

Pregnancy rates, attitudes and behaviour changes among graduates of Teens and Toddlers: Annual Retrospective Study 2007

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This paper provides an account of the pregnancy rates, attitudes and behaviour changes of graduates from a teenage pregnancy prevention intervention called Teens and Toddlers which targets young people considered to be at-risk of becoming teenage parents. The programme is a teenage pregnancy prevention, sexual health and experiential youth development initiative. The study is an annual retrospective study, which this year comprised a survey of 263 graduates of the Teens and Toddlers programmes that were conducted in the London (UK) Boroughs of Greenwich, Islington, Southwark, Tower Hamlets, Brent and Camden. Strong evidence was found to suggest that the aims of the programme are both well implemented and effective. When the number of pregnancies that were reported is considered using the conventions implemented by the UK Government's Teenage Pregnancy Unit, the result achieved is that 97.3% did not report a pregnancy incident (i.e. 2.7% of respondents reported a pregnancy incident). Attitudes were also measured, using questions which reflect the Government's five Every Child Matters outcomes which the programme claims to contribute to. It is concluded that, while some elements of the programme require further research, it appears to be successful in affecting the attitudes, behaviour and pregnancy status of participants.

Introduction

Teenage pregnancy in the UK

In 1999 the UK Government prioritised Teenage Pregnancy and established the Teenage Pregnancy Unit (TPU) as part of a ten-year strategy to reduce teenage conception rates. Recent figures show that the Government are making some progress towards achieving its target of halving the under-18 conception rate by 2010. The provisional 2005 under-18 conception rate for England of 41.1 per 1,000 young women aged 15-17 represents an overall decline of 11.8% since 1998 (the baseline year for the Teenage Pregnancy Strategy). This shows that the under-18 conception rate is at its lowest for twenty years. The provisional 2005 under-16 conception rate for England was 7.8 per 1,000 young women aged 13-15. This is 12.1% lower than the Strategy's 1998 baseline rate of 8.8 conceptions per 1,000 young women aged 13-15 (Office for National Statistics and Teenage Pregnancy Unit, 2007a). Although this progress is encouraging, the Teenage Pregnancy Strategy's target of halving the under-18

conception rate by 1999 and 2010 remains a lofty goal.

In comparing conception rates across Europe, it has been reported that the rates of teenage births (in other words, conceptions that resulted in live births) in the UK are the highest in Western Europe: around five times those in the Netherlands, three times those in France and twice those in Germany (UNICEF, 2001). With the cost to the National Health Service of pregnancy among under-18s estimated at over £63 million a year (Dennison, 2004), it is understandable that the reduction of teenage pregnancy has been afforded such priority.

There is marked variation throughout England in teenage conception rates. In 1999, fifty per cent of under-18 conceptions occurred in the 20% of census wards with the highest rates and so there are teenage pregnancy 'hot-spots' which do not show

reductions in rates (SEU, 1999). These variations have been linked to specific population groups, such as looked-after children and care-leavers (Biehal et al, 1992), young offenders (Hobcraft, 1998), children of teenage mothers (Kiernan, 1995; Ermisch and Pevalin, 2003), victims of childhood sexual abuse (Roberts et al, 2004), poor self-esteem (Emler, 2001); and being from certain black or ethnic minority groups (Berthoud, 2001; Connell, 2004; Higginbottom et al, 2006; Robson and Berthoud, 2003). There is also strong and growing evidence linking teenage pregnancy to poor school attendance and low educational attainment (Wellings et al, 2001).

Teenage pregnancy has also been linked to poverty and disadvantage. Research using the ONS Longitudinal Study has demonstrated that the risk of becoming a teenage mother is almost 10 times higher for a girl whose family is in social class V (unskilled manual), than for those living in social class I (professional). Further, living in local authority housing (as opposed to owner occupied) is associated with a three-fold increase in the likelihood of a teenage girl becoming pregnant (Botting et al., 1998).

Research has also focussed on the negative effects and outcomes of teenage pregnancy. These include lower levels of breast-feeding (Dykes et al. 2003; Hamlyn et al. 2002); poorer than average mental health in the three years post-birth (Liao, 2003); and a future with a low standard of living for mother and baby (Ermisch and Pevalin, 2003; Nanchahal, 2005).

