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Scarcity mindset in reproductive health decision making: A qualitative study from rural Malawi

Alison H. Norris^{*,a}, Nisha Rao^b, Sarah Huber-Krum^c, Sarah Garver^d, Elly Chemey^e, Abigail Norris Turner^f

^aDivision of Epidemiology, College of Public Health, The Ohio State University, OH, USA

^bCollege of Medicine, The Ohio State University, OH, USA

^cCollege of Social Work, The Ohio State University, OH, USA

^dDepartment of Sociology, College of Arts and Sciences, The Ohio State University, OH, USA

^eChild Legacy International, Lilongwe, Malawi

^fDivision of Infectious Disease, College of Public Health, The Ohio State University, Columbus, OH, USA

Abstract

Poverty has widespread impacts on health. In dealing with resource scarcity, individuals' thoughts are narrowed to address immediate resource limitations, thus crowding out other information, a phenomenon called the *scarcity mindset*. To assess for indication of a scarcity mindset in sexual and reproductive decision making in rural Malawi, a setting with extreme resource scarcity, we collected qualitative data in the form of eight focus group discussions and 28 semi-structured, in-depth interviews with women and men of varying ages and marital status. Participants, who were of low socioeconomic status, described constant tradeoffs that they made to secure their daily needs. They articulated both the challenges of supporting many children and the need to bear many children to guarantee their own future support. While participants described wealthy people as being concerned with preserving resources (often through the practice of limiting childbearing), they described poor people as working to increase their probability of success against an uncertain economic future (without due consideration of contraceptive behaviors). We found qualitative evidence that a scarcity mindset may influence reproductive decision making among women and men in rural Malawi and may preclude the use of contraception in low-resource settings.

Keywords

scarcity theory; reproductive health; Malawi; Africa

*Corresponding Author: Alison H. Norris anorris@cph.osu.edu.

Disclosure Statement

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Introduction

The utilisation of health care services, particularly sexual and reproductive health care, is not only contingent on the availability of material resources needed to access services, but is also influenced by individuals' internal decision-making processes. For instance, income is a resource needed for health care. Not only is income required to obtain services but having a larger income may allow individuals to have greater capacity to avert health threats and to have a wider range of (desirable) health care choices (Strazdin et al. 2011). The influence of resource scarcity—being short on money or other resources—on decision making, however, extends beyond the restriction of choices. Scarcity produces a specific pattern of thoughts and priorities, known as the *scarcity mindset*, which affects decision-making processes (Mullainathan and Shafir 2013; Shah, Mullainathan and Shafir 2012). The scarcity mindset influences individuals to give greater attention to some tasks leading to a neglect of others, reduces mental bandwidth, increases stress and hurts decision making (Shah, Mullainathan and Shafir 2012; Spears 2011; Chemin, De Last and Haushofer 2013).

Although scarcity mindset could influence health care decisions, it has not been considered in the context of decision making about sexual and reproductive health. Conditions of resource scarcity, such as low socioeconomic status and income, may be positively associated with unmet need for family planning (Wulifan et al. 2016). Thus, we posit that the scarcity mindset may be critical to both reproductive decisions and utilisation of reproductive health care services in contexts of scarcity. Using data from a qualitative study with women and men in rural Malawi, we consider how a scarcity mindset influences decision about fertility and contraceptive behaviours.

We note that traditional demographic theorists have argued that high fertility is the consequence of high desired family size (Bongaarts and Casterline 2013). According to such arguments, couples desire children as a form of “wealth” whereby children can assist with daily tasks and business, such as farming (Bryant 2007). With respect to this theory, having large numbers of children is “rational,” and we do not argue against these theories. Rather, in contexts in which ideal family size and unmet need for modern contraception is high, such as Malawi, women are often unable to implement their desires to delay or limit childbearing (Bongaarts and Casterline 2013). We argue that it may not only be poverty or a lack of resources that are obstacles women face in attempting to use contraception, but also the consequences of poverty on decision making and thinking. While fertility is culturally valued in many African contexts (Bledsoe, Banja and Hill 1998), making unplanned births as welcomed as planned births for some people, there are women who want to avoid pregnancy. This paper thus investigates the link between poverty and childbearing with the intention to support women's stated desires.

