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## PSYCHOLOGICAL FACTORS INFLUENCING THE USE AND DEVELOPMENT OF COMPLEMENTARY CURRENCIES

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### ABSTRACT

This paper presents a novel socio-psychological analysis of the motivations and experiences of mutual credit members in the United Kingdom and in the United States. Primary data comprised of interviews and participant observation, supplemented with secondary data analysis of organisation documents, and a review of the literature in psychology, sociology and economics. Group members were motivated to secure personal resilience against hardship, and the personal agency that results from this, along with the experiences of community and cultural identity positioning, motivates engagement. Consequently these groups are defined as cultural communities offering personal resilience to members through informal reciprocity. This approach, which prioritises the social aspects of exchange, has implications for the design of complementary currencies, particularly mutual credit initiatives, and demonstrates the value of engaging with the fields of psychology and sociology in developing interdisciplinary understandings of alternative economic practice.

### KEYWORDS

Complementary currency, mutual credit, sustainability, reciprocity, resilience, community

## 1. INTRODUCTION

This paper presents a topic of analysis that has not been widely addressed within complementary currency research: the psychological experience of complementary currency use among group members. Various types of complementary currencies include digital currencies such as Bitcoin, local currencies such as the Bristol Pound and Brixton Pound, business barter networks and mutual credit systems, which are currency systems designed for specific community groups to support sustainability, equality and greater connection between individuals (Blanc, 2011). While it is clear that mutual credit offers a sustainable alternative to mainstream economic practices in the developed West, these organisations remain on the fringe. Perhaps, through understanding the motivations and experiences of those who engage with mutual credit initiatives, the conditions for a more widespread uptake of these practices may be nurtured. As such, the contribution of this paper is to explore inductively the psychological factors determining the use of mutual credit. These include the motivation for members to join such groups, the ways they experience group membership and what their preferences are. Psychological insights are then used to inform the design of mutual credit systems, offering a valuable supplement to the range of quantitative and macro-economic assessments within the field of complementary currency research. Given the growing understanding that mainstream and alternative economic relations engage individuals in differing ways, an investigation into the psychology of complementary currency use is timely.

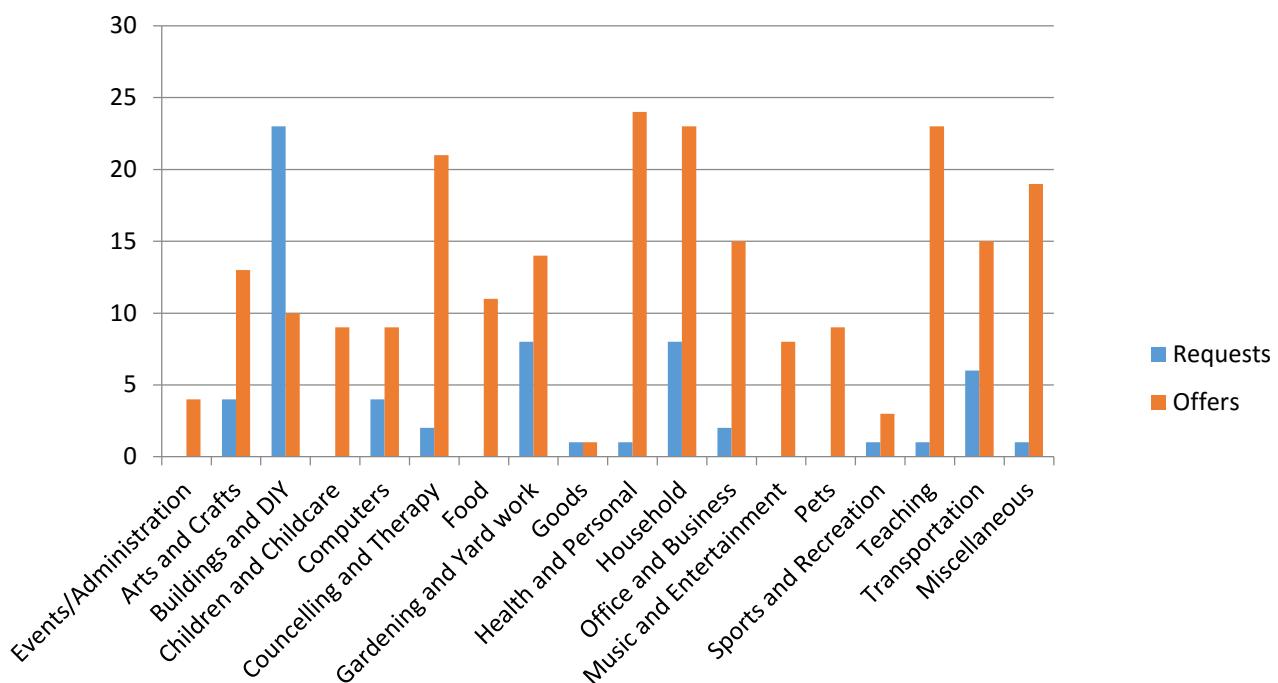
Two groups were selected for this case-study research: Dane County Timebank (DCTB) in the United States and Bristol Local Exchange Trading Scheme (LETS) in the United Kingdom. Without aiming to be representative of whole populations, this cross-cultural group sample means that these findings have theoretical transferability, not only to similar initiatives in the UK but also to ones in the United States. The following sections will briefly introduce the chosen organisations and present the theoretical framework for the study, before outlining the methods of data collection used.

## 2. INTRODUCING THE GROUPS

### 2.1 Bristol LETS

LETS involves the use of a complementary local currency alongside cash, and produces a directory of goods and services offered by its members. The virtual currency is then used to record the transactions that take place between them. As such, LETS makes local economies more resilient by addressing two failures of the global economy: they provide an abundant medium of exchange and create a currency that cannot leave the area (Seyfang, 2004). LETS have been implemented in 39 countries across the globe, each with a unique socio-economic landscape. According to Greco (2001), in 2001 there were approximately 1800-2000 groups worldwide and in the UK the number expanded from only five in 1992 to an estimated 450 in 1998 (Lee 1996; Williams 1996). However, evidence suggests that following their rapid introduction, the replication of LETS has plateaued. For example, Williams (2001) reports 303 groups operating in the UK, with an estimated total membership of 21,800 and an average of only 72 members per group.

Compared to the average, Bristol LETS with 146 accounts, of which only 26 are inactive, demonstrates a healthy trading community in the South West of England. The group is managed by a "core-team" of ten members who maintain the record of transactions and follow up membership. Other activities include doing transactions with other members, planning and initiating a vegetable co-op, organising social events and some campaigning. Figure One depicts the online 'requests' and 'offers' made by LETS members. While the number of offers is large and varied, particularly in creative and therapeutic activities; the range of requests are more practical, including requests for help with DIY, Gardening, Household and Transportation. This indicates the differing ways in which LETS members are willing to, and would like to, use their time.

**Graph 1. Online 'requests' and 'offers' made by members of Bristol LETS**

The Bristol LETS core-group is primarily focussed on maintaining its organisational structure and membership numbers by regularly contacting members with inactive accounts. Minimal external engagement with the wider public was also expressed by Dave, the chairman, who admits that: 'There hasn't been anything terribly organised in terms of recruitment.' Instead, he is 'prepared to wait' for membership numbers to rise.

The focus of Bristol LETS is not therefore to engage with mainstream audiences in order to affect immediate social change, but rather to provide a space for likeminded individuals to experience community and enact ideological values based on economic sustainability. However, this focus on protectionism and continuation, whilst appealing to a more elderly demographic, contradicts the professionalism and technological development occurring within the complementary currencies movement, and as a result, innovative "second generation" mutual-exchange models have begun to attract wider sections of the population (Schroeder, 2011). Nevertheless, LETS continues to remain functionally distinct from other mutual credit initiatives in the social service sector and as such, Bristol LETS continues to flourish as a grassroots "niche" (Seyfang, 2014).

