

# Using cartoon videos to survey children and adolescents in the global south: A Tanzanian example

Deborah Levison\* and Anna Bolgrien  
*Humphrey School of Public Affairs, University of Minnesota, USA*

**Abstract.** The Convention on the Rights of the Child, Article 12, states that children have the right to be heard on matters that concern them. Animating Children’s Views (ACV) provides an innovative product for implementing Article 12 while reducing the risk that nearby adults will disagree with and punish children, a vulnerable population. We argue that national statistical offices (NSOs) should add ACV child modules to large, representative surveys, thereby becoming leaders in inclusive survey designs. This methodology uses cartoon videos with recorded voiceovers heard through headphones, followed by questions referencing the video stories (vignettes) rather than the young respondent’s own life. Proxy reporting is not used, and literacy is not presumed. Analysis of follow-up interviews and focus groups helped interpret and validate quantitative results of ACV modules piloted in Tanzania. In addition to implementing Article 12, ACV can help NSOs improve interpretation of new and existing statistical sources by including the perspectives and behavior of young people in the Global South.

Keywords: Survey methods, vignette, child survey, adolescent survey, UNCRC Article 12, human rights, youth survey

## 1. Introduction

One out of every eight Africans is a young person between the ages of 12 and 17. These older children, with the ability to speak and reason, are rarely survey respondents and are instead measured (weight, healthiness, standardized tests) as if adults’ only interest in them is instrumental. Proxy respondents, often parents, are assumed to know everything else relevant about a child. Yet the United Nations Convention on the Rights of the Child (UNCRC [1]), in Article 12, states that children (that is, people under the age of 18) have the right to be heard on matters that concern them:

States Parties shall assure to the child who is capable of forming his or her own views the rights to express those views freely in all matters affecting the child,

the views of the child being given due weight in accordance with the age and maturity of the child.

If statistics are truly to “leave no one behind,” then children’s experiences and perspectives need to be captured in the next generation of nationally-representative statistics, including those produced by National Statistical Offices (NSOs). It is not enough to count and identify this population. It is imperative that children be included on a large scale to consider the effects of policies that are implemented on their behalf, and to assess whether they are in children’s best interests. The perspectives of older children are especially relevant for adults to understand, as the adolescent years often include major life decisions and transitions. How are young people thinking about the challenges common in their societies?

Even those desiring to learn more from children and adolescents (under age 18) have been hesitant to include them in survey research due to their vulnerability, which makes them a protected group from the perspective of institutional review boards (IRBs). The standard alter-

---

\*Corresponding author: Deborah Levison, Humphrey School of Public Affairs, University of Minnesota, USA. Tel.: +1 612 624 3540; Fax: +1 612 625 3514; E-mail: dlevison@umn.edu.

native, proxy responses by parents or other adults, are unlikely to capture young people's thinking, especially on sensitive subjects. School-based studies miss out-of-school populations and have other difficulties.<sup>1</sup> Most studies that aim to understand children's lives and perspectives do so with qualitative approaches, typically including small numbers of children and especially underrepresenting those in the Global South. Studies with children are able to identify topics where young people's viewpoints align with those of many adults, and topics where they do not align. While qualitative research undoubtedly provides the clearest understanding of children's perspectives and actions, it is time-consuming, expensive, and almost never representative at a population level. To include the large numbers of Africans who are ages 12–17 in surveys, we argue that official statisticians need another tool to engage with young people and, with more representative data, enhance local capacities to reach Sustainable Development Goals (SDGs). In this paper we demonstrate that it is possible to use modern technology to include older children in larger representative surveys via a low-risk yet inexpensive alternative to standard survey instruments, with the goal of expanding understanding of children's perspectives and thus enhancing their human rights.

*Animating Children's Views (ACV)* is a survey research tool for use with young people ages 12–17. ACV uses a modified vignette format that does not presume literacy. To reduce the risk that nearby adults will disagree with and punish children, respondents watch and listen to short (2–3 minute) cartoon videos shown on tablet computers such as those commonly used by enumerators. Recorded voiceovers in the local language are heard via headphones that provide privacy, followed by survey questions referencing the stories rather than the young respondent's own life. This kind of indirect questioning, about the vignette situations, makes it possible for children to feel safer even while revealing their perspectives [2]. This method can be tailored to be appropriate to different contexts and topics; an online archive of images will be made available to users to construct different stories. ACV enables low-cost, large-scale assessments of the views of 12–17-year-old children on matters that affect them, from education to health to sexuality to livelihoods issues, including many important topics covered by the Sustainable Development

Goals. We report on exploratory research and two pilots conducted in households in rural and urban Tanzania in 2018, with passing mention of a third pilot that took place in Nepal in 2019. Analysis of follow-up interviews and focus groups helped us interpret and validate the quantitative results.

Official statistics play an important role in highlighting the situations and experiences of vulnerable groups. We argue that until children's perspectives are included in large-scale survey research, they are unlikely to be treated as full human beings by adults designing and implementing policies and programs. Scholars argue that generational power and bias exists yet is typically invisible to those with such power – adults – in the same way that racial privilege may be invisible to Whites in the authors' country among others (e.g., [3,4]). Adults are limited in their capacity to find solutions to concerns involving children when they conduct research in ways that exclude or ignore children and their experiences. The UNCRC declares that children have the right to be heard, presumably by adults in general and adult policy-makers in particular. Yet without a way to implement Article 12 on a large-scale, it remains largely theoretical. Finding funding to innovate in ways that can better include such groups is always a challenge, yet it has been done time and again. Regarding the inclusion of young people speaking for themselves, there is much yet to learn.