Scarcity Mindset

The impact of poverty on decision making is highlighted in the restricted choices available to individuals. For example, women who live in poverty often have limited access to healthcare and limited opportunities for education and employment (Kerr 2005; King and Hill 1993; Williamson et al. 2009). Beyond restricting opportunities and choices, however, recent research suggests that the experience of poverty results in patterned thoughts and

priorities, and that the resultant scarcity mindset further constrains the decision-making process (Shah, Mullainathan and Shafir 2012; Mullainathan and Shafir 2013). As described by Shah, Mullainathan and Shafir(2012), a scarcity mindset leads individuals to focus intensely on specific, short-term problems, consuming cognitive attention and creating a kind of tunnel vision. As a result of this lost long-term focus, other important priorities and contextual information are neglected (Mullainathan and Shafir 2013; Shah, Mullainathan and Shafir 2012; Shah, Shafir and Mullainathan 2015). A scarcity mindset can develop in the context of many forms of scarcity—scarcity of resources (poverty), time (busyness), or social support (loneliness) (Mullainathan and Shafir 2013; Shah, Mullainathan and Shafir 2012; Shah, Shafir and Mullainathan 2015). In this paper, we consider the scarcity mindset as created by poverty.

Intense focus—Intense focus, as a result of resource scarcity, may have a useful purpose: it can provide temporary relief from irrelevant distractions and help resolve pressing problems (Mullainathan and Shafir 2013). However, it may also distract individuals from addressing long-term issues and from seeing the multidimensional nature of everyday choices (Shah et al. 2018). Additionally, individuals may engage constantly in trade-off thinking, have frustrated aspirations, and feel a thwarted sense of agency. This lack of agency might ultimately make individuals more risk averse, but also more likely to focus on present problems, rather than long-term priorities, exacerbating the scarcity mindset (Haushofer and Fehr 2014; Maclay and Marsden 2013).

Neglect of consequences and information—A scarcity mindset leads individuals to ignore highly relevant contextual information that is crucial to decision making. Mullainathan and Shafir (2013) and Shah, Shafir and Mullainathan (2015) describe this phenomenon as ascribing value of a choice independently of relevant contextual cues. In other words, a person operating under a scarcity mindset will decide what is (and is not) valuable without considering information that others would use to in similar contexts. For example, a person with a scarcity mindset may not consider undertaking a move that would involve a small increase in rent, even if such a move would lead to better paying work.

Unconscious response—A scarcity mindset is an unconscious consequence of facing scarcity (Mullainathan and Shafir 2013). Although people living in poverty may make decisions that seem short-sighted or ill-conceived, a scarcity mindset provides an explanation for why people may make decisions that are not “rational” or compatible with their stated preferences (Mullainathan and Shafir 2013). Comparatively wealthier people in similar environments may make choices that are perceived as “better” simply because they are not restricted by this mindset of poverty.

Context and Public Health Significance

Children are highly valued throughout sub-Saharan Africa (Bledsoe, Banja and Hill 1998), and particularly so in Malawi (Thornton et al. 2014). In general, children are simultaneously perceived as a form of wealth and status and as a significant material expense, both by reducing time for parents to work and in requiring on-going support. Despite the costs of raising children, fertility remains high in many parts of sub-Saharan Africa, and consistent

contraceptive use is uncommon. Individuals living in poverty in sub-Saharan Africa are less likely to use family planning than wealthier individuals in the same context, even though both groups express similar family size preferences (Adebowale et al. 2014; Creanga et al. 2011). Indeed, according to the 2015 Malawi DHS, women living in poverty reported their ideal family size as 3.2 children as compared to the wealthiest women who reported their ideal family size as 3.9 children. In contrast to reported ideal family size, women living in poverty have 5.7 total births, on average, while wealthier women have about 2.9 total births (National Statistical Office Malawi 2017). Furthermore, these differences do not appear to be linked consistently to access and/or affordability of contraceptive methods (Campbell, Sahin-Hodoglugil and Potts et al. 2006; Sedgh and Hussain 2014).