## 2.2 Dane County Timebank

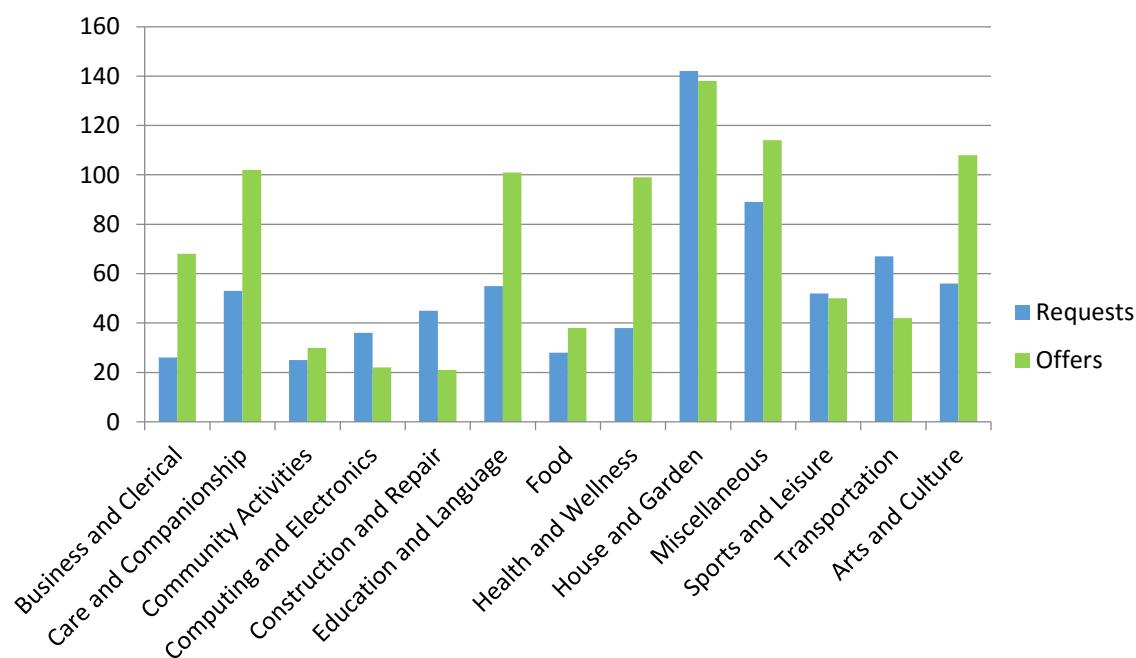
Timebanking operates on the similar concept of one hour of service given to another member earns one time-credit, exchangeable for an hour of service in return. There is no legal guarantee or monetary equivalent to the value of hours, and goods are priced based on the time taken to produce or obtain them. The concept was popularized by Edgar Cahn who applied the principle of "Time Dollars" to social projects in Washington D.C. in order to address inadequacies in national social service delivery (Greco, 2001). As a result, Timebanking focuses more on social service provision than LETS, and this has had global appeal. Groups have been established in 34 countries (Martin, 2010; Madaleno, 2012). There are 300 Timebanks in the United States and over 300 in the UK involving 25,000 participants who have given and received over one million hours of mutual support (Cahn, 2000).

In 1995, the "Madison Hours" complementary currency was established to promote economic self-reliance in Madison. Then, in October 2013 management and assets were transferred to the Dane County Timebank, which was established in 2005. The DCTB is currently managed by a board of nine directors (elected every January) who oversee three paid staff members. Its rapid expansion into neighbourhoods throughout Dane County is managed through hubs where residents in a given neighbourhood elect their own "Kitchen Cabinet" (Steering Team), who

make day-to-day policy decisions for their local area, host regular social events and organise local projects. These include "Maxine's Timebank Store", green carts selling fresh vegetables, an energy project and medical transportation throughout the Madison metropolitan and surrounding areas.

For many, the Timebank provides an essential means by which the necessities of daily life can be met at no financial cost. In contrast to Graph 1, synergy is evident between the offers and requests of Timebank members in Graph 2. The range of requests is greater in number and more varied than those at Bristol LETS, and these are met by a balanced distribution of offers. The size and activity of the Dane County Timebank indicates that it is much more, as its founder, Stephanie envisages: 'Integrated, and part and parcel of the fabric of people's lives and not even a question'.

**Graph 2. Online 'requests' and 'offers' made by members of DCTB**



The Timebank provides an open online space in which admitting the need for help with daily chores, household maintenance or companionship is both acceptable and encouraged. Furthermore, the range and creativity of the services offered by members indicates a compassionate understanding of the needs faced by others, along with a willingness to provide personal services that meet those needs.

However, in terms of member engagement, regular activity is low. In 2015, of the 2,250 registered members, only 200 accounts were active, that is, have done transactions in the past year. These members have, however, completed 1,431 transactions, totalling 6,455 hours. This is an average of 7 transactions per year for active members and it may be assumed that this activity is supported by the development of a natural community. Indeed, this is a phenomenon that is common among LETS and Timebank groups, where regular trading communities rarely grow beyond 150 members (Wellman, 2012; Bendell and Slater, 2015).

### 3. THEORETICAL FRAMEWORK

This interdisciplinary study of mutual credit membership is situated at the intersection of literature in sociology, psychology and economics. In the field of environmental psychology, various models and approaches have been developed over the past 50 years to better understand the motivation to engage in more sustainable behaviour. However these models, which draw on a range of cognitive variables, are found to be inadequate for modelling

complex behavioural patterns (Barr, 2011). In particular, these “rational choice models” assume that behavioural patterns themselves are universal, and in failing to consider the deeper motivations for behaviour change, to date they have had low predictive ability.

Rather, this study draws on Social Cognitive Theory to offer an agentic perspective on the motivation of individuals to partake in Bristol LETS and the Dane County Timebank. In Social Cognitive Theory, individuals are not seen as being reactive, shaped by environmental forces, as was conceived by behaviourist psychologists during the 19th century (Gazzaniga, 2010). Instead, “agency” refers to the capacity of an agent to act in the world, and according to Bandura (2001) this is the essence of humanness. To be an agent is to influence intentionally one’s functioning and life circumstances, and in turn this influences personal development, adaptation, and change (Bandura, 1989, 2001). The degree of personal agency experienced by each individual is contingent, however, on individual differences in personality development, emotions, and biological factors as well as situational and socio-structural factors (Rootman, 2013). To understand the motivations and experiences of mutual credit members, the role of personal agency, and its relationship to other factors, is investigated as a topic of this paper.

A factor that is particularly important to this investigation is the nature of sustainable economic behaviour. So far, research in environmental psychology has failed to account for the way in which economic practices are socially embedded, and the role of this embeddedness in environmental sustainability. Some small consideration has been given to income and wealth as factors determining pro-environmental behaviour (Huddart Kennedy et al, 2015), but on the whole a more in-depth consideration of economic factors is a striking omission within the socio-psychological literature on behaviour change. From an economic perspective, progress has been made in the emerging sub-disciplines of neuroeconomics and economic psychology to bridge this gap and in this line, Guagnano, Stern, and Dietz (1995) criticise the reluctance of applied researchers to merge insights from economics and psychology. These insights are required, not only to manage the negative social and environmental consequences of current economic practices, but to develop new, collaborative economic models.