Survey researchers know that understanding opinions has a whole host of challenges; interviewing children has an additional set of difficulties [5,6]. We focus on older children, ages 12–17, following deLeeuw's [7] guidance about age-related linguistic development; we use language that is appropriate for children age 10 or older but only include ages 12+ because of variability in child development. Besides physiological considerations, age-based power differentials affect what can be learned by simply asking children for their perspectives. In Tanzania, our qualitative data indicate that children are generally not "free" (as they say) to initiate or engage in conversations with adults. The adults with whom young people spend the most time are authority figures: parents or guardians and teachers. When questioned by an adult, children know that there is usually a "correct" answer, and that it would be in their interests to provide that answer. This might be considered "adult-pleasing behavior" to distinguish it from more usual aspects of social desirability bias [8]. Saying the wrong thing in response to an adult's question can be problematic for young people: it can affect how they are viewed by higher status (older) people and can lead

<sup>1</sup>Students may not trust the confidentiality of results, suggesting that responses are substantially biased towards what students believe their teachers would want, as discussed below.

to reprimands and/or punishment. For the survey researcher, the fact that children are susceptible to retribution by their elders for overheard survey responses makes them an especially vulnerable population.

Because at ages 12–17 young people are at the peak of their conventionality,<sup>2</sup> social desirability bias – defined here as systematic bias in data as a result of respondents attempting to answer questions in a way that is “correct” or socially acceptable to the interviewer [9] – may be more than usually prominent. However, just because a response is socially desirable does not mean that the respondent is changing her/his response to be consistent with perceptions of what an adult interviewer wants to hear. It might be that the respondent truly believes the discourse of her/his culture about what is desirable. In Tanzania, for example, many people – adults and children – repeat and appear convinced of the truth of the Swahili proverb, “Education is the key to life.”<sup>3</sup>

We do not argue that the ACV methodology is best for all purposes. We simply have not found any other techniques that fulfill the three requirements of (1) being understandable to (older) children but not presuming literacy; (2) being usable on the scale at which NSOs work and (3) not increasing risk to vulnerable child respondents. In the future, when assuming literacy is more reasonable, young people may be able to be handed a device and allowed to answer their own questions directly. Until then, indirect questioning through vignettes provides a way to mitigate the challenges of social desirability, adult-child power dynamics, and adult pleasing behaviors present in other traditional survey designs. Our goal was to create an innovative, cost-effective methodology for use with large-scale representative surveys while also ensuring reliable data on children’s perspectives. Essentially, we aim to represent older children’s (qualitative) perspectives in a quantitative way, with the help of modern technology. To this end, our pilot studies needed to be mixed methods. After three smaller randomized pilots mimicking large household surveys by including an adult survey along with the child modules, this new methodology is ready for scaling up. Applying the ACV methodology in conjunction with nationally representative surveys can help NSOs in Africa and elsewhere improve policies targeting children at the local and national level.

## 2. ACV methodology

Large-scale survey research in the Global South has transitioned in recent years from paper surveys to the use of hand-held devices (tablet computers) to record respondents’ answers to questions. Producing short videos has also become relatively inexpensive in general as well as accessible via free software, making it affordable for survey research. The use of images, animation, and audio recordings to convey a story also allows illiterate children to participate more fully than they might via written questionnaires. Animating Children’s Views uses a modified vignette methodology in the form of short video stories. Child respondents can decide what they think should happen next in a video’s storyline, thus revealing their perspectives through this indirect questioning. In addition, their suppositions about what is most likely to happen next (after the end of the story) provides information about their experiences and about prevalent discourses – how people in their communities are talking about something. ACV innovates by attaching video cartoon stories and follow-up questions for young people to a standard adult survey; in our field research we modeled the adult survey on typical household surveys.

Vignettes have been growing in popularity as a research tool in qualitative and quantitative methods, and research has validated the method when respondents are children and adolescents [11]. Our story themes were initially selected to be illustrative of topics for which NSOs and researchers might use ACV methodology. Development of vignettes was done iteratively to make sure the stories would be culturally relevant. Initially we drew upon qualitative literatures in sociology, education, child rights, and geography, among others, as well as the expertise of our colleagues to create stories that would be appropriate for a pilot study in Tanzania. For example, Mojola [12] found that Kenyan girls turn to older boyfriends when they feel themselves in need of money, so that became an element of a vignette. Another study documented that boys on Zanzibar (Tanzania) tended to drop out before completing secondary school because of the lack of job possibilities, so that became a story line [13]. Our approach has been to describe challenging situations faced by young people in the vignettes, and then end each vignette on a question: what should the main character (a young person) do? Each vignette describes some possible outcomes of the situation before ending. In Tanzania, those outcomes were developed in part with local collaborators, using exploratory research. A flowchart documenting

<sup>2</sup>Thanks to psychologist Glenace Edwall for this insight.

<sup>3</sup>*Elimu ni ufunguo wa maisha*. Vavrus [10] has documented that even when the evidence around them is clearly to the contrary, Tanzanians show a remarkable tenacity in their belief in the powers of formal education.

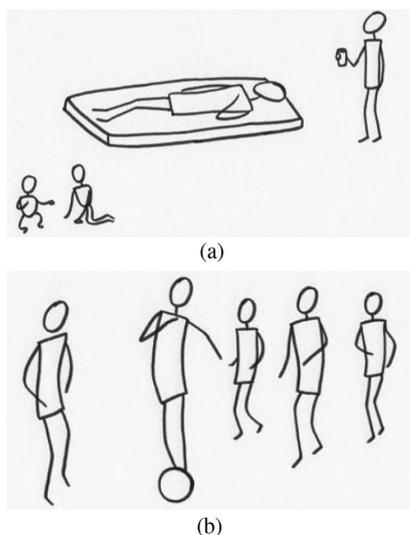


Fig. 1. (a) Sick parent; (b) playing soccer.

the story development process is available on the ACV website.<sup>4</sup>

Since we proposed to use images, finding a style of image that could be used in multiple country contexts was a priority. In 2017, Bolgrien consulted with children in Sierra Leone, exploring how children would respond to and critique different image styles. We intended to avoid details about facial structure, body type, hair or hair styles, skin color, clothing, and footwear (for example) that may indicate community membership and socio-economic status. Because such details can influence responses in complicated and invisible ways, we began experimenting with minimalist styles. The children who see these images may not be used to cartoons, so we aimed to avoid the use of standard cartoon conventions (for example, thoughts in bubbles, or !! over a head to indicate surprise). The final ACV cartoon style, drawn by artist Hillary Carter-Liggett and illustrated in Fig. 1, avoids as many details as possible while indicating movement and, sometimes, emotion. Instead of fully animated movement, we used a combination of still images (with fade-ins and fade-outs) and occasional animated scenes. We have committed to making a free or open source library of images and animated scenes that NSOs and other researchers can use to create a variety of vignettes.<sup>5</sup>