The public health needs in contexts of scarcity are substantial, and resources will go further if they can penetrate the intense focus and trade-off thinking created by the scarcity mindset. Zwane (2012) argues that low uptake of preventative health programs by poor individuals may not reflect unwillingness to pay for health services, but the dominant salience of economic scarcity. If programmes can decrease the cognitive burden of scarcity or reinforce the salience of an intervention even slightly, the influence of a scarcity mindset would diminish and individuals could make decisions in line with their true preferences for health and well-being (Devoto et al. 2011; Zwane 2012).

A scarcity mindset carries implications for sexual and reproductive health services. Sexual and reproductive health programmes often require individuals to internalise information, attribute personal meaning or relevance to specific information, and decide to take preventative health behaviours to protect against future, as-yet unfelt negative consequences (Dworkin and Ehrhardt 2007; Maticka-Tyndale 2012) - the very type of consequence that is affected by the scarcity mindset. Understanding whether a scarcity mindset influences reproductive health decisions, including which priorities remain salient for women in resource-limited settings, can result in evidence-based programmes that are maximally effective at helping women achieve their childbearing desires.

Purpose

The concept of scarcity mindset, to date, has been examined primarily in controlled settings and in reference to economic decision making. The purpose of this study was to evaluate the scarcity mindset as it relates to reproductive health decision making. The scarcity mindset may be meaningful for reproductive decisions (and their long-term consequences) in rural Malawi where many women and couples live in a context of severe resource scarcity. Here, persistent trade-off thinking and intense focus on immediate problems may lead women and couples to neglect family planning considerations and have more children than they ultimately desire. We designed a qualitative study with the aims of understanding (a) the context of scarcity and reproductive decision making in rural Malawi and (b) whether there is evidence of a scarcity mindset in reproductive decision making among rural Malawians.

Methods

Setting and Population

This study was nested within a prospective cohort study of sexual and reproductive health decision making, known as *Umoyo wa Thanzi* (UTHA), and set in rural Lilongwe district, Malawi. The site for the parent study was chosen specifically to understand the contraceptive behaviors of women and men living in a rural setting. Participants were selected from the catchment area of a rural hospital, which provided an array of free contraceptive methods. The catchment area, approximately 40 km², included 65 villages of approximately 20,000 residents. Nearly all residents were from the Chewa ethnic group (and spoke the Chichewa language), and the vast majority were subsistence farmers. Most individuals and families living in the area have low educational attainment and live in conditions of extreme poverty (Caster et al. 2017).

Study Design and Data Collection Procedures

We conducted the qualitative study in 2013, as the first component of the larger study's research programme. To understand lived experiences of poverty and societal norms regarding poverty and childbearing, we conducted in-depth interviews (IDIs) and focus group discussions (FGDs) with women and men who resided within the study catchment area. In total, we conducted eight FGDs, consisting of 40 women and 41 men, and 28 IDIs. We determined that these sample sizes would be sufficient to achieve saturation in themes and achieve study aims (Corbin and Strauss 2008).

We developed semi-structured interview guides with open-ended questions in English and translated the guides into Chichewa. While interview guides were used to direct interviews, participants were able to talk freely about any matter they deemed important and were able to expand on interview themes. Malawian colleagues verified translations and back-translated the guides to ensure content and semantic equivalence of each question (Brislin 1970). We pre-tested the interview guides with women and men who presented at the rural hospital for care to assess question phrasing, sequencing and overall comprehension. We modified the interview guides on the basis of the pre-testing.

Women and men were eligible to participate in the study if they were 15 years of age or older, lived in the hospital's catchment area, and consented to participate. We worked with health extension workers affiliated with the hospital and village chiefs to recruit a convenience sample of women and men from several villages. Participants were approached by village chiefs and extension workers and informed of the interviews. The health extension workers briefly explained the purpose of the interviews, requested participation and scheduled times to conduct interviews.

Trained Malawian research assistants carried out all data collection. The research assistants were women and men living in the surrounding area and in the nearby city of Lilongwe, and all had at least a high school education. While some of them had prior experience with qualitative research methods, others did not, and all participated in a training about qualitative data collection techniques and procedures, including ethical research training. Before each interview, the research assistants read the consent documentation aloud to

participants; participants who wished to participate signed their names or gave a thumb print to document their consent. We did not collect any other identifying information from participants.