Ermisch and Pevalin (2003) reported findings about a longitudinal study looking at the outcomes of young women who became parents as teenagers, while controlling for social class. They found that these women were more likely to partner men who were poorly qualified and unemployed, relative to those women who were not teenage parents. The argument is that this tends to have the subsequent effect of reducing the standard of living for the women and her children, thus acting as a further cause of poverty and disadvantage. Their study concludes that rather than teenage parenthood per se influencing their

outcomes, it is the background of poverty and disadvantage. That is, it is the entrenched poverty and disadvantage which needs to be tackled, rather than just teenage pregnancy. In contrast to this study, longitudinal evidence by the Department for Education and Skills (DfES, 2005a) demonstrates teenage pregnancy is an important mediating factor in exacerbating the poorer consequences associated with material deprivation.

Therefore, it is clear that there are conflicting views concerning the nature of the causal link between teenage pregnancy and negative outcomes. Teenage pregnancy is certainly a controversial issue that attracts many strong opinions and many interventions and initiatives designed to reduce pregnancy levels. Given that rates have not decreased as much as the Government would like, it is reasonable to argue that traditional sex education and contraception strategies may not be as effective as they need to be, and innovative approaches are needed in order to meet Government targets. There is strong evidence to suggest that young parenthood has been viewed both as a consequence and a cause of poverty and disadvantage.

Teenage Pregnancy Intervention Programmes

There is a variety of different types of intervention programmes designed to reduce teenage pregnancy rates. For example, contraception provision, teacher-led contraception lessons, peer education, abstinence programmes and electronic baby dolls. However, the evidence of effectiveness is still inconclusive (Swann et al. 2003). Often these initiatives appear to have a positive impact on attitudes, but their effect on actual behaviour such as sexual behaviour or contraception use is inconclusive (Wight et al. 2002). For example, abstinence based programmes that have tended to originate in the USA, have failed to produce strong evidence to support their efficacy (Swann et al. 2003). In fact, in a UK-based review DiCenso et al. (2002) actually found evidence to suggest that abstinence programmes may increase teenage pregnancy rates. A study by Teens and Toddlers (McDowell, 2005a) found that school-based programmes are not generally

well-received by young people. Teenagers found these fear-based, moralistic, inherently theoretical and didactic, and conducted in groups that are too large.

Recent research points to the effectiveness of a youth development approach to tackling teenage pregnancy in the context of other issues that affect young people. Such programmes look at issues such as self-esteem building, voluntary work, educational support, vocational preparation, health care and Sex and Relationships Education (SRE). Although these programmes have not been extensively evaluated in the UK, a USA-based study found that they are more likely to produce promising results (Swann et al. 2003). Supporting this finding, DiCenso et al. (2002) found only one intervention to be effective when 26 were evaluated, and this was a long-term youth development programme which used a multi-dimensional approach.

The Teens and Toddlers Approach

The Teens and Toddlers programme is an initiative of the UK charity Children Our Ultimate Investment (COUI UK). It claims to be a practical education and mental health programme that fosters awareness of the realities of conception and parenting through an experiential learning model. The course aims to educate young people about the responsibilities associated with caring for a child by a direct experience of mentoring with a 3-4 year old child. "Teenagers" accompany and interact with a "toddler" for a two hour session, and then undertake a 1-hour class that includes experiential and theoretical learning about topics associated with understanding the impact of an unplanned pregnancy combined with personal development.

During a Teens and Toddlers programme, participants receive approximately 40 hours of contact time with nursery children and 20 hours of curriculum input. The approach comprises a confluent pedagogy through integrating participants' personal experiences with a "toddler", with a theoretical understanding of the impact of having a child and the effects on other aspects of life. Learning through experience is thought to create an opportunity for participants to more fully integrate their

learning and increase the likelihood of a lasting effect.

Participants for Teens and Toddlers programmes are selected on the basis of how 'at-risk' they are considered to be, with the target population being those who are considered to be the most at risk of becoming teenage parents and/or socially excluded. Potential participants are selected by schools through an 'at-risk' rating questionnaire. School teachers are asked to rate participants according to personality factors, attitudes and behaviours about sex and risk taking behaviours, and personal background information that is known to predispose to early pregnancies, and the young people that score highest (most at risk) are then invited to enrol for the programme.

The Teens and Toddlers method of selecting 'at-risk' was published in the DfES non-statutory guidance Every Child Matters document 'Teenage Pregnancy Next Steps: Guidance for Local Authorities and Primary Care Trusts on Effective Delivery of Local Strategies.' (DfES, 2006). The assessment of risk factors is undertaken by teachers in the schools from which the at-risk sample is drawn. Teachers are asked to rate potential participants on: (1) personality factors; (2) attitudes and behaviours about sex and other risk-taking behaviours; and, (3) personality background information. Teachers are asked to rate each potential participant on these three domains, in comparison to other students that they teach. Personality factors rated include: shyness or withdrawn-ness; negativity and lack of self belief; depression (sub-clinical); anxiety (sub-clinical); aggressiveness; and, disengagement from others. Relevant attitudes and behaviours include: how much potential participants express risky attitudes and behaviours about: frequent drug and alcohol use; lack of interest in their futures; lack of interest in school; how sexually active they claim to be; and, how acceptable they feel it is to be a teenage parent. The personal background information that is collected includes: teachers' knowledge of (or suspicions about) poor school attendance; early puberty; history of sexually transmitted infections; previous pregnancies; family members who had been teenage parents; sexual and/or physical abuse;

history of being in care; history of family instability; and history of poor academic achievement.