Another innovation, again driven by a desire to provide respondents as much privacy as possible, was to



Fig. 2. Smiley scale.

use a modified 5-point “Smiley scale” to capture young people’s initial responses to possible outcomes to a cartoon story, as shown in Fig. 2. Smiley scales have been used by health care researchers, to record, for example, pain levels of young patients (e.g., [14]). The Smiley scale was printed and laminated, allowing respondents to hold it and point at responses rather than say them out loud. Future pilots of ACV methodology aim to test the feasibility of child respondents independently operating the survey software with pre-recorded audio for the question and possible responses. This would maximize privacy but so far has been incompatible with survey software used by our partner organizations. One of our goals is for this tool to be inexpensive for others to adapt.

Other follow-up questions were unable to avoid the necessity of an oral answer, as discussed below. However, even those adults who refused to stay at a distance from young respondents – perhaps to protect them from unknown survey researchers – could not tell what situation the questions referenced. For a few potentially sensitive questions that might be understood by listeners, the field researchers had a pre-programmed option: “Skip question because someone is listening.” It was used a small number of times. We had no situations where young people were put at risk, to our knowledge; this was confirmed in a small follow-up study, discussed below.

### 3. ACV methodology pilots

To test the ACV survey methodology, we developed and piloted child modules in Tanzania in 2018. A later pilot was conducted in Nepal in 2019. Vignette topics were selected based on country- or region-specific reports and studies; topics were modified after exploratory research in June 2018. While we developed seven vignettes for Tanzania and used all seven in exploratory research, we focused on four of them for the survey component of the first pilot conducted in July 2018 in a rural village in Tanzania, in order to have greater sample sizes for each one (see Table 1). Most had separate voiceovers (in Swahili) by gender: if the respondent were male, he would hear a male voiceover describing a boy as the main character, and similarly for

<sup>4</sup>See <https://www.animatingchildrensviews.org>.

<sup>5</sup>See ACV project website in footnote 4.

Table 1  
Animating Children's Views (ACV) - Pilot studies 2018

Location of field research	Rural Tanzania	Urban Tanzania
Dates of field research	June-July 2018	Nov-Dec 2018
Survey of mothers/guardians	103	145
ACV module for 12–17 year-olds	133	194
Vig.1 – child has sick parent	93	–
Vig.2 – student beaten by teacher	92	185
Vig.3 – child works as porter	–	195
Vig.4 – teacher making advances	89	–
Vig.7 – teen pregnancy	104	187
Post-survey interviews (children)	66	86
Number of focus groups	10	13
Focus group participants (children)	46	55
Total household members for whom data exists	636	824

females. The four video stories used in the rural survey involved a child with a sick father, a student being beaten at school, a teacher making (sexual) advances to a schoolgirl, and a teen pregnancy scenario. Each video had follow-up questions, then another video could be watched, with the vignette order randomized. Not all respondents watched all four videos; some had after-school chores they needed to get to, for example. In the second (December 2018) pilot in an urban area, we included three vignettes in a fixed order: a newly-developed story about child labor, the pregnancy story, and the story about being beaten at school.

While this paper will focus on the two Tanzanian pilots, examples from a 2019 Nepali pilot illustrate the flexibility of the ACV methodology. For peri-urban Kathmandu, vignette stories were developed in collaboration with a local partner and in consultation with a non-governmental organization (NGO) that works with children. The challenge of cultural relevance and appropriateness implies potentially different stories for any given country or region. We found that in Nepal, schoolgirls becoming pregnant was not common and the topic was not considered appropriate, although in rural areas early marriage would have been a reasonable story. Similarly, peri-urban schools included much more verbal than physical punishment of children, so we modified the Tanzanian story about a teacher beating a student into a Nepali story about a teacher verbally abusing a student. We were able to use the story about street harassment of girls from Tanzania, and we added two completely new vignettes about bullying and family violence. We were concerned that the family violence

story would be high-risk but were encouraged by the response of NGO staff. A protocol was put in place in the event of field researchers talking to a young person who desired help in a family violence situation.

All the vignettes that we developed were, per the UNCRC's Article 12, on topics that young people might very well be thinking or even worrying about. Each one set up a challenging (problematic) situation involving a character who was clearly a young person; each one talked about possible outcomes or next steps; and each one ended with a question: what should this "cartoon kid" do? We purposefully did not include "easy outs" (obviously best outcomes) among the possibilities for the cartoon kid, to make the story as realistic as possible, while also allowing some room for young respondents to come up with their own solutions via an open-ended option to at least one question. The Smiley scales immediately followed each video, with questions asking how the cartoon kid felt about each option presented in the vignette. These were followed by a series of questions including, first, "What should [the cartoon kid] do?" In rural Tanzania (only) we next asked "What is the best outcome in this situation?" thinking that this might give the respondent a chance to give the socially desirable answer. This was followed by "People do not always do what is best. Around here, what is the likely outcome of this situation?" Additional questions, such as two asking who would decide which outcome would be selected and whether the respondent had ever known someone (including her-/himself) in that situation, helped us understand more about the respondent's familiarity with the situation. Post-video questions sometimes also addressed issues of policy.