FGD participants were grouped by gender and marital status (i.e., married, never-married, or divorced/widowed). While one research assistant facilitated the FGD, two additional assistants made field notes to produce a record of which participants (identified by a number card held in his/her lap) made each statement. We held FGDs in quiet outdoor locations near participants' villages. IDIs were conducted one-on-one in or near participants' homes. At the conclusion of the FGDs or IDIs, participants provided answers to a short sociodemographic survey which asked about the participant's age, education level, profession, religion, and number of living children. Participants were compensated 1,000 Malawian Kwacha (equivalent to US \$2.00 at the time of data collection) for participation. On average, FGDs last approximately 90 minutes and IDIs lasted about 60 minutes. Upon completion of a day's data collection, the research team debriefed to review each FGD and IDI. During debrief, the research team discussed any complex ideas, reflected on the meaning of participants' experiences and opinions, and compiled field notes.

Analysis

We used NVivo (Version 10.0, QSR International) for data management, coding, and analysis. Data analysis was guided by a narrative analysis approach, a phenomenological method, with the goal of assessing participants' perceptions and meanings of scarcity and reproductive health (Creswell 2009). The first step in data analysis involved the development of a codebook with codes, definitions, and example quotations. After reading a portion of the transcripts, the authors AN, NR and SG worked together to create a coding schema that reflected the contents of the transcripts. Coders took a deductive approach to developing the codebook, since pre-existing research questions guided the topic and questions of the interviews. We note that while a "final" codebook was developed and used to direct coding, we iteratively expanded on and refined the coding structure throughout analysis. Additionally, coders took notes about coding decisions to explain why conclusions were drawn or to reflect on the entire code or quotation.

After a codebook had been developed, AN, NR, SG, and SH applied the pre-determined codes to the contents of the manuscripts. In early stages of analysis, coders coded interviews together so that discordance between coders could be discussed openly and codes could be completely agreed upon. In latter stages of analysis, coders independently coded a subset of assigned transcripts. During independent coding, coders met periodically to develop themes and discuss the codes as a group.

Theme development was guided by an inductive approach. While codes were pre-determined, common themes emerged from the data; we did not limit or try to pre-determine important themes. Theme development largely occurred in the setting of team meetings in which coders considered specific codes and quotations, read portions of transcripts aloud, and characterised and interpreted important or common themes present in narratives. Five primary themes were present in the data: the context of scarcity, plenty and childbearing; constant tradeoffs; neglecting contextual information; the impact of scarcity on contraceptive

decisions; and scarcity mindset in family size decisions. All participants were assigned pseudonyms to protect confidentiality and anonymity. In the results, participants' comments are introduced or followed by one of these assigned pseudonyms

Ethical Approval

This study was approved by The Ohio State University Institutional Review Board and the Malawi College of Medicine Research and Ethics Committee.

Results

Participant Characteristics

Overall, most participants were between the ages of 26 and 45 years and of low educational attainment (Table 1). The majority of participants were married and subsistence farmers. A small proportion of participants engaged in other occupations (e.g., small business owner) and some younger participants were students. Relatively few participants had not begun childbearing; most participants were between the ages of 15 and 20 at the time of their first birth.

The Context of Scarcity, Plenty and Childrearing

We asked participants to describe what constituted scarcity and who experienced scarcity. Participants used the term “poor” to describe those experiencing scarcity of basic needs (i.e., food, clean water, and ‘decent’ housing), and “rich” to describe people in their community who were not living in extreme poverty and often able to afford ‘luxuries,’ such as personal transportation, “good” clothing, and livestock. Although we could imagine that other markers of socioeconomic status, such as occupational status, might distinguish the rich from the poor, participants articulated the experience of scarcity in terms of a lack of material resources. Additionally, while the differences articulated by participants between ‘rich’ and ‘poor’ may seem relatively slight or unimportant, our participants thoughtfully described differences that were to them meaningful and nuanced.

