the implementation of policy. Conversely, where policy does not facilitate shared attention and emotional attunement, cohesive action should be less prominent. Putting interactions in context, we suggest that chances for cohesive action are greater if newly established group symbols resonate with existing and positively valued group symbols. However, this is not an iron law since stigmata can be turned into symbols of group identity.
(2) Newly created symbols need to circulate. This can happen through policy implementation networks, market mechanisms or media coverage.
(3) Feelings of group membership benefit from the combination of humans and technology, in the sense that prevention technology itself becomes the sacred object. Health risk prevention technology affords cohesion because it suggests authority and contributes to the widely shared value of healthy life. We suspect that this is especially the case if the technology reaches out to people who are not directly involved as a patient or relative.
(4) While collective identities might be easier to establish if an in-group is pitted against an out-group, this is not an iron law either. In the case of health prevention, combatting a disease might be just enough of an enemy outsider to support group formation. But even in the case of automated external defibrillators, we found that some social categories (females and higher educated inhabitants) were more attracted to this symbol than others.

In general, the chance for interaction rituals in actor networks to produce collective identities around health risks depends on the opportunities afforded by politics, culture, media and technology. Paradoxically, the highly technological and rationalised systems of health risk prevention can give rise to interaction rituals in which technology becomes animated as an emotional symbol of group membership.

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