To simulate the experience of using this tool with a large-scale survey, and also to gain contextual information to use in analysis, we conducted a small-scale randomized survey in a large rural village in Tanzania in July 2018. We returned to Tanzania in November-December 2018 to conduct a similar urban study in the city of Arusha. A third study took place on the outskirts of Kathmandu, Nepal, in May-June 2019. In all three pilots, the same basic process was followed: After a household was sampled<sup>6</sup>, the mother or another adult was interviewed and was asked for consent to inter-

<sup>6</sup>In the rural Tanzanian village, all seven sub-villages were sampled proportionately to their share of the total population. In the urban Tanzanian study, 20 sub-units (streets or *mitaa* in Swahili) of the city were randomly sampled out of 125 total; within each street, randomization took place at two further levels. In peri-urban Nepal, two districts outside of central Kathmandu were purposively selected in order to include a range of living situations, from densely urban

view children ages 12–17 from that household. The field researcher looked for a quiet and private place to interview the child (if assent was given), preferably in view but not hearing of others. The child respondent was given a tablet and a headset and shown how to use them. After watching one video, and listening to the voiceover in Swahili or Nepali, the respondent answered questions about it; she/he then watched up to two or three more videos, with follow-up questions after each. Field researchers held other tablets on which they entered survey responses using SurveyToGo software. (It would be possible, however, to have videos and the survey software on one device, handed back and forth.) A small number of survey questions ended the child module (e.g., confirming level of education to compare to proxy report; confirming birth order). Selected respondents were invited to participate in qualitative interviews (mostly very short) and same-sex focus groups. The qualitative research was vital to the validation of the survey responses, and mixed method examples of our results are discussed below. Table 1 describes the numbers of participants in each aspect of the Tanzanian research.

A number of strategies were used to reduce the adult interviewer/child respondent gap in status and power and thus (ideally) the amount of adult-pleasing behavior and other social desirability bias, especially for the qualitative research. One strategy involved conducting interviews at children's homes instead of in a school setting, to reduce "pleasing the teacher" responses – that is, children saying what they guess is "correct" rather than what they think. As another strategy, field researchers stressed that "there are no correct answers and no wrong answers" in their initial conversations with children. They also used informal language and forms of address with young respondents, and they aimed at seating arrangements to minimize power dynamics (see [15]).

Because of our interest in potential risk to child respondents, we did a small follow-up study of urban Tanzanian child respondents who had been interviewed in December 2018. In June 2019 members of the original field research team were able to locate and re-interview 37 young people. To avoid leading questions about risk, interviewers asked what had happened after the original interview. Most respondents felt that the original interview was a neutral experience and told the field

research they had not experienced any reactions after participating. About half of the respondents reported that they had discussed the stories with their parents. Only five respondents reported not discussing the original interview with anyone. Of the eight respondents who reported having a negative memory of the original interview, all eight were referring to feeling sad or angry about the difficulties faced by the cartoon character. Based on detailed debriefing with the follow-up team, it seems unlikely that any of the re-interviewed participants felt at increased risk during or after the interview process. There is selection bias in the re-sampling process, so it is impossible to universally rule out increased personal risk to young respondents, but we found no indication of such.

#### 4. Methodological findings

Analysis of quantitative and qualitative leads to a number of conclusions about the ACV methodology:

Finding (1): *Young people understand the images and can follow the videos.* Children were able to repeat stories back in detail, in exploratory research. When specifically asked about the images used in the videos, in focus groups, children reported that it was easy to understand what was going on based on the images and the audio. There were a small number of cases where field researchers felt that the story had not been understood. In debriefings we sometimes learned of indications that such respondents had a cognitive disability. These cases were outliers.

Finding (2): *Vignette situations were familiar.* That is, similar situations occurred in real life in the locality. This was important insofar as we hoped to learn what young people thought about situations *about which they had already had time to develop their own perspectives.* Survey research is sometimes criticized for asking respondents to instantly form an opinion on a topic that they had not previously come across. Thus, we aimed to include stories about situations so common that most if not all young respondents would have heard about similar situations, or possibly experienced them.

Quantitative evidence on this finding comes from the question about whether the respondent had ever known anyone (including him- or herself) in that situation. Percentages ranged from a low of 16% in a story about a male teacher making sexual advances to a female student to a high of 54% for a story about a student being beaten at school. This question did not ask, "Have you heard of this happening to anyone?" but rather,

---

to rural, as well as households with varying socio-economic status. Buildings were sampled from a satellite image, then samplers found households living in or near sampled buildings.

did the respondent personally know someone who had experienced this. With that in mind, we consider these percentages quite high. Qualitative responses show that respondents had also heard of these situations happening, even if they did not personally know someone in a similar situation. For example, regarding the pregnancy story:

Interviewer: You have told me that you have never come across a person with a similar situation. How did you know [that many people are experiencing it]?

Respondent: It never happened to a person around here. But I always hear these things on the street. I also hear from people. I also see girls in the street who have left school and now have kids.

– 17 year-old girl

Finding (3): *Vignette dilemmas were (mostly) understood.* During the pilots, field researchers debriefed at the end of each day. If a respondent appeared to have difficulty understanding part of a story, this was apparent from his/her responses to the survey and (sometimes) a post-survey interview. Most frequently, these (rare) cases involved 12–13 year-old boys who did not have a correct understanding of human reproduction, or for whom our phrasing was too indirect. For example, as one possible outcome in the pregnancy scenario, the video suggests that a girl could “get herbs or medicines to bring back her period” instead of mentioning abortion directly. This tactic of using euphemisms, as discussed by Suh [16] and Plummer et al. [17], allowed us to avoid the use of the word *abortion* in out-loud follow-up questions. While some of the youngest boys did not understand this part of the story, other qualitative data have convinced us that the wording was understood by female and older male respondents.

This finding can also be seen quantitatively. For example, in the story involving a teacher making sexual advances to a schoolgirl – and threatening to fail her on an important exam if she did not cooperate – one of the options was “do what the teacher wants.” Out of 88 respondents in the rural survey, six were “happy” or “very happy” about this option – and five of the six were 12–13 year-olds. They most likely did not grasp that this meant the student should have sex with her teacher. The rest of sample seems to have grasped the implications of this part of the story – and indicated a non-happy response.

Because boys are known to developmentally lag girls, and because this gap peaks about age 12, it is not surprising that it is the youngest boys are most likely to

occasionally misunderstand (e.g., [18]). This may be accentuated if even young girls experience sexual harassment, or if girls are given some sex education by family members upon hitting puberty.