The poorest experience basic needs scarcity. These may include food, school fees for children, and land for cultivation, while [those who are simply] poor lack luxuries like bicycle and clothes. (Patrick, single man, age 22, FGD)

We see that [the rich] have a granary, a reasonable one. The way they dress, we could see that they have good clothes, and we admire them. We say, ‘if only I could have been like them’, but I can’t manage it, because they are ahead of me... They have livestock, they already bought fertilisers...That’s when we say that these people are rich, and they have a good house. (Hope, widowed woman, age 32, FGD)

Both women and men consistently articulated that certain forms of resource scarcity – lack of food, money for school fees, “decent” housing, transport and agricultural resources – were concentrated among poor members of their communities. Participants described that these conditions of scarcity limited families from being, or appearing, successful, and well-supported children were the marker of a successful family. Thus, families experiencing

scarcity could not be considered successful or admirable in their communities. The following two quotations highlight the importance of support—in particular, economic support—for children in relation to community and social values.

Support for children contributes to a successful family, because when children are not being supported, like school and clothes, the family cannot be described as successful. (Charity, married woman, age 34, IDI)

Mainly when a family is able to support their children they are seen as a successful family, because when your children are begging from other people then you are looked down by other people as someone who has failed your responsibility. (Ellen, widowed woman, age 57, IDI)

Likewise, participants described the ways in which childbearing could limit the productivity of the household, and more importantly the short-term costs of childbearing on women's lost labour.

I had frequent births of children. My two children were not properly spaced. This caused a hindrance to my household. I was always busy taking care of the two children. I couldn't go to the field or to do casual labor. My husband was also busy helping me with the kids. He couldn't go to the field for farming. (Tamanda, married woman, age 30, IDI)

The other thing that causes scarcity to her household is frequent births. She spends most of her time taking care of children while other people are working hard in the field. You have many children, but you do not have enough support. (Victor, married man, age 21, FGD)

Participants admired contexts in which families had the resources to care for their children and were critical of having children in a way that limited production of household resources.

Constant Tradeoffs

Participants described experiencing tradeoffs in securing daily needs as part of the challenge of supporting many children. Children might, at times, produce stress due to limited resources. A married, female participant described her own struggle with providing economic support to her children, and how having additional children made daily tradeoffs even more pressing:

The time I started having children, things started becoming increasing difficult because I needed to make sure that the children have some blankets. I have to make sure that they go to school. For example, I have one child who is in secondary school. So, for me to find the fees for her, it means that I have to make sure that the decisions which I make brings me more income so that I can manage to support the children which I have at the moment. (Patience, married woman, age 42, IDI)

Focus group participants also discussed the difficult and complex effort to secure their daily needs, while working to gain wealth. The participant below describes the adverse result of constantly struggling to secure food for the household:

Food is scarce in your household. You go for casual labor. You get paid. You cannot buy a radio. You will buy maize grains to make maize flour, as you do not have enough food at your household... Food is a very important thing for a household to have. So, it is better to buy maize than a radio. We are backward people... We hear the information late after it has circulated around the community because we are not concerned with buying a radio. Our greatest concern is buying food. (Teresa, separated woman, age 21, FGD)

Participants described daily trade-offs between food, school fees, clothing, soap and other resources. They were often confronted with urgent and present needs, which resulted in an intense focus on today. The tradeoffs were constant and consequential both in the short- and long-term across a range of economic and social outcomes.

Neglecting Contextual Information

Participants described that while poor families value supporting and educating their children, they often neglect to consider the costs associated with pregnancy, and even more particularly unintended pregnancy. Poor families were described as neglecting important external cues that might lead them to limit fertility. While the poor neglect this information, the rich were perceived as thoughtful and considering household resources when deciding family size.