The programme is open to both male and female participants, with approximately three times as many females taking the programme. Since 2001, the Teens and Toddlers programme has been delivered in the London (UK) Boroughs of Brent, Camden, Hammersmith & Fulham, Greenwich, Islington, Southwark, Tower Hamlets, and Haringey. It has also been delivered more recently in Northamptonshire, North-East Lincolnshire, Tameside Manchester, and Redcar and Cleveland thus broadening the geographical scope of the project.

Aims of Teens and Toddlers

The Teens and Toddlers programme asserts that an effective way to convey the importance and the value of postponing pregnancy, and thereby achieve a reduction in teenage pregnancy rates, is to give young people an experience of the responsibility and work involved in caring for a child and to help them develop alternative goals to being pregnant, such as satisfying work and relationships.

The organisation claims to address all five core outcomes of the UK Government's Every Child Matters agenda (DfES, 2004a; 2004b) and achieve positive outcomes across a wide range of educational, health and social exclusion indicators. Table 1 provides a summary of the programmes intended aims in relation to the Every Child Matters agenda in order to provide an overview of the Teens and Toddlers approach.

The Government state that the five outcomes are mutually reinforcing. For example, children and young people learn and thrive when they are healthy, safe and engaged; and the evidence shows clearly that educational achievement is the most effective route out of poverty. Improving outcomes also involves narrowing the gap between disadvantaged children and their peers. The Government is focusing particularly on improving outcomes for looked-after children, and children with

special educational needs and disabilities, and on reducing the number of young people not in education, employment or training.

Previous research about Teens and Toddlers

Previous research about Teens and Toddlers has demonstrated the programme to be positively appraised by participants. McDowell (2005a) found that participants value the Teens and Toddlers approach because it: (1) invites them to form and express their own opinions; (2) provides a real life experience of the implications of having a child; (3) encourages them to think about their futures; (4) includes discussions about relationships; and (5) treats them like adults and trusts them to make their own decisions.

Participants have consistently reported that they valued the practical experience of working with small children during the programmes, and that these experiences were highly influential in their decisions to postpone becoming a parent (McDowell, 2004). Further, it was found that the process of mentoring a small child during the Teens and Toddlers programme and consistent interaction between "teens" and "toddlers" creates a positive and measurable effect on the small child's learning. Participants report that this contributes to an increased sense of self esteem and a positive sense of contributing to their communities (McDowell, 2005b).

The most effective measure of the programmes efficacy is longitudinal tracking of graduates in order to determine their pregnancy status. In 2004 a retrospective analysis of graduates pregnancy status revealed no pregnancies had occurred among respondents, and that lasting attitude and behaviour change was produced through participation in the programme (McDowell, 2004).

However, the study can be criticised on the grounds of low sample size and poor response rates, and hence the need for further tracking was evident. Therefore, another Retrospective study was carried out in 2006 (McDowell, 2006). This study

involved 163 teenagers who had taken part in Teens and Toddlers, and it found that the aims of the programme are both well-implemented and effective, as 97.5% of programme graduates under 18 were found not to have become pregnant or caused a pregnancy. This study concluded that, while the programme requires further research, it appears to be successful in affecting the attitudes, behaviour and pregnancy status of participants.

Research Aims

The aim of the current study was effectively to replicate the previous retrospective analysis conducted in 2006 and increase the size of the sample given that more participants had completed the Teens and Toddlers programme. The aim was to assess pregnancy rates within the sample with a focus on the under-18 age groups, and to analyse graduates' attitudes and opinions about teenage pregnancy and the Teens and Toddlers programme in terms of the Government's 5 Every Child Matters outcomes.