Finding (4): *The child module is low-risk.* This conclusion is based on debriefing notes, observations in both rural and urban field research, and a small follow-up survey for the urban sample, discussed above. There were absolutely no indications that participating in the survey put a respondent at increased risk of harm. The use of the “skip this question because someone is listening” option in urban Tanzania suggests that it is possible that responding to some kinds of questions, if there is a listener, could be problematic.<sup>7</sup>

Finding (5): *The child module is time-efficient.* We structured our child survey to mimic a module added to a household survey. Child respondents were asked several basic demographic questions to establish rapport and create familiarity with tablet computers. The vignettes were presented first by asking the young person to watch a short (1–3 minutes long) video and then to answer six to 16 questions about it. On average, each video and question combination took between five and eight minutes. Respondents were asked if they would like to watch another vignette at the end of each set of questions, and most assented to watch all the videos we had prepared. In the Tanzania pilots, participating in the ACV child module took approximately 30 minutes total and included four vignettes in the rural pilot and three vignettes in the urban pilot. The duration of the ACV modules depends greatly on the length of the cartoon video and the number of survey questions for each vignette. Compared to the long household and labor force surveys that adults typically respond to, adding one or more vignettes would not substantially increase time spent in a household, but it can greatly improve the data capturing adolescent perspectives in survey research.

*Limitations.* The rural Tanzania (July) sample was conducted while school was in session, and a number of older children could not be interviewed because they were in boarding school. Thus, our July sample is weighted towards younger children. For this reason, we interviewed the urban sample in December, when many (but not all) students were on holiday. While this did

<sup>7</sup> In the urban survey we added a final question to the pregnancy vignette, “Is it easy for kids around here to get condoms?” This was skipped 22 percent of the time. Another new question, “Should pregnant girls be allowed to stay in school?” was skipped only 1 percent of the time. In addition, for every question asked, there were options for “Don’t know” and “Refused”. These were used rarely.

not solve another difficulty – the challenge of finding out-of-school young people who are working and living independently – it improved the age distribution. Another limitation is that people with hearing disabilities may not be able to hear video voiceovers.

## 5. Substantive findings

What can be learned using ACV child modules? The following examples show the kinds of substantive findings that can result from analysis of post-vignette questions. The ACV methodology is intentionally flexible and able to be adapted for any number of topics where children's perspectives may be unique from adults. These examples represent two very different topics, reproductive and sexual health and educational policy. They show the complex understanding and nuance that children's perspectives can bring to the conversation.

### 5.1. Example: Vignette about teenage pregnancy

In both pilot sites in Tanzania, a vignette about pregnancy was used in the survey. Two identical videos – with different voiceovers – tell the same story from the girl's perspective and the boy's (father's) perspective; these were shown to respondents of the corresponding gender. The vignette begins with a girl who is in a happy relationship with an older boy. She discovers she is pregnant. The protagonist (the girl or the boy) thinks about what to do. The vignette presents several options that this girl/boy might be thinking about including: "getting her period back" by using medicine or herbs (as discussed above, a euphemistic way to discuss abortion while preventing listening adults from understanding), the couple marrying, and either set of grandparents caring for the baby. It ends with a question: "What will happen? What should she/he do?" Development of these options are based on quantitative and qualitative academic literatures on teenage sexual relationships in Tanzania, cultural norms about premarital sexual relationships, and local realities young Tanzanians may face. One local reality is that pregnant girls and mothers are expelled from government (public) schools in Tanzania as current policy makes it illegal for them to remain enrolled or re-enroll (e.g., [19]). Moreover, boys and men may be jailed for 30 years for making a schoolgirl pregnant [20].

Survey questions that accompany the pregnancy vignette explore young people's perspectives on cultural norms about teen pregnancy and the services and op-

tions available in such a case, opinions on gendered decision making, and reactions to policies. None of the questions directly asks respondents about their own sexual behaviors or intentions. Selected results are presented below.

Respondents of both genders overwhelmingly said that the cartoon kid would feel bad about the situation, with 82 percent indicating the two left-hand emojis of the Smiley scale (Fig. 1) that we call "very sad/angry" and "sad/angry." Given the negative cultural stigmatization of teen pregnancy in Tanzania, this result was expected. Fifty-seven percent of respondents felt negatively about the girl seeking an abortion ("getting her period back") while the majority (66%) felt positively about the cartoon couple getting married. Even using only results from the Smiley scale, it is possible to gain insights into how young people are thinking about teen pregnancy. For example, the outcome where the boy's parents will take the baby was perceived negatively by two-thirds of respondents but only 20 percent of respondents felt negatively about the option where the girl's family takes care of the baby. Respondents are reacting to perceptions of gendered social roles regarding parents, and this is reflected in the decision the respondents attribute to cartoon characters.

To understand how young respondents were imagining the cartoon story, in particular with reference to their own experiences and observations, they were asked to identify which of the possible story endings presented in the video was the most likely to happen, if it were happening "around here." The most-identified outcome, among more than 20 different (non-prompted, pre-coded) outcomes for the cartoon girl, was that she would leave school (15%). This outcome was understood to be a disaster for the cartoon girl, yet 70 percent of respondents supported the national policy that pregnant girls should be expelled from school. Results suggest respondents are slightly more lenient towards teen mothers: 44 percent responded that young mothers should be allowed to return to school. Overall, very few respondents identified positive outcomes for the girl (such as marriage, finding work, being supported by family, and returning to school). Most respondents described the girl, the baby, and the couple facing negative social outcomes (single motherhood, infant abandonment, abusive partners, etc.) and physical outcomes (STDs, complications from the delivery, death, etc.). The negativity of the survey responses is validated in qualitative interview responses such as this one from a 16-year-old girl who had said in response to a survey question that death was the likely outcome of a teen pregnancy:

“Death might result because sometime when they enter marriage between a girl and a boy, you know a boy might be older than a girl. Therefore, the boy sometimes might meet other girls more beautiful than the one at home [the one he is married to]. He can bring trouble by cheating with another woman. The girl remains alone, and you find that she does not have any economic activities; does not have her own business, does not have an economic activity, is not employed, does not do anything, and has so many children. She can commit suicide, because she thinks, “I have nothing, life is hard,” every day she has to beg. Sometimes her life is difficult, so she thinks it’s better to commit suicide, so she can no longer have to endure suffering of this world, due to her poverty.”