[Rich people] look at the food and other support for the children in their household. This is why they discuss limiting the number of children, while the very poor people are not concerned about food availability and other household support when having children. They give birth to as many children as they can. (Margaret, single woman, age 18, FGD)

The rich people think that it is easy to educate two children. The two children will support them after being educated... The very poor people are not concerned about their children's education. We do not [consider] that it is not easy to educate many children. These many children won't be employed due to low education. We are not concerned about these things. (Faith, married woman, age 25, FGD)

Participants described that while the poor wish to support their children, they failed to consider their limited household resources in childbearing decisions. Participants, many of whom considered themselves among the poor, recognised that the rich discuss the long-term consequences of childbearing. The poor may neglect to consider contextual cues, because they focus on the potential benefits of children instead. Children are viewed as "wealth to the family," or as someone who can provide future support.

We cannot go for tubal ligation. We do not know the child who will support us. Maybe the supporter is not yet born. So, it is not good to go for tubal ligation. You can prohibit the birth of the child who will support you. It is better to have as many children as we can. (Gertrude, married woman, age 25, FGD)

Poor people need more children. They can give birth to 10 children. They do not know [which] will help them. Have you noticed the difference? (Daniel, single man, age 23, FGD)

In this agricultural society, children help their parents with agricultural labour, and parents hope that children will support them in their older age. In addition to the economic importance of having children, participants discussed the cultural benefits: childbearing ushers women and men into adulthood, children are thought to bring marital stability, and well-supported children symbolise a successful family. Participants described that while the rich were concerned with *preserving* resources for their children, the poor have children to *increase* their probability of success in an uncertain economic future.

The Impact of Scarcity on Contraceptive Decision Making

Participants described how permanent family planning could lead to economic well-being; they characterised the use of permanent family planning while family size is small as a behaviour of rich people.

There is a certain rich person, a boss, very rich. He has many cars he uses for transportation. He went for vasectomy, [when he had] got two children. Most rich go for tubal ligation when they have got two or three children. (Lumbani, single man, age 38, FGD)

The rich tell their wives to go to *Banja la Mtsogolo* [a Malawian NGO that provides contraception care] for tubal ligation to have fewer children... When the rich parents die, the few children share their parents' resources without conflicts. (Dominick, married man, age 20, FGD)

Participants also described how the poor only used contraception after their households faced scarce resources rather than as a proactive strategy.

As a family, they make a joint decision when they want to have children. What really happens is that people start adjusting when they see that they are facing problems. But it is not common for people just to start adjusting the number of children when there is still food in the household. (Lynn, single woman, age 16, FGD)

I decided to go for tubal ligation, because the household had insufficient support. Most of my children are very poor. They lack many things... I noticed that I had many children. I wanted to go for permanent tubal ligation. My husband allowed me to go for tubal ligation. He said that he did not have any problem with this. (Margot, married woman, age 40, IDI)

Some participants considered and used contraception when household resources had become scarce. They articulated that using contraception during times of scarcity helped the family economically.

There was a time in my life that I experienced scarcity, after the birth of the second born child. We discussed about our experience in our household. It is when we decided to use family planning... Compared to the past, before I started using family planning, I was very, very poor. This time, I have improved. I am living a happy life. (Tamanda, married woman, age 30, IDI)

Scarcity Mindset in Family Size Decisions

Given the relatively unconscious nature of the scarcity mindset, people may not articulate how a scarcity mindset influences family size. Nevertheless, we compared the rationale for decisions made by the rich to those made by the poor as a strategy to observe the mindset. The rich were described not only as having more resources than the poor, but also as thinking and considering outcomes differently. Freed from persistent tradeoff thinking and able to consider how their wealth would be divided among their children, the rich were described as actively limiting children to secure a later positive outcome.

Rich people do not need help [by having many children]. They have a bright future. They have plenty. For them, children are not wealth. They have a limited number of children even if a child misbehaves. (Arox, married man, age 30, FGD)

When the rich consider about the way they will distribute their wealth, they think about what will happen if they have many children when they die and in so doing, they end up having a limited number of children so that they [each] can have a fair share of the wealth. (Joseph, married man, age 27, FGD)