Table 1: Aims of the Teens and Toddlers programme in relation to Every Child Matters

Being Healthy: Young people enjoying good physical and mental health through: -

- Improved understanding about and more consistent contraception use
- Increased knowledge and skills in relation to sexual relationships and sexual health risks
- Reduced conception and abortion rates
- Improved self esteem through increased emotional literacy, including the skills of self-reflection, self-management
- Improved relationships with others and relationship to society

Staying Safe: Young people protected from maltreatment and sexual exploitation through:

- Increased understanding and skills in interpersonal relationships increases capacity to assert themselves and avoid negative peer pressure
- Developing social and interpersonal skills necessary to protect themselves from bullying and anti-social behaviour
- Increased understanding about the risks of alcohol and substance misuse

Enjoying and Achieving: Young people achieving personal and social development through:

- Participants gaining National Award level 1 (NCFE) in Interpersonal Skills
- Teachers reporting improved attendance, attitudes to and enjoyment of education and learning
- Raised aspirations and life goals providing alternative and more positive options

Making a Positive Contribution: Young people develop the self-confidence necessary to deal with significant life changes and challenges through: -

- Gaining a more positive outlook on life providing alternative options to anti-social behaviour
- Taking on responsibility of acting as a positive role model to a nursery child
- Experiencing respect and positive rewards from facilitators, nursery staff and children
- Improved anger management self-valuing and self-assertion, along with increased awareness of choice and consequences

Achieve Economic Well-being: Young People are ready for employment through:

- Positive work experience
- Improved presentation and communication skills
- Improved attitudes towards education and learning
- Increased understanding of personal and financial responsibilities
- Enabling a multi-cultural group to contribute to their local community, engendering as appreciation of difference, empowering the development of positive future goals and gaining respect for the part they have played

Methods

This study involved a survey of young people who had undertaken the Teens and Toddlers programme. All data collection processes were conducted in accordance with the Children and Young People's Unit (CYPU) Core Principles and COUI's internal research policy.

Procedure

The questionnaire was distributed by mail. It included a pre-paid and addressed return envelope.

Sample

Participants had participated in the Teens and Toddlers programmes in the London Boroughs of Islington, Brent, Greenwich, Camden, Southwark and Tower Hamlets between 2001 and 2006. In order to qualify for inclusion in the questionnaire sample, participants needed to have completed the Teens and Toddlers programme at least 12 months prior to the survey. Therefore, participants from more recent programmes conducted in Haringey, North East Lincolnshire, Northamptonshire, Tameside Manchester and Redcar and Cleveland were not included. In order to encourage response rates, participants were offered a £10 gift voucher as a 'thank you' for completing and returning their questionnaire.

A three-stage model of survey distribution was employed. First, the pencil and paper survey, with a reply paid envelope, was distributed to 439 young people. The criteria was that a) the organisation believed it had a correct address for the young person, and b) the young person completed a Teens and Toddlers project a year or more ago (i.e., teenagers from projects which finished less than a year ago were not sent a questionnaire). Second non-responders were sent the survey a second time. Third, non-responders were then attempted to be contacted by telephone. The organisation had a recorded telephone number for 103 of the 152 non-responders. Each of these people was telephoned in order to understand why they had not responded. The vast majority of telephone numbers were no longer in use, and some mobile numbers now belonged to different people.

Telephone contact was made with 10 young people, and all requested the questionnaire be re-sent because they had mislaid it or because they had changed address. Questionnaires were then redistributed to each of the 10 people and 4 were returned after this stage. An in depth process of address checking, address tracking, and multiple attempts to contact participants was therefore adopted. Table 2 provides a summary of these three stages of the survey distribution process.

Following these three stages a total of 263 questionnaires were available for analysis; 28 questionnaires were returned either by the mail service or with a 'no longer at this address' message. Therefore, the possible size was 411 (439 minus the returned unopened questionnaires). Thus 148 questionnaires remain unaccounted for, and a response rate of 64% was achieved. While 64% is a very good response rate for this kind of sample, the finding that telephone contact could only be made with 10 of the 102 non-responders for whom a telephone number existed highlights the transiency of the sample population and implies that many of the non-responders may have not in fact received the questionnaire.

Table 2: Responses to survey

Stage	Distributed	Returned	
		Completed	Unopened
1	439	175	18
2	246	84	10
3	10	4	0
	Totals	263	28

Participants

The sample comprised 263 respondents, including 53 males (20.2%) and 210 females (79.8%). At the time participants undertook the Teens and Toddlers project, their ages ranged between 12.75 years and 17.7 years, with a mean participating age of 14.76 (SD = 0.81 years). The ages of participants at the time of the survey ranged between 14.37 years and 23.49 years, with a mean age of 17.59 (SD = 1.77 years). The time since doing the project ranged between 1.12 years

and 6.09 years, with a mean time since undertaking the Teens and Toddlers project of 2.53 years (SD = 1.35 years).

Instruments

The questionnaire comprised four sections and was designed to ensure the language and concepts were suitable for a teenage sample group. The instrument was piloted with other young people before distribution and changes to wording and presentation were made to ensure that young people at different levels of educational and ability could complete the survey.