Indeed, one psychological element that is common to the economic models investigated here is the practice of reciprocity. Cosmides and Tooby (2004) argue that our cognitive propensity for reciprocity exists in humans in the same way as we have the innate propensity to learn language. Specific behavioural responses to exchange are learned, however, and this depends on the environment, individual differences, family and societal exchange processes. Consequently, cognitive functions work in tandem with the historic institutions that dictate the “rules of the game” (North, 1990), and as the market economy has developed so our cognitive mechanisms adapt, and neither can be investigated in isolation.

But what are the cognitive elements of reciprocity? First, reasoning procedures that detect cheaters or “free-riders” are required to avoid exploitation (Cosmides and Tooby, 2004). Negative sentiments toward-free riders are triggered by a ‘willingness to participate towards a group goal’: the more willing one is to participate, the more negatively one feels towards free riders (Cosmides and Tooby, 2004). Sentiments that reward contributors to the group, on the other hand, are triggered by ‘self-interest in the group goal’ (Price, Cosmides and Tooby, 2002). The interpersonal nature of community reciprocity therefore allows individuals to exercise their agency to influence others, for example by rewarding contributions or immediately inflicting social punishments, which consequently lifts cooperation levels towards a welfare-maximizing 100 percent contribution to the common pool (Price, 2002). These findings, which highlight the emotions associated with reciprocity, point to its role in maintaining a stable group dynamic.

Group experiments in economics show that people continuously monitor the state of play, assessing for the presence of free-riders and adjusting their behaviour accordingly (Fehr and Gächter, 2000; Kurzban et al., 2001). However, in situations when immediately punishing free-riders is not possible, participants strategically reduce their contributions to the expectations of rational choice theory (Kurzban et al., 2001). In a new exchange situation, however, instinctive voluntary cooperation returns. Hoffman et al. (1998) therefore conclude that:

‘We should expect subjects to rely upon reciprocity norms in experimental settings, unless they discover in the process of participating in a particular experiment that reciprocity is punished and other behaviours are rewarded. In such cases they abandon their natural instincts, and attempt other strategies that better serve their interests.’(p.350)

Rather than considering the expectations of rational choice theory to be a natural state, these studies suggest that such strategies emerge as instincts to act in the service of a group are thwarted and turn to self-serving interests (Kurzban et al., 2001). In studying the psychology of economic behaviour, it may then be suggested that rational choice behaviour is promoted in the global economy through widespread free-riding and anonymity, while in mutual credit initiatives, individuals are able to exercise their agency to promote healthy group exchange norms, thus incentivising membership.

However, each individual participates in multiple and varied social groupings, and therefore embodies multiple identity constructions simultaneously, each one becoming salient in relation to the demands of the given situation (Burr, 2002). Membership within such groupings requires individuals to consider the group or culture as their "generalized other" or "frame of reference" to which they aspire or wish to incorporate into their self-identity (Mead, 1934). It must be seen as attractive, or in the interests of the individual, to belong to that group. In light of growing economic insecurity, unemployment and the existential threat of climate change among other environmental threats, it could be argued that membership within mutual credit initiatives may be seen to confer a survival advantage against the potential shocks of peak oil, climate destruction, and economic instability (Scott-Cato and Hillier, 2011).

Indeed, the ability for individuals and communities to recover from devastating events such as such as floods or droughts is crucial to their ability to thrive. Research funded by UNESCAP found that the ability of communities to pool social, natural, and economic resources allowed them to overcome disaster much faster than communities with an individualistic mind-set (UNESCAP, 2013). However, even when the risk of a natural disaster is not immediately perceptible, certain individuals prepare for disruptions in social or political order. This "survivalism" movement has, since the 1960's, focussed on emergency and self-defence training, stockpiling food and water and preparing to become self-sufficient. Many of these interests in self-sufficiency and preparedness are shared by adherents of the "back-to-the-land" movement. Importantly, these "survivalist" strategies have also been suggested as strategies that aim to enhance personal and psychological resilience, allowing individuals to better adapt to stress and adversity (APA, 2014).

In this respect, the distinction between personal and community resilience may be blurred. On an individual level, resilience is defined as the ability to adapt to stress and adversity as a result of family, health or financial problems, for example (APA, 2014). Rather than being a trait of the individual, it is a process of developing and practicing coping techniques (Rutter, 2008; Klohnen, 1996). These may be individual coping strategies, or may be supported by families, schools, communities, and social policies that make resilience more likely to occur (Leadbeater et al., 2005). Through these factors, psychologically resilient people develop an optimistic attitude that enables them to balance negative emotions with positive ones, allowing them to more easily overcome crises (APA, 2014). Given the social support aspect of individual resilience practices, clear links may be inferred between the sociological literature on community resilience practices and psychological theories of personal resilience. Adger (2000) also notes the similarities between resilience in the social and natural world. Social resilience is defined as the "ability of a system, from individual people to whole communities, to hold together and maintain their ability to function in the face of change and shocks from outside" (Hopkins 2008, p. 12). Discourses about resilience within the field of environmental sustainability also define social resilience in terms of self-reliance through a reducing dependency on global and national economic ties; what Bailey et al. (2011) have termed the 'relocalisation agenda'.

But what is the motivation for individuals to develop the skills, competencies and values that promote personal and social resilience? These motivations are investigated by looking at the meaningful social context of LETS and Timebank initiatives. Situating this investigation within the socio-psychological and socio-economic literature demonstrates the value of further engaging with the fields of psychology and sociology in the development of alternative economic forms. In particular, Social Cognitive Theory considers behaviours as being "agentic", as well as taking a multi-level approach that includes proxy, and collective agency at the level of society (Bandura, 2001). Another important theoretical contribution from psychology is Social Identity Theory in understanding the multiple individual, group and cultural identities of members (Turner et al., 1987; Sleebos et al., 2006; Kennedy, 2011). Furthermore, this approach extends the traditional socio-psychological study of behaviour change to present an analysis economic behaviour.

Engaging with Cosmides and Tooby's (2004) theory of reciprocity, it is argued that community groups who actively conduct reciprocal practices provide a valuable topic for research. The suggestion that our cognitive mechanisms for reciprocity solve immediate social exchange problems rather than those based on uncertain and abstract information, reinforces the potential role of the small social group, and highlights the importance of interpersonal, reciprocal interaction within communities (Hoffman et al 1998; Cosmides and Tooby, 2004; Wilson and Ostrom, 2013). To date, much research in this area has relied on public goods games in experimental economics (Fehr and Gächter, 2000, Yamagishi, 1986), and so a qualitative account of members' experiences provides ecologically valid findings that supplement those of experimental research.

This multi-level study therefore includes both an individual socio-psychological perspective and a group level socio-economic perspective. It occupies an interdisciplinary space, bringing together the fields of psychology, sociology and economics in understanding the motivations and experiences of participants in mutual credit initiatives. The following section addresses the research methodology, followed by a presentation of the findings and their implications, both for the literature discussed and for the design of mutual credit systems.

#### 4. RESEARCH METHODOLOGY

A mixed methods approach was taken in this study. The methods used were semi-structured interviews, analysis of group materials, conference proceedings and online data repositories, as well as observation of group events and meetings. Data was collected over a period of five months, from January-May 2014. A sample of five members from each group was selected on the criteria of age, gender and duration of membership. This distribution, along with educational attainment and occupational data, is shown in Table One.