Discussion

Our findings reveal how a scarcity mindset may influence childbearing decisions in rural Malawi. Participant narratives reinforced several patterns well-documented in the global reproductive health literature: discrepancies between childbearing preferences and behaviours are common (Guttmacher Institute 2017); the poor have more children than the rich despite both groups having similar views regarding ideal family size (Adebowale et al. 2014; Creanga et al. 2011); and having many children exacerbates poverty and complicates efforts to recover from poverty (Mbacke 2017). Our findings also reinforce patterns described in the psychology and economics literatures: namely, that the poor must make trade-offs to manage scarce resources, and this 'trade-off thinking' leads to the neglect of important contextual information (Mullainathan and Shafir 2013; Shah, Mullainathan and Shafir 2012; Shah, Shafir and Mullainathan 2015). Our study links these findings together. In particular, we have described how the inconsistency between childbearing preferences and behaviour of the people living in poverty could arise from a scarcity mindset. To our knowledge, this study is the first to explore whether the scarcity mindset could be a means of explaining particular reproductive health behaviours.

In Malawi, over the past two decades, contraceptive uptake has increased substantially as fertility has declined (National Statistical Office Malawi 2017). However, declines in fertility are inequitably experienced, with the wealthiest women reporting 2.9 total births and the poorest women reporting 5.7 total births (National Statistical Office Malawi 2017). In our findings, we note that the rich and the poor share common goals and norms regarding caring for their children. The 2015 Malawi DHS reports similar fertility preferences between the wealthiest and poorest women (National Statistical Office Malawi 2017). Despite these shared goals, for poor people there is a disjuncture between reproductive aspirations and behaviour. A scarcity mindset may help explain why a gap remains between women's stated preferences for children and the use of contraception and women's eventual behaviour.

Participants in this study explained that richer Malawians plan their families to avoid scarcity and pass on wealth in the future. In our study, given that basic needs are highly salient for people living in poverty and that rural Malawians measure family success by the wellbeing and appearance of their children, we might expect that economic considerations of needs of children would factor heavily in childbearing decisions of the poor. However, while respondents could articulate the challenges of supporting a large household, they also pointed out that the rich, not the poor, avoid having “too many” children. Lack of attention to the ability to support children may be the result of constant trade-off thinking present when managing scarce resources. Poor people may ignore important contextual cues when making influential decisions, and pursue, rather than avoid, childbearing, as an investment in the future. The rich instead focus on maintaining their other material assets and leaving these resources to each child upon their death. Such a consideration is less salient for poor individuals who have no wealth to divide; the hypothetical question of how much wealth they might have for children in the future is difficult to consider. Indeed, the same individuals who described the rich as avoiding scarcity through fertility limitation also argued that they, the poor, need to have many children for future support.

Faced with resource scarcity, we found that poor women and men in rural Malawi were forced to make trade-offs to meet the needs of their families. When making important childbearing decisions, poor people failed to consider relevant contextual information, such as community norms that children are expensive and need education. Poor people also prioritised the possible benefit of children over the available information regarding the long-term costs of a child. Furthermore, they did not utilise strategies (e.g., family planning) that would help them better manage their resources. Childbearing decisions were made independently of relevant, contextual information, and eventually families “come to have too many children.” In other words, having many children may not occur through a deliberate decision-making process but may be more reflective of the scarcity mindset directing individual’s focus to other decisions. Having many children may be a consequence of neglecting important information regarding the cost and value of a child and strategies to safeguard resources. Poor people use contraception to limit childbearing only after the household has faced acute shortages rather than as a preventative measure against future deterioration of the household.

While a scarcity mindset informs reproductive decision making in rural Malawi, we acknowledge that this framing of the issues has limitations and does not explain all reproductive decision making. In particular, a scarcity mindset is likely entangled with other well-established barriers to family planning, including social disapproval of contraception and intrapersonal fears of contraception (Campbell, Sahin-Hodoglugil and Potts 2006; Stephenson et al. 2007; Wulifan et al. 2016). However, barriers to contraception do not fully account for underuse of family planning in our study, and neither does the scarcity mindset fully explain contraceptive nonuse. Some individuals living in environments with extreme poverty appear to be able to make decisions with attention to long-term consequences and external cues.