The negative Smileys reflect young people’s perceptions of few options and little tolerance for girls who get pregnant, despite a local reality where premarital sex and transactional relationships with older men are not uncommon for young girls (e.g., [12]).

Surveys asking directly about teen pregnancy face issues of children and adolescents misreporting or manipulating responses on personal sexual behaviors and desires, either through fear of punishment or shame [21]. The ACV vignette allows for nuanced and gendered understandings of young people’s perspectives of local realities in the event of pregnancy, without probing about their own sexual behaviors. These types of hypothetical situations also allow for a broader population of children to respond about their understandings of options for pregnant teens without limiting the sample to females who are already sexually active or have experienced a pregnancy. It is our perception that boys are systematically excluded in studies on these and related topics. One exception is Godia et al. [22], who report findings about sexual and reproductive health based on 18 focus groups and 39 in-depth interviews with 10–24-year-olds in Kenya. They document policy-relevant differences between males’ and females’ experiences with health care delivery, using purposive and snowball sampling. ACV would allow similar discussions on a much larger scale, from which generalizations could be made with confidence.

### 5.2. Example: Vignette about a teacher beating a student

Tanzanian school children are regularly beaten by

teachers,<sup>8</sup> and many parents encourage the practice, despite Tanzania’s ratification of the UNCRC, where Article 28 states that, as part of the right of the child to education, “States Parties shall. . . ensure that school discipline is administered in a manner consistent with the child’s human dignity. . .” Qualitative findings show that children feel strongly about being beaten and otherwise humiliated by their teachers: they don’t like it (e.g., [23,24]). One ACV vignette addressed this issue. It portrays a cartoon child who has been directed by his/her mother to do chores at home before leaving for school; the child runs and runs to reach school on time but is tardy and is therefore beaten by a teacher upon arrival. The vignette goes through options of how the child might avoid future beatings: (1) getting up earlier to do chores, even though that means being sleepy in class; (2) asking mother if the chores could be done after school; (3) skipping school; (4) dropping out of school; (5) moving away to live with a relative and thus attending a different (closer) school; and (6) going to local leaders to ask them to tell teachers not to beat children.

As anticipated, 92 percent of respondents report the cartoon kid will feel sad or angry about this situation. Some of the options offered as possible outcomes are appealing to young respondents, with over half pointing at happy Smiley emojis for options (2), (5), and (6). Still, the implementation of these options was viewed as having impediments, as became apparent via questions asking what the cartoon kid should do. Escaping the situation by moving to stay with relatives – thus changing schools – had the most appeal (23%) but not as much as 67 percent happy emojis might suggest. Taking the initiative to negotiate with her/his mother was an equally popular recommendation (23%) but it was clearly viewed with some trepidation, as children discussed in interviews and focus groups. Some thought the mother would be receptive:

“If it is the mother who will understand her child very well, I think she will make arrangements such that the child can do half of the chores, [so that] he can go to school early. When he comes back he can do other jobs which will not affect his studies.”

– girl, age 13

However, others did not believe the mother will listen to the child:

<sup>8</sup>In an extreme case in August 2018, a child was beaten to death by a teacher [25].

“...if you observe, there are some parents who don’t want to talk to their children, they are not taking seriously this issue of [children] being over-worked. The parent knows that, after waking up, she knows that she is a parent. She has power to drive [control] you the way she wishes.”

– boy, age 16

Similarly, talking to leaders, while rated highly with smiling emojis (73%), was given as the favored choice for the cartoon kid by only 18 percent of respondents. In general, in the various vignettes, young Tanzanians liked the “get help from an adult” option in theory but not in practice. Smiley responses heaped on the positive end of the scale, but smaller percentages of respondents chose solutions involving adults when asked what the cartoon kid should do. In many cases, children and adolescents selected options indicating that young people would have to rely on themselves in difficult situations. In qualitative interviews and focus groups, respondents said that adults were supposed to listen to children and be a resource for children to go to for help, but that many parents could not be addressed by a child, that leaders were unlikely to listen to kids, and that teachers were unreliable allies – they might instead penalize the young person seeking help.

Using the vignette method, we asked questions that related to agency and power dynamics in a way not possible if asking respondents to report their own experiences. In order to understand agentic decision making, we asked respondents to identify who in the vignette would make the ultimate decision about how to solve this difficult situation. In the beaten-at-school story, 43 percent indicated that the decision would belong to the cartoon kid’s mother or parents. One girl, age 12, explained:

Because if her [the cartoon character’s] parent is the one given the chance to decide, she can decide that the child should drop out of school, or she might decide that the child should continue going to school late and be punished. Because the parent doesn’t see a problem, she is not the one getting punished.

Still, a substantial percentage of young respondents (40%) felt that the cartoon kid would ultimately decide how to resolve this situation, presented in the video as not being bearable for much longer. And, while many (16%) felt the cartoon kid would resolve the difficulty by getting up earlier, a troublingly high percentage (18%) expected the cartoon kid to drop out of school – thus asserting agency by escaping a bad situation. This was not viewed as a happy solution (4% happy emojis)

as most child respondents were convinced of the necessity of education for a happy and successful adulthood, according to our qualitative findings, such as:

“If he drops out of school, later, when he is grown up, his life will become difficult.” – boy, age 13

“Because education is everything nowadays. It is difficult to get good life if you are not educated.”

– girl, age 14

The young respondents understood the dilemma of the cartoon kid and the difficulties of either facing continued punishment or dropping out of school.

### 5.3. *Components of ACV methodology in the context of Tanzanian pilots*

Using stories on a large scale as part of survey research can add to official statistics in meaningful ways. Table 2 lays out how the two example vignettes discussed above are related to international contexts (Conventions, SDGs), national and local contexts, norms, individual behaviors, risks avoided by ACV methodology and benefits of using ACV, findings, and potential revisions to future stories, as well as policy recommendations.