**Table 1. Participant Information**

| Name/<br>Pseudonym | Group | Gender | Age   | Duration of<br>membership | Educational<br>attainment   | Occupation                                   |
|--------------------|-------|--------|-------|---------------------------|---|--|
| <b>Hilary</b>      | LETS  | Female | 45-50 | 7 years                   | Diploma in<br>Clinical Hypno-<br>therapy, NLP<br>and Life Coach-<br>ing   | Hypnotherapist<br>and Life Coach             |
| <b>Karaline</b>    | LETS  | Female | 55-60 | 10 years                  | BSc in Infor-<br>mation Tech-<br>nology                                   | Retired IT con-<br>sultant                   |
| <b>Annette</b>     | LETS  | Female | 50-55 | 10 years                  | BA: Drama and<br>English Lit,<br>Diploma in<br>Clinical Hypno-<br>therapy | Hypnotherapist,<br>Aroma-<br>therapist       |
| <b>Mike</b>        | LETS  | Male   | 60-70 | 3 years                   | BSc in Infor-<br>mation Tech-<br>nology                                   | Retired IT pro-<br>fessional, volun-<br>teer |
| <b>Dave</b>        | LETS  | Male   | 55-60 | 2 years                   | PhD   | Retired teacher,<br>Languages tutor          |
| <b>Katie</b>       | DCTB  | Female | 25-30 | 1 year 9<br>months        | BSc Degree in<br>Psychology   | Support worker                               |
| <b>Stephanie</b>   | DCTB  | Female | 40-45 | 11 years                  | BSc Degree in<br>Media studies  | Director: DCTB<br>and Mutual Aid<br>Networks |

|                |      |        |       |         |   |  |
|----------------|------|--------|-------|---------|---|--|
| <b>Joe</b>     | DCTB | Male   | 60-65 | 2 years | -   | Retired                                  |
| <b>Irene</b>   | DCTB | Female | 25-30 | 7 years | PG degree:<br>History of<br>Science and<br>Medicine | Graduate stu-<br>dent and volun-<br>teer |
| <b>Natalie</b> | DCTB | Female | 30-35 | 2 weeks | PhD in Early<br>Modern Histo-<br>ry                 | Doctoral Stu-<br>dent                    |

The sample was selected to cover both recently-joined and long-standing members in order to capture the dynamic nature of group membership: why individuals choose to join, why they decide to stay for many years, and how their perceptions change over time. Although the sample does not aim to be representative of the Western population in general (e.g. all participants are white British or American), it does aim to provide a fair distribution of perspectives within the organisations studied. The sample includes members with leadership positions within the group (Stephanie and Dave), and those without. Participants also cover a relatively balanced distribution in terms of their age and gender. The sample comprised a ratio of 70 percent women to 30 percent men across both groups, reflecting the gender distribution within these organisations. Bristol LETS attracts a more elderly demographic than the DCTB and so finding an interviewee aged 25-30 at Bristol LETS was not possible within the time frame. Consequently ages ranged from 45-70 years in Bristol LETS, while in the DCTB they ranged more broadly from 25-65 years.

Although participant selection was based on the above criteria, data regarding participants' educational attainment and occupation was also collected to aid interpretation of the findings. The majority of interviewees have undertaken further education, however only 40 percent are engaged in full-time employment. Although income was not disclosed, it may be determined that these participants tend to fall into the middle to lower socio-economic groups. The impact of these demographic factors on members' participation is discussed in section 7.

During 45-60 minute interviews, participants described their reasons for joining the group, their experiences and relationships within the group, within their local neighbourhood and their family life. Interviews were conducted on location, recorded and transcribed according to the theory and methods of Interpretive Phenomenological Analysis (Smith, 1996; Pietkiewicz and Smith, 2014). Because IPA is concerned with understanding lived experience, interview questions were designed to glean information about participants' sensory and perceptual experiences as well as thoughts, memories, associations (Smith et al. 1996). Interviewees also commented on the wider contexts and issues relating to their group membership, as well as on the organisation and rules of the group. Along with verbatim transcriptions, other meaningful information was recorded in a research diary soon after the interview (Hollway and Jefferson, 2005).

Observations of group meetings served to contextualise the interview data, and secondary data from group websites, blogs, and other media provided a comprehensive overview of the groups, the wider social movements and socio-political contexts. Secondary data sources were selected based on their appropriateness to the groups and to the research question. Sources were also cross-referenced to ensure the quality and accuracy of the data (Yardley, 2000). This study adheres to ESRC's Research Ethics Framework and full ethical approval was granted by the University of Bath. To protect participant anonymity, pseudonyms are used in this study upon request and informed written consent was given by all interviewees (Grinyer, 2002).

The following section outlines the main findings of the research study. These come under three themes: personal resilience, informal reciprocity and alternative cultural identity. Group members' personal and psychological experiences of these phenomena are documented using verbatim extracts. This is followed by a discussion on how these insights might inform the design of mutual credit systems, before concluding with a final discussion.

## 5. FINDINGS

### 5.1 Personal Resilience

'Resilience' was unanimously expressed in multiple forms by interviewees across both organisations. This represents the clearest example of personal agency being exercised among group members, leading to the experience of empowerment associated with the activities they undertake. For example, at a LETS meeting, which was held in a bustling local café, Annette, a 47 year old part-time therapist told the story of how she recently was unable to thread a bobbin on her sewing machine. She had lost the manual and so called upon the assistance of another LETS member, who came over and helped her so that she could finish making her lodgers' curtains. She exclaimed that the experience made her:

'Feel powerful as opposed to powerless. It's just reassuring to know that somebody would want to do that, I mean ok I've done other things for people at LETS but it still feels quite nice to receive'.

She emphasised the reciprocal nature of the transaction, describing it as,

'Like a web... that leads onto all sorts of other conversations...unexpected useful things.'

Annette's primary reason for joining LETS is to maximise her own resilience through such opportunities. Her opportunistic attitude demonstrates that she is aware of the possible benefits of reciprocal interaction and that she is pragmatically driven to reap those benefits for personal betterment. Here, in light of economic necessity, her personal agency is exercised in self-interest, that is, through giving to others she is able to receive, and it is the reassurance of receiving kindness and compassion during times of need that provides her with satisfaction.

Over coffee at the meeting, Karaline, another member of LETS, explained that she prefers giving rather than receiving. She emphasised her personal desire to provide for others' needs, stating that:

'To be in LETS and enjoy it you must get satisfaction out of doing a service for somebody... I need a ladder that can get up to peoples' roofs because there's a real need for that'.

This statement indicates that although her actions are altruistic, in giving she also satisfies her own desire to contribute, thereby assuring herself personal security in the future and establishing belonging within the group. Despite their differences in emphasis, Karaline and Annette both make the decision to engage in reciprocal interaction through LETS to ensure their own personal resilience against times of isolation and vulnerability. This reassurance is particularly pertinent based on the high number of LETS members that suffer from illness or isolation. As Karaline, who has multiple sclerosis, comments:

'LETS works where people have been taken out of the conventional commercial world of "OK GET MY JOB and then 80% of my life IS MY JOB and then I've got this little bit left over, it works where people have been taken out of that functioning.'

This, combined with the limited physical capability of members to become fully self-sufficient, is associated with feelings of helplessness and frustration. LETS members express a concerned and often pessimistic outlook for the future and their shared understanding is that LETS currently occupies a "niche" that in itself cannot fully address issues of global sustainability. The limitations of the LETS system are also noted by Dave, the chairman, who states that:

'We're not functioning as an alternative economy- we're providing a sort of layer of things on top'.

With regard to the challenges facing society, Dave states that 'I wish I could do more', while Karaline elaborates,

'I'm very frustrated that I can't do very much, there's huge, huge issues happening out there and we're all so helpless.'