The inconsistency between childbearing preferences and behaviors of poor people is also likely related to a transition occurring in agrarian societies across sub-Saharan Africa. In

the past, wealth in the region was measured in people, as human labour was needed to tend crops and herds (Shenk et al. 2010). A new paradigm is emerging, and the value and cost of a child is changing (Bishai 2002; Cain 1981). With changing farming practices, financial capital is needed more than human resources (Lopus 2015). At the same time, western education is increasingly held in high esteem, and more resources are needed to support children's education (Shreffler and Doodoo 2009). The inconsistency between the preferences and behavior of the poor regarding childbearing may be partly explained by this shifting paradigm amongst agricultural communities (Ram 2012).

Limitations

This study is not without its limitations. Most participants live in a context of scarcity and there was no clear comparison group. We did not ask participants to characterise themselves as rich or poor, and so we acknowledge our inability to comment on how participants' own socio-economic status may have influenced how they perceived the other. While a comparison group would have provided a more compressive understanding of the scarcity mindset, we inferred the presence of the scarcity mindset through participants' descriptions of behaviors of the rich and poor. Because the scarcity mindset arises subconsciously, we did not expect participants to articulate their own experience and were able to analyse for its presence without a comparison group. Given the qualitative nature of our data, we cannot infer any causal relationships. However, we are able to provide a foundation for the hypothesis that the poor engage in tradeoff thinking and neglect information relevant to childbearing decisions.

Conclusion

This qualitative study describes how a scarcity mindset may affect reproductive decision making in contexts of poverty. A scarcity mindset may explain inconsistencies between individuals' childbearing preferences and contraceptive behaviour, which in turn contributes to contraceptive unmet need. Globally, millions of pregnancies are unplanned (Singh, Sedgh and Hussain et al. 2010); thus, reducing contraceptive unmet need is an area of substantial programmatic and research emphasis. People experiencing a scarcity mindset may not have the cognitive attention to utilise relevant information and initiate contraceptive use. Reproductive health interventions may be more successful if they adopt strategies that are explicit about overcoming a scarcity mindset. Such strategies may include immediate postpartum contraception, test message reminders for appointments and prescription refills, framing techniques incorporated into educational programmes, cash transfers and vouchers (Ashton et al. 2015; Datta and Mullainathan 2014; Devoto et al. 2011).

Currently, much public health effort is placed on educating individuals to improve reproductive health decision making. However, our findings illuminate that addressing underlying challenges of resource scarcity (e.g., food shortages, housing instability and high education costs) may also play a role in changing reproductive health decision making. For women and men to use contraception, the salience of current decisions for children in the future must be enhanced.

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Table 1.

Selected characteristics of focus group discussion and in-depth interview participants, as a percentage of sex composition.

Characteristic	In-depth interview		Focus group discussion	
	Women (n = 21)	Men (n = 7)	Women (n = 40)	Men (n = 41)
Age				
18–25	14%	14%	70%	56%
26–45	62%	86%	30%	42%
46+	24%	0%	0%	2%
Marital status				
Single	0%	0%	45%	49%
Married	57%	71%	33%	47%
Divorced	29%	29%	15%	2%
Separated	0%	0%	5%	2%
Widowed	14%	0%	2%	0%
Education level				
No education	38%	0%	13%	5%
Some primary	43%	71%	70%	56%
Primary completed	5%	14%	2%	12%
Some secondary	10%	0%	13%	25%
Secondary completed	5%	14%	2%	2%
Occupation				
Home keeper	0%	0%	5%	0%
Farmer	90%	57%	48%	71%
Small business owner	10%	43%	22%	10%
Other (e.g., student)	0%	0%	25%	17%
Not applicable or no response	0%	0%	0%	2%
Number of living children				
0	0%	0%	33%	42%
1	5%	43%	30%	15%
2	14%	29%	10%	12%
3	19%	14%	3%	10%
4	14%	0%	15%	17%
5	19%	0%	5%	2%
6	10%	0%	5%	0%
7	19%	14%	0%	2%
Age at first birth				
15–20	62%	29%	52%	24%
21–25	29%	29%	15%	29%
26–30	0%	14%	0%	5%
31	0%	0%	0%	0%

Characteristic	In-depth interview		Focus group discussion	
	Women (n = 21)	Men (n = 7)	Women (n = 40)	Men (n = 41)
Not applicable or no response	10%	29%	33%	42%

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