These findings about how children are navigating the world would not be possible to uncover using traditional survey methods. The use of vignettes provides a deeper understanding of how children and adolescents are interacting within norms prevalent in their area and also allows them to more freely express their opinions about what they like and dislike about particular situations without speaking directly about their own home or family or school. Video cartoon vignettes can be powerful tools to understand how children are experiencing their worlds and offer insight into how they view different solutions to various challenges. NSOs are needed to generate results about young people’s perspectives on a large scale, so policy-makers will pay attention to this vulnerable population speaking for itself.

## 6. Conclusion

It used to be considered appropriate to collect data only from men, with the thinking being that men could speak for (and better than) the women in their households. Now it is understood that female respondents are necessary to generate needed data for a well-rounded policy discussion. Similarly, we argue that adults cannot and should not be considered adequate proxy respon-

Table 2  
ACV methodology – vignette examples about teen pregnancy and school punishment

ACV step	Vignette about pregnancy	Vignette about being beaten at school
Relevant UN convention or SDG	Sexual and reproductive health (SDG 3); Gender equality (SDG 5)	UNCRC Article 28; Quality education (SDG 4)
National context in Tanzania (TZ)	Pregnant girls and mothers expelled from school. Boys and men jailed for making a schoolgirl pregnant.	Illegal to beat students in school, but law is not enforced.
Local context	Cultural norms against premarital sex. Allowing pregnant girls or mothers back in school is believed to “corrupt” other girls [26]. Still, many teenage girls in TZ get pregnant.	Corporal punishment appears to be commonly used in school. Children in our survey thought “getting strokes” was normal for certain offenses such as tardiness.
Adult view	Teenagers should remain abstinent while in school. Those who get pregnant are deviant.	Parents expect teachers to beat children. Children are responsible for chores at home.
Hypothesized difference between adult and kid view	Girls may make calculated decisions about engaging in transactional sexual relations [12]. Boys may be more positive about premarital sex.	We expected children to feel negatively about corporal punishment.
Potential risks of collecting individual-level data on this topic from children directly	Being interviewed at home, where young people may be overheard, is likely to lead to substantial underreporting of sexual activity, relationships, or illegal abortions.	Being interviewed at home, children may not reveal that they have been punished at school, received bad marks, or skipped school, as parents may punish such disclosures.
Benefits of using the ACV indirect (vignette) methodology	Less risky to talk about hypothetical young people	Less risky to talk about hypothetical young people
ACV Findings	Pregnancy is expected to lead to dropping out of school and the end of education for a girl, considered disastrous. Marriage is a desired outcome, but an unlikely one.	Instead of blaming the teacher who is doing the beating, respondents blame the mother who assigned chores to her child, thus putting the education of the child at risk.
How NSOs might revise the vignette, when scaling up	The story was widely understood by children of all ages. In order to better understand how children are thinking about sexual and reproductive health, consider more survey questions about how the cartoon girl is interacting with healthcare services.	Corporal punishment was the intended focus of this story, but child respondents focused on the relationship between the parent and child. Additional questions here could ask about how familial support is related to a cartoon child’s educational outcomes. To bring the conversation back to the teacher and punishment, craft a story that has alternative reasons for punishment (poor grades, disruptive behaviors) and alternative forms of punishment (school chores, scolding).
Policy Recommendations based on findings	Create opportunities for girls who get pregnant to finish their education. Modify the law about premarital sex so that schoolboys in consensual relationships are not punished by a law meant to address early marriage.	Making educational institutions more flexible and responsive to young people’s family commitments could improve educational outcomes, especially for children in difficult circumstances.

dents for children who are old enough to participate in survey research. The UNCRC says that we should listen to children about matters that affect them, and the SDGs indicate a number of topics that clearly affect young people. However, because they are especially vulnerable, additional care must be taken not to put child respondents at risk during an interview.

For a multitude of topics on which proxy responses are inadequate and direct questions are too risky for child and adolescent respondents, Animating Children’s Views modules can be attached to large representative surveys. “Children should be seen and not heard” is a proverb that has lost its resonance as it denies young people their human rights. Adults, moreover, need to understand the reasons behind the behaviors of children

and adolescents to be able to effectively strategize responses to them. For example, beyond the number of out-of-school children, knowing motivations for dropping out of school can improve policies aimed at economic development. We argue that national statistical offices should add ACV child modules to large, representative surveys, thereby becoming leaders in inclusive survey designs.

The goal of the ACV project was to develop a methodology rather than answer any particular substantive question. The best way to *use* the methodology is to start with a hypothesis or question about an issue of concern, develop and test questions with close-ended responses that might help adults understand the way young people are thinking about the issue – while al-

ways leaving space for unexpected responses or ways of thinking – then develop a vignette that would provide a framework for those questions. Thus far, vignette development has been driven by common challenging situations rather than by particular questions about them. We aimed to show the ability to use stories to address different types of questions, such as those concerning health and sexuality, education, gender discrimination, labor market issues, and others. Our bullying and sexual harassment stories could be adapted to a variety of abusive situations, including within the workplace. A family violence story suggests that ACV can be used even with extremely sensitive subjects. Additional topics might include safety in conflict zones or in refugee camps, political radicalization, food insecurity, mental health, disability, drug/alcohol abuse, and social media and technology use. Many of these topics are of great interest to African policy-makers. Without enthusiastic support from official statisticians, however, policy-makers are unlikely to understand the relevance of input from young people or the importance of providing resources to support appropriate methods for collecting data from such vulnerable groups. Their experiences and concerns should be given weight in local and regional policy debates; young people are the future leaders of Africa.

### Acknowledgments

The authors gratefully acknowledge support from (1) the Human Rights Initiative Fund of the University of Minnesota; (2) the University of Minnesota's Grants-in-Aid of Research, Artistry and Scholarship; (3) the Humphrey School of Public Affairs for 2018-19 support for Anna Bolgrien; (4) the Interdisciplinary Center for the Study of Global Change (ICGC) at the University of Minnesota for funding the research circle, "Children and Youth as Subjects, Objects, Agents: Lives and Livelihoods in the Global South" (YaSOA); and (5) the Minnesota Population Center, funded through a grant (P2C HD041023) from the Eunice Kennedy Shriver National Institute for Child Health and Human Development NICHD. In addition, we are grateful to many people for encouragement and feedback, in particular Michael Bourdillon, Andy Dawes, Bjorn Gowdy-Jaehnig, Gillian Mann, Joseph Ritter, Antje Ruhmann, Jessica Taft, and Frances Vavrus; also participants at a YaSOA workshop, particularly MJ Maynes; also participants at Humphrey School workshops, especially Ragui Assaad, Glenace Edwall, Greta Friedemann-Sanchez, Jason Kerwin, Jeylan Mortimer, and Maura Shramko.