Nevertheless, conducting reciprocal practices allows members to exercise their agency in order to live in a manner that they consider to be morally upright. From these quotes it is clear that LETS is not a protest movement,

but through the practice of reciprocity, members gain satisfaction from upholding an ideology about the resilience of humanity on a global scale. As Dave states, LETS offers:

'The feeling that something is being done, and you're involved in something that MIGHT turn into something bigger if things happen to our economy you know (haha) we're developing something that is a bit more resilient.'

Here Dave uses the term "resilient" to describe the practice of LETS members who aim to prepare for social, economic and environmental crises (APA, 2014; UNESCAP, 2013). Indeed, his use of the word "resilient" suggests an overlap in meaning between the "survivalist" practices of mutual credit initiatives at the level of communities and societies, and the personal psychological resilience experienced by group members.

However, age is another factor to take into consideration when analysing these findings. As noted previously, interviewees at Bristol LETS fall into a higher age bracket on average than those at the DCTB. Their more advanced age may indeed influence their motivations and experiences as well as their ideological perspectives. For example, LETS members express the notion of adaptation by necessity in which they do not initiate but instead wait for social change to occur, as Karaline states:

'If we can keep LETS going, if society is having to change then we're already there with a basic philosophy if we can keep it going, to go 'ok we're here to be used', that's MY feeling but hey, I'll be dead long before we get to that point (laughs)'.

While her motivation here is not to meet her own personal needs, she also experiences satisfaction as a result of contributing towards the resilience of future generations. But because the importance of LETS is seen to depend on its future rather than immediate economic necessity, personal agency is limited by the ideological nature of participation, as noted by Dave's repetition of 'idea' in the following statement:

'My main reason for joining was an ecological-ideological one. It's an idea which could be part of a much bigger idea and that's probably the biggest reason for me joining.'

In contrast, the younger DCTB members are motivated by economic necessity to take responsibility for their own and each other's welfare. This sense of responsibility results in the coordination of voluntary welfare provision and an engaged awareness of the ways in which social needs can be met collectively. This sense of urgency is distinct from the more ideological approach taken by members of Bristol LETS.

In the context of private ownership and minimal state provision, Stephanie's strong belief in the choice, agency and responsibility of each individual plays an important role in empowering others through the DCTB. The Timebank contributes towards personal betterment through skills-swaps such as talks, classes and private tuition. For example a young woman doing care work for the Medical Transport project (Katie) comments that:

'A couple of things that I'd really like to learn to do are, I don't really know how to use the sewing machine and it's like well; I want to go and earn these hours gardening so that I can go out and, you know, even just better my OWN LIFE SKILLS (emphasis)'.

According to Katie, the potential to better oneself through learning new skills provides the incentive for members of any age and ability to engage in community work, as Joe, a retired member of the DCTB emphasises:

'It doesn't matter who you are, you can offer something.'

The experience of collective agency and the pragmatic, progressive thinking demonstrated by DCTB members in this study is further exemplified by Stephanie (the director) who aims to "redesign work" through the Timebank, as she states:

'I feel like it is really straightforward, the things keeping us from doing something more sensible are ONLY, are only engrained false notions of what the world is and what the world can be, and as soon as people are able to take off the blinders and are able to understand how imaginary it is, I mean especially like the financial system and the way that we're controlled by it as individuals, for example staying in a job we

hate because we are afraid of financial insecurity...I get that! And I want to provide security so people don't have to do that.'

This excerpt suggests liberation from constraints on reasoning. Instead of subscribing to economic conventions such as 'staying in a job we hate because we are afraid of financial insecurity', Stephanie chooses to subscribe to existential indicators for success. This empowers her sense of self-efficacy (Bandura, 1997), leading her to see 'taking off the blinders' as a conscious choice that one makes when they are 'able'. Importantly, this deep sense of personal agency, whilst being seen as incompatible with mainstream work and consumer practices, is rather expressed as part of a more unconstrained, ecological understanding of 'what the world is and what the world can be' and it is from this perspective that group members experience a sense of personal resilience.

## 5.2 Informal reciprocity

A common finding within Bristol LETS and the DCTB is that members sometimes forget to record their transactions online and might then only do so in order to maintain the online system, as Annette from LETS describes:

'I think we did do Ideals (the local currency) just to keep the record system, so it's seen you paid somebody in ideals, just to inspire other people, to make it look active, which reminds me I must put some ideals for Lara on.'

This tendency towards informalising transactions highlights a preference among members for a direct and personal "gift mechanism" between individuals over a more formal community-based system, despite both processes being a means of building and strengthening relationships within communities (Lietaer, 2014). For example, Annette expresses her preference that:

'I do really like it when it's a straight swap if that's possible, like I had all my family's bikes serviced and I did an aromatherapy massage for each service and that was just, you know the bike mechanic had a bad back and it was just like "this is nice and simple"'.

Lietaer (2001) states that, when giving somebody a gift there is a "counter-gift" that is not manifested, which creates an imbalance. This acts as an investment leading the receiver to be more positively oriented towards the giver in future relations. This "gift economy" based on informal reciprocity is instrumental in building trust between group members. In a mutual credit system, however, the receiver is not personally indebted to the giver. Rather than being an individual process, the gift process occurs in relation to the community of individuals that use the currency, that is, it is a collective process in which, as the giver is reimbursed with credits, a relationship is formed with the entire community of currency users or potential reciprocators. Reports from group members, however, show a preference for informal gift exchanges that confer the emotional experience of "reciprocal interdependence" between members (Gregory, 1982).

Nostalgia was also expressed among group members for a type of community connection that they no longer feel is present in modern Western society. For example, Mike states that:

'I think extended groups of friends is the closest thing we have to community these days, maybe it has been like that for a very long time since villages have got over a certain size you didn't know everybody, your community is your extended friends and family or your network of sharing eggs and bread and stuff but it wasn't the whole village'.

Indeed, this social aspect - the desire for, and realization of community connection - was for many interviewees the primary motivation for initiating and continuing membership. This sentiment is demonstrated in the following conversation at a Bristol LETS meeting:

A: Maybe we just miss this idea of living in a village, you know where they can be part of a small community and swap things and do favours

K: I think that's what LETS is trying to do, it's trying to, it's trying to replace the community, because the community atmosphere has been whisked away by our focus on large scale business blah blah blah, and LETS is trying to replace that. It's almost like trying to give people an excuse to do the things they would

have done in a small community, it's like trying to make it OK in the eyes of the "I'm not being a mug doing this because I'm doing this for some money, I'm doing this for some Ideals" (sarcastic, passionate tone). That's what I think LETS is, it's trying to say in the eyes of the commercial world "I'm not being a mug because I'm doing this for a profit! Look at my ideals bank balance, hey!" (laughs)

C: So is that not the most important part?

K: No, that's not what it's about, it's about the fact that REALLY you're doing it for the community; you're doing it for helping each other

C: But then does the currency make it easier?

K: It makes it EASIER in some way yeah

A: See in a small community you'd have an on-going tally in everybody's heads, you wouldn't need Ideals you know, for example, my ex, he lives in the countryside now in Somerset and he did a favour for a local farmer and then you know the farmer drove by and put a whole load of logs in his barn and that's how they work and you know they remember all that.

C: But then the idea is to apply to society as a whole?

A: To a big society, yes.

Within this excerpt is the notion that reciprocal exchange, to 'swap things and do favours', naturally forms the basis of community life. Indeed, several scholars have found that, due to its advantages to survival through providing unity and identity, reciprocal exchange formed the basis of tribal community (Fromm, 1970; Lietaer, 2001; Dunbar, 2010). However, Karaline states that capitalist economic practice erodes or 'whisks away' the community connections that form around these reciprocal, non-profit exchanges. Although the mechanical aspect of mutual credit is economic, on an experiential level Bristol LETS and DCTB provide members with a means of experiencing reciprocal exchange as a form of community connection, as Karaline confirms, 'that's not what it's about, it's about the fact that really you're doing it for the community, you're doing it for helping each other'. The phenomenological experience of this exchange is described by LETS and DCTB members as being 'heartfelt and 'joyful', bringing 'meaningfulness' to their lives.

### 5.3 Alternative Cultural Identity

Cultural factors play an important part in the formation of these specific communities of practice (Wenger, 2006). For example, the political and social history of both Bristol and Madison provide the conditions that support a liberal alternative culture. Those that are interested in social justice issues are then drawn to live in the cultural metropolises of Bristol or Madison, and communities based on an alternative culture tend to form around these areas.

For example, Bristol was England's second largest city and trading port in the 18th century and has been a multi-cultural city since the 1950s and 1960s, when the first waves of immigration made it one of the most diverse in the UK. An underground scene steeped in punk, reggae and hip-hop influences and street art that tends to separate from the 'mainstream' has meant that alternative cultural communities now continually form in Bristol around subversive political protest, the consumption of healthy and organic local produce, alternative economy, community activities and health and wellbeing. It is within this cultural scene that the members of Bristol LETS participate. It is supportive of the alternative values and practices that are promoted in Bristol LETS and is reflected in members' experiences.

In Madison, social and political awareness also characterise the population. Residents work to maintain a tradition of subversive political action which began with "Fighting Bob" La Follette and the Progressive movement. La Follette's magazine, The Progressive, has been published in Madison since 1909. Regular protests occur outside the State Capitol building and a strong cooperative tradition, which is felt to be stronger there than in neighbouring cities such as Chicago, forms part of a thriving alternative and bohemian culture within the city.

Those who trade hours within the Dane County Timebank find themselves within a specific cultural community, among people whose interests already lie in activism, political liberalism and alternative lifestyle choices. On an individual level, this is a natural meeting of likeminded people that occurs because all parties are interested, feel welcome, understood, and because they want to be involved. Community such as this cannot be forced or manufactured externally but must emerge naturally from within, as members successfully interact over time. While the conditions for community may be put in place, the connections that build a community must form naturally and organically, echoing Stephanie's statement that:

'A lot of this stuff isn't going to be filled by how your currency circulates or how you design your currency, it's going to be filled by how you interact with each other and how deliberate we are about that and how thoughtful, and that's what I like about how Michael said in one of the bylaws, to put people above any of the tools or any of the mechanics.'

Among interviewees, the use of a mutual credit system was found to be just one part of their wider alternative cultural identity. Alternative culture is very much a part of who they are: identities and lifestyles represent a culmination of the cultural selections made throughout their life-course, such as where to work and live, what food to buy, how to dress and who to socialise with. These selections are based on ethical beliefs, which are determined by socio-structural influences. Some examples of these include Natalie's upbringing in a small American town where 'everybody looked the same' which lead to her strong beliefs about female equality, Hilary's negative workplace experiences of 'the competitive nature of one employee on another' which lead to the desire to work collectively with people, Karaline's alternative upbringing which lead her to reject the desire for material possessions and Stephanie's experience of social injustice as an employer which lead her to explore alternative economies and to set up the Dane County Timebank.

Ethical beliefs resulting from these transformative moments (Hards, 2011), then influence and shape members' selection of an alternative lifestyle and culture. The crucial element of choice, as an exercise of personal agency, is elaborated upon by Hilary:

'I mean I personally believe that choice is the most powerful and influential thing there is and it has effects. You know we create our future through what we think, so let's look at the evidence, let's look at the world, what's fed to us, recognising that we're choosing the evidence that we look for, so we can choose to look for evidence of how awful everything is or of how positive and exciting everything is.'

An important aspect of group members' alternative cultural identity and lifestyle is their occupation. Indeed, 40 percent of the sample is engaged in social support work, care work or Timebanking, while another 40 percent are involved in education, either as a retired teacher or student. Notably 40 percent of participants are either retired or in education instead of full time work, as Karaline states:

'LET'S works where people have been taken out of the conventional commercial world of "OK GET MY JOB and then 80% of my life IS MY JOB and then I've got this little bit left over, it works where people have been taken out of that functioning.'

As a result of factors including personal choice, upbringing, life-circumstances such as family and health-related issues, as well as socio-structural factors such as those highlighted above, group members express alternative professional identities. While these are solution-focussed in everyday conversation, they are often expressed as a reaction against mainstream capitalist culture and the money economy. Instead, group members pursue professions and lifestyles that do not rely on the accumulation of wealth. For example, Karaline (LET'S) describes her reaction against:

'Financial service people who rang me up...and I was thinking I DON'T LIKE YOU I REALLY DON'T LIKE YOU (gritted teeth), I wrote myself out of being able to work for them because I didn't like the idea of them.'

This ethical distaste for, or reaction against, capitalist culture in the workplace led her to be, as she states:

'Happier working as a computer programmer for the council than I would have been for Microsoft'.

As demonstrated here, group culture is also based on distaste for mainstream capitalist culture, and consequently members look to create new economic solutions. They actively construct professional or work identities by re-signifying mainstream values and expectations about living meaningfully and productively in society. Meaningfulness, for group members, involves rejecting societal standards of success in favour of existential understandings of what it means to lead a 'good' and 'successful' life, as demonstrated in the following excerpt from Bristol LETS.

K: I'm not attracted to people who are real money-heads going to study business and this and that because they want to make a killing, so it's political and social as well for me, it's where they overlap. I think well oh yeah I meet nice people now! (laughs)

C: So everyone has this idea of what life's about, what's that?

K: Life is about (...) learning, expressing yourself as much as you can, doing things with and for people (...) anything I do I want to do because of the love of doing it, not because I'm going to get paid for it (passionate, indignant tone)

For group members, meaning is found, not through the accumulation of material possessions, but through the immaterial values of 'learning, expressing yourself as much as you can, and doing things with and for people'. These practical everyday acts are imbued with meaning and significance, that is, acts of giving and receiving uphold a moral standpoint that rejects materialism and personal wealth accumulation in favour of values such as 'caring for humanity'. However, it must be noted that there is no single definitive way in which someone can establish meaning in life, as meaningfulness is the subjective evaluation of how successfully one has managed to achieve a sense of purpose, efficacy, value and a positive self-worth in their life (Baumeister, 1996).

It could also be argued that moral values such as thrift, anti-consumerism, simplicity and reciprocity may be employed by those 'on the fringes of the conventional, commercial world' in order to either justify their social positioning or enhance their self-esteem. For somebody who is retired or with a low monthly income, the expression of anti-consumer values as part of their identity might work to enhance self-esteem or minimise anxiety (Greenburg et al. 1986). However, in relation to anti-consumer values, Karaline states that:

'I have always had that ethos...I was happier working as a computer programmer for the council than for Microsoft.'

This indicates that, for her, meaningfulness has 'always' been found in her existential values regardless of her position within society.

Finally, group members reproduce alternative cultural networks at a community level, through co-ordinating or participating in small local events and activities. By selecting these alternative cultural spaces and media sources on a daily basis, they become immersed within alternative cultural communities in which identities are positively reinforced. For example, Dave at LETS states that:

'We're developing something that is a bit more resilient and I know that's what people are talking about in the Transition Movement and I read about this stuff every day, I do, I read blogs like The Automatic Earth and Mike Shedlock's Global Trends and James Hansen, and all these people I read them every day and I have done for about six or seven years since the oil price went up in 2007'.