### References

- [1] UN General Assembly. United nations convention on the rights of the child. United Nations, Treaty Series. 1989; 1577: 3.
- [2] Hughes R, Huby M. The construction and interpretation of vignettes in social research. *Social Work and Social Sciences Review*. 2004; 11(1): 36-51.
- [3] Levison D. Children as economic agents. *Feminist Economics*. 2000; 6(1): 125-134.
- [4] Holt L. Exploring other childhoods through quantitative secondary analyses of large scale surveys: Opportunities and challenges for children's geographers. *Children's Geographies*. 2006; 4(2): 143-155.
- [5] de Leeuw E, Borgers N, Strijbos-Smits A. Children as respondents: Developing, evaluating and testing questionnaires for children. *International Conference on Questionnaire Development, Evaluation and Testing Methods*. 2002; Charleston, South Carolina USA, November.
- [6] Bell A. Designing and testing questionnaires for children. *Journal of Research in Nursing*. 2007; 12(5): 461-469.
- [7] de Leeuw E. Report to the statistical information and monitoring programme on child labour of the International Labour Office's International Programme on the Elimination of Child Labour. 2003.
- [8] Fisher RJ. Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research*. 1993; 20(2): 303-315.
- [9] Maccoby EE, Maccoby N. The interview: A tool of social science. in: *Handbook of Social Psychology*. Lindzey G, editor. Cambridge, MA: Addison-Wesley. 1954; 1: 449-487.
- [10] Vavrus F. *Desire and decline: Schooling amid crisis in Tanzania*. New York: Peter Lang; 2003.
- [11] O'Dell L, Crafter S, de Abreu G, Cline T. The Problem of interpretation in vignette methodology in research with young people. *Qualitative Research*. 2012; 12(6): 702-714.
- [12] Mojola SA. *Love, money and HIV: Becoming a modern African woman in the age of AIDS*. Oakland CA: University of California Press; 2014.
- [13] Morris E. *Performing graduates, dropouts, and pushouts: The gendered scripts and aspirations of secondary schools students in Zanzibar*. University of Minnesota Ph.D. dissertation, 2018.
- [14] Scott J. Children as respondents: Methods for improving data quality. in: *Survey Measurement and Process Quality*. Lyberg L, Biemer P, Collins M, de Leeuw E, Dippo C, Schwarz N, and Trewin D, editors. New York: Wiley. 1997; 331-350.
- [15] Bolgrien A, Levison D, Vavrus F. Generational power in research with children: Reflections on risk and 'voice'. in: *Children and Youth as Subjects, Objects, Agents: Innovative Approaches to Research Across Space and Time*. Levison D, Maynes MJ, Vavrus F, editors. New York: Palgrave Macmillan. In press 2021.
- [16] Suh S. Metrics of survival: Post-abortion care and reproductive rights in Senegal. *Medical Anthropology*. 2019; 38(2): 152-166. doi: 10.1080/01459740.2018.1496333.
- [17] Plummer ML, Wight D, Ross DA, Balira R, Anemona A, Todd J, Salamba Z, et al. Asking semi-literate adolescents about sex behaviour: The validity of assisted self-completion questionnaire (ASCQ) data in rural Tanzania. *Tropical Medicine and International Health*. 2004; 9(6): 737-754.
- [18] Borgers N, De Leeuw E, Hox J. Children as respondents in survey research: Cognitive development and response quality. *Bulletin de Methodologie Sociologique*. 2000; 66: 60-75.
- [19] CNN. They failed mandatory pregnancy tests at school. Then they were expelled. October 11, 2018. Accessed at

- <https://www.cnn.com/2018/10/11/health/tanzania-pregnancy-test-asequels-intl/index.html> on March 15, 2019.
- [20] Makoye K. Tanzania launches crackdown on child marriage with 30-year jail terms. *AfricaTech*. July 4, 2016. <https://af.reuters.com/article/topNews/idAFKCN0ZK1K9>.
- [21] Plummer ML, Ross DA, Wight D, Chagalucha J, Mshana G, Wamoyi J, Todd J, et al. A Bit more truthful': The validity of adolescent sexual behaviour data collected in rural Northern Tanzania using five methods. *Sexually Transmitted Infections*. 2004; 80(2): 49-56. doi: 10.1136/sti.2004.011924.
- [22] Godia PM, Olenja JM, Hofman JJ, van den Broek N. Young people's perception of sexual and reproductive health services in Kenya. *BMC Health Services Research*. 2014; 14: 172.
- [23] Harber C. *Schooling as violence: How schools harm pupils and societies*, New York: RoutledgeFalmer; 2004.
- [24] United Republic of Tanzania. *Tanzanian children's perceptions of education and their role in society: Views of the children 2007*. 2008. Available from [https://media.africaportal.org/documents/Views\\_of\\_the\\_Children\\_2007.pdf](https://media.africaportal.org/documents/Views_of_the_Children_2007.pdf).
- [25] Ratcliffe R. Outcry as boy, 13, dies after beating from teacher in Tanzania. *The Guardian*. 2018. Available from <https://www.theguardian.com/global-development/2018/sep/03/boy-13-dies-after-beating-tanzania-corporal-punishment-sperius-eradius>
- [26] Hall KA, Manu A, Morhe E, Dalton VK, Challa S, Loll S, Dozier JL, Zochowski MK, Boakye A, Harris LH. Bad girl and unmet family planning needs among sub-Saharan African adolescents: The role of sexual and reproductive health stigma. *Qualitative Research in Medicine & Healthcare*. 2018; 2(1): 55-64.