In associating himself with these media sources, Dave positions himself within a culture that promotes "resilience". His repetition of 'I read this stuff every day, I do', suggests an eagerness to prove his knowledge and therefore his place in this ideological community. Conformity is driven by the need to belong (Sleebos et al., 2006), while rejection leads to depression and withdrawal of efforts towards the group goal (Tyler and Blader, 2003; Smith et al., 2007). Outwardly expressing moral virtues or knowledge and expertise allows Dave to mutually verify his moral identity, not only as a moral citizen, but one that is appreciated or respected within the group, and this identity affirmation leads to feelings of pride, increased self-esteem and feelings of belonging (Turner et al., 1987; Kennedy, 2011).

## 6. HOW DO THESE INSIGHTS INFORM THE DESIGN OF MUTUAL CREDIT SYSTEMS?

### 6.1 Personal resilience within needy communities

First, evidence from the DCTB and Bristol LETS indicates that economic necessity motivates members with a sense of collective responsibility for each other's welfare, resulting in an active and purposeful coordination of voluntary welfare provision within communities. Although income data was not disclosed, the educational attainment and occupational data of group members indicate that in both cases they tend to fall into the middle to lower socio-economic groups. From this evidence, along with participants' interview transcripts and group observation, it may be suggested that a relationship exists between socio-economic conditions and the experience of personal agency among group members.

This finding has important implications for the development of sustainable social models. Rather than being implemented from above, they emerge from the communities that they serve, and so the experience of personal agency among members is an essential element in the continued and effortful maintenance of these networks.

While marginalised communities may be limited in their capacity to affect large-scale social change, their propensity for community connection is more attuned to the ideals of eco-communalism- simplicity, self-sufficiency and local sustainability, than more wealthy communities (Raskin et al. 2002). Indeed, the agency and heightened receptivity of marginalised communities to eco-communalism has consequences for developing mutual credit initiatives. For example, at the Climate Change Convergence talk held in Madison on 23rd April, it was stated by a guest speaker that:

'People who have less money have always had to be creative about how their needs are met, and we can learn from them.'

Indeed within the disadvantaged Allied Drive community and in Detroit, Michigan which is a Mutual Aid Network pilot site, Stephanie states that 'the Timebank is helping to create it (wealth) where it's needed'. However, she also observes a need for Timebanking within middle class communities in the United States:

'We have really found in our Timebank there's plenty of need for this whether you're economically well off or not, because often if you're economically well off you're strapped for time or strapped for community connection, so again this is the desire to integrate this stuff and integrate these people, and I see that desire is there in many circumstances, so we start with the people who want it and the people who need it and then we'll demonstrate that it's really fun and really rewarding and really enjoyable and then more people will jump on'.

These findings suggest that the drive for resilience in response to immediate social and economic need motivates members with a sense of agency and this in turn suggests that mutual credit initiatives may be most effective when maintained by those who are motivated to make sustainable and healthy lifestyle choices that enhance their own resilience against hardship. For example, through the DCTB Front Yard Gardens Program members use their front gardens to collectively grow fresh, healthy food, through Maxine's Timebank Store members are able to exchange used clothes and household goods for Timebank Hours, and through the Allied Drive Energy Project members support each other in saving energy as well as money on their electricity bills.

This finding accounts for the socio-structural conditions that influence the experience of agency among members of mutual credit initiatives. In the absence of a profit motive and the experience of agency associated with wealth accumulation, it is suggested that this non-growth thinking and working model is most easily translated in areas where economic conditions support a strong grassroots movement for personal and collective resilience.

### 6.2 Avenues for scaling up through formal and informal reciprocity

A preference for informal reciprocity was expressed by members of both Bristol LETS and the DCTB. This 'joyful' and 'heartfelt' experience points to the social function of reciprocity within communities as it creates the emotional experience of reciprocal interdependence between group members (Gregory, 1982). As noted previously, public goods games conducted in experimental economics also demonstrate that our cognitive mechanisms for

reciprocity work to maintain stable group dynamics by triggering punitive and pro-reward sentiments towards others in the group (Cosmides and Tooby, 2004; Fehr and Gächter, 2000; Yamagishi, 1986).

The social function of reciprocity in maintaining a regular trading community is also evident in that mutual credit groups rarely grow beyond 150 members (Wellman, 2012). For example, although the DCTB has 2,250 registered members, 266 active accounts suggest the formation of a natural community of individuals who trade with each other; and similarly, the trading community in Bristol LETS comprises 120 members. While informal reciprocity allows bonds of trust to form between members, more formal gift mechanisms, by reimbursing members with credit, may deprive individuals of the phenomenological and emotional experience of informal reciprocity and the satisfaction of 'reciprocal interdependence' that this provides.

These experiential differences between formal and informal reciprocity may explain the lack of scalability among LETS and Timebank initiatives, despite efforts to increase membership numbers. For example, to increase membership and the exchange of services the DCTB adopts flexible regulations, for example by allowing members to donate time credits to organisations or by allowing members to "go into the red". However, informalising exchange processes further so that transactions are not recorded would be detrimental. This is because the formal use of a currency is essential in supporting the continued existence of the groups as it satisfies three of Elinor Ostrom's Core Design Principles for groups that manage common-pool resources: it provides a clearly defined boundary, a means of recording costs and rewarding members, and a cost-effective means of monitoring the commons to avoid free riding (Wilson et al, 2013).

Here, the needs of a stable group design are in conflict with the preferences of individual members. It is therefore suggested that currency designers do not rely only on Ostrom's Principles as these focus primarily on social control mechanisms such as recording, measuring, rewarding and cost-effective monitoring. In order to build bonds of trust and a community identity, group members might develop additional mechanisms. For example, the use of a virtual system to map the frequency of exchanges between members might enhance the social aspects of community exchange. Mapping, not only credit balances, but also the relationships that are formed through direct reciprocity, may work to establish trust-based relationships and enhance legitimate participation within LETS and the DCTB. Such a measure may not help to scale-up the group, however. Scaling-up of mutual credit is demonstrated, not through enhancing aspects of informal reciprocity, but through the use of formal systems of reciprocity. For example, Spice Time Credits, a Welsh mutual credit initiative that engages with UK social service organisations, connects 1,500 individuals and 500 organisation members who trade in time. This formal system of volunteering within organisations in exchange for time credits successfully engages more individuals but minimises opportunities for informal reciprocity. This suggests that initiatives that wish to promote informal reciprocity may be limited in their attempts to scale up beyond the size of a natural community.

### 6.3 Options for engaging with mainstream and alternative cultures

Finally, membership within Bristol LETS and the DCTB forms part of a wider cultural identity to which group members subscribe. This cultural understanding of group membership has implications for the initiation of mutual credit initiatives within more mainstream Western contexts. In particular, the LETS and Timebank groups studied here were found to exist within the context of a strong grassroots network and cooperative urban culture. Not only do these groups provide members with personal resilience, but they are also a means of expressing cultural identities based on the ethical values of anti-consumerism and social justice.

Mutual credit initiatives such as Bristol LETS and the DCTB might therefore look to engage further with the professions, markets, media, and spaces that constitute alternative cultural networks. For example, Bristol LETS remains appealing to a mature and culturally alternative demographic while other Bristol-based initiatives such as 'Just for the Love of It' attract a younger membership. The social benefits enjoyed by Bristol LETS members may be enhanced, not through aiming to capture a wider membership, but through better tailoring the Bristol LETS platform towards a specific alternative cultural demographic.

In this regard, Bernard Lietaer points to the benefits of "bespoke" currencies applying to specific niches in society, at a neighbourhood, town and city level (Lietaer, 2001). His concept of a "monetary ecosystem" is supported by the suggestion made here that alternative cultural networks are selected and reproduced by members who aim to

gain recognition within a specific cultural community (Sleebos et al., 2006). Within these alternative cultures, mutual credit groups are established and maintained by individuals who, as Annette states, look to 'organise and have an effect', and thereby become recognised within a community that furthers their ethical agenda. This natural process of personal and group identity formation works to promote the attitudes, values and beliefs that support the use of complementary currencies (Turner et al., 1987; Kennedy, 2011). As communities are formed from within, translating and replicating these models in different cultural contexts would need to account for these identity processes. For example, developing mutual credit initiatives within 'mainstream' Western contexts would need to engage with the styles and values of 'mainstream' identities. As alternative cultural groups, Bristol LETS and the DCTB rather contribute towards the fabric of a diverse monetary ecosystem and alternative culture.

## 7. CONCLUSION

This paper has investigated the psychological motivations and experiences of mutual credit use among members of Bristol LETS and the DCTB. The main findings of this study addressed three main themes: personal resilience, informal reciprocity and alternative cultural identity.

First, group members use both the act of giving and of receiving in order to secure personal resilience against social isolation and economic hardship. This finding suggests that in order for mutual credit initiatives to thrive, group members must feel empowered in the service of achieving resilience against social and economic risk. Enhanced personal agency results from activities conducted in Bristol LETS and the DCTB, along with the expression of anti-consumer identities. These enhance personal agency by determining a moral precedent that gives meaningfulness to life, such as to live 'without expecting to make a profit' (Karaline) (Allan and Shearer, 2012).

Much of the literature on social resilience has looked at the ways in which communities might become more resilient to the effects of climate change and resource depletion (Barr and Devine-Wright, 2012). However, this inductive study of the motivations and experiences of mutual credit members shows that socially resilient networks are often maintained by individuals wishing to secure their own personal resilience against times of hardship. The implication of this psychological approach is to understand that the motivation for individuals to actively engage in socially resilient practices such as mutual credit is often deeply personal rather than being ideological. In a recent investigation into the diffusion of grassroots innovations, Seyfang and Longhurst (2014) determine which activities, contexts and socio-technological characteristics confer successful diffusion among twelve community currency niches. In addition to these variables, this study points to the experience of agency and personal resilience among members as factors to consider in future research on the diffusion of social and complementary currencies.

The cross-cutting factors of age, gender and duration of membership were also found to have an impact on the conclusions stated. The age of participants influenced their experiences and motivations for participation, as noted by the more ideological perspectives and reduced agency of Bristol LETS members compared to the younger DCTB sample. While young members are more often motivated by skills development, elderly members highlight the benefits of receiving social support, nevertheless both groups value contributing to their community in order to receive the experience of belonging and enhanced personal resilience. Gender did not however, significantly influence members' discourses as both men and women unanimously expressed a drive for personal resilience, alternative cultural identities and the desire for community connection through informal reciprocity. The higher percentage of women in the sample is reflected in a similar ratio of 70 percent women to 30 percent men in attendance at meetings and events for both groups. This points to benefits provided to women by such groups in terms of enhancing resilience and a sense of belonging within a likeminded community, supporting a growing number of studies that highlight the role of the "Social and Solidarity Economy" in the empowerment of women (Smith et al., forthcoming). Notably, these social aspects were cited by long standing members as being the reason for continuing their membership over many years, that is, forming close friendships with other members of the community became an important factor over time, while the motivation for recently joined members focussed more on the benefits of networking, skills development and sustainable practices. This underlines the importance of friendship between group members in maintaining active participation over time, further reinforcing the second major finding of this study.

The second major finding is that the mechanical aspects of mutual credit, that is the transaction of time credits in exchange for services, is expressed as being of secondary importance to members compared to the emotional experience of community connection afforded by those transactions. This sentiment is expressed in Stephanie's comment that currency design is about 'how you interact with each other and how deliberate we are about that and how thoughtful'. Conceptualising these initiatives as "social groups" rather than as "currencies" would focus research and best practice, not only on 'the tools and the mechanics' but also on the social processes that build trust within LETS and Timebank communities. This has implications for the better management of community currencies, not only through virtual systems that enhance the social aspects of exchange, but also through games and social events that work with group members' tendency towards informal reciprocity, for example, the DCTB's 'Timebanking Yarn Game' connects players' needs and assets to identify community goals and build connections based on empathy.

The significance of informal reciprocity also has implications for scaling-up these initiatives. However, the majority of research into the psychology of reciprocity relies on public goods games played in experimental conditions (Fehr and Gächter, 2000, Yamagishi, 1986). By suggesting that group members prefer to engage in direct or "informal" reciprocity over more formal exchange mechanisms (Lietaer, 2001) these phenomenological insights support experimental evidence for the social function of reciprocity (Cosmides and Tooby, 2004; Fehr and Gächter, 2000, Yamagishi, 1986). Such evidence points to the role of punitive and pro-reward sentiments in maintaining stable group dynamics through reciprocity (Cosmides and Tooby, 2004), however further research could explore in more depth the psychological processes by which informal reciprocity affects group dynamics within LETS and Timebanks in comparison to more formal community-based exchange processes. For example, cognitive aspects such as members' sentiments towards others, their rate of participation and their self-interest in the group goal may impact upon group success differently in formal and informal exchange contexts (Wilson, 2013; Cosmides and Tooby, 2004).

Finally, this study highlights the culturally specific nature of Bristol LETS in the UK and the Dane County Timebank in the United States, and points to the way in which group members become immersed within these alternative cultural networks through identity positioning and mutual identity affirmation (Turner et al., 1987; Sleebos et al., 2006; Kennedy, 2011). Analysis of interview transcripts identified factors leading members to choose alternative professions and cultural identities that support membership within Bristol LETS and the DCTB. These include upbringing, life circumstances such as family and health issues, and socio-economic factors within their local area. These factors differ across groups and regions, depending on their specific goals and the socio-political context. For example, in Europe and North America, initiatives tend to focus on promoting a sustainable economy and enhancing social cohesion as in the Bristol LETS and DCTB examples, while in Latin America they are mainly seen as tools for income generation and improving welfare (Gomez, 2015).

Nevertheless the psychological processes noted here have theoretical transferability in the sense that "community" is a universal notion by which individuals organise their lives and understand their relationships (Smaling, 2003; De Anca, 2012). In modern society, most individuals identify with multiple communities of interest and of practice (Wenger, 2006; Henri and Pudelko, 2003). While some community identities are selected, others are imposed, and while some individuals identify with their community of origin, others identify with a "community of aspiration" such as one that is escalating in socioeconomic status, or one that is value-based. In making a selection about which communities to identify with, individuals contribute to the production and reproduction of those collectivities (De Anca, 2012). In an increasingly value-driven society, participation within these mutual credit groups is meaningful to individuals because it confers social identity and permits self-evaluation through the interplay of personal and group identity (Jenkins, 1998).

Prioritising identity processes in the initiation and maintenance of complementary currency systems informs inquiries into the replication and translation of these models (Seyfang and Longhurst, 2014). For example, this understanding of members' experiences points to the contextualised and emergent nature of cultural communities such as Bristol LETS and the Dane County Timebank as members collectively resignify mainstream values. The bottom-up socio-psychological approach of IPA therefore adds valuable insights to the field of complementary currency research by prioritising the phenomenological experience of LETS and Timebank members over and above the tools that constitute these systems. In doing so, it connects the fields of psychology, sociology and eco-

nomics in the study of these alternative economic practices, as they are seen, first and foremost as cultural communities offering personal resilience to members through informal reciprocity, and from this definition, new approaches to the management and expansion of social and complementary currencies might emerge.

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