Section 1

Section 1 asked participants to report their pregnancy status. Both males and females were asked to respond to this. Females were asked to choose between the following: 'I have NOT become pregnant', 'I became pregnant and I had the baby', 'I became pregnant and I had a miscarriage', or 'I became pregnant and I had a termination'. Males were asked to choose between 'I have NOT got anyone pregnant', 'I did get someone pregnant and she had the baby', 'I did get someone pregnant and she had a miscarriage' or 'I did get someone pregnant and she had a termination'. Where a young woman had become pregnant or a young man had got somebody pregnant, they were asked to give the date.

Section 2

Section 2 aimed to find out what the young person is doing now. It asked whether they are currently in education, vocational training or employment. Response options were 'No', 'Yes, part-time' or 'Yes, full-time' for each of these questions.

Section 3

Section three formed the majority of the questionnaire. It consisted of 20 questions looking at young people's views about whether taking part in the Teens and Toddlers programme had any impact of their attitudes, values and behaviours on teenage pregnancy and other related aims of the Teens and Toddlers programme.

The questions were designed to reflect the 'Every Child Matters' five Key Outcomes. The Every Child Matters Green Paper identified five outcomes that are thought to

be most important for the development of children and young people: (1) Be healthy; (2) Stay safe; (3) Enjoy and achieve; (4) Make a positive contribution; and (5) Achieve economic well-being (DfES, 2004a). The outcomes are seen as universal ambitions for every child and young person, whatever their background or circumstances. The UK Government believes that improving outcomes for all children and young people underpins all of the development and work within Children's Trusts.

A full record of the five key outcomes is provided in the Results section (see Table 6). All questions required the young person to respond using a 5-point scale. For some questions, possible answers were 'Strongly disagree', 'Disagree', 'Unsure', 'Agree' and 'Strongly agree'. For other questions, possible answers were 'Not at all', 'Not much', 'Unsure', 'A little' and 'A lot'. In addition, three additional questions were included in this section: 'Overall, how useful would you say the T&T project would be to other teenagers?'; 'At what age do you think it would be the right time for you to become a parent?'; and 'How much do you feel the T&T project influenced the age at which you would like to have children?'

Section 4

Section 4 asked participants to make an open-ended response about the programme by asking 'Are there any other ways in which doing T&T has affected you and your life? Is there anything else you would like to say?'

Results

Overview of results

Data management and analysis were conducted using SPSS for Windows, Release 15.0. When t tests are performed, Levene's test for the equality of variance was routinely applied and, if necessary, the unequal variance model is reported (including adjusted degrees of freedom).

Ethnicity

Ethnicity was retrieved from the organisation's database of respondents' details. Respondents defined their ethnicity in the following proportions: 49% 'White',

24% 'Black', 9.5% 'Asian', 6.8% 'Mixed', 1.1% 'Chinese' and for 9.5% we do not have this information.

Those who described themselves as 'White' were primarily 'White English' (85%). Those who described themselves as Asian were mainly 'Asian Bangladeshi' (88%). Those who described themselves as 'Black' were mainly 'Black Caribbean' (43%), or 'Black African' (46%). Those who described themselves as 'Mixed' were mainly 'Mixed Caribbean' (44%), 'Mixed English' (22%) or 'Mixed African' (17%).

Teenage pregnancies

Table 3 provides a full account of the births, miscarriages, terminations and births pending reported by respondents since undertaking the Teens and Toddlers programme. Responses are presented according to the customary teenage pregnancy age bands of 'Under 16', '16 - 18', and 'Over 18' categories. Note that these age categories correspond to the age of the young person at the time of the pregnancy event, and not their current age. For births, the age is calculated for the age of the mother or father at the time of the birth; for miscarriages and terminations, the age is calculated for the age of the mother at the time of the miscarriage or termination; and for pregnancies that are pending (currently pregnant), the age is calculated for the mother or father at the age in which the birth is expected to occur.

While the main objective of the Teens and Toddlers programme is to decrease pregnancies under the age of 18, figures are provided for over 18s in order to provide a comprehensive set of results. Further, Government statistics such as those reported by the UK Teenage Pregnancy Unit, do not incorporate the category miscarriages. Subsequently the current data presents a more robust measure of the number of pregnancy events.

In the 'under 16' age group one pregnancy was reported. This was a miscarriage reported by a female. It was reported to have occurred when the participant was aged 15.6 years, and occurred 0.9 years (approximately 11 months) after she had

completed the Teens and Toddlers programme.

In the '16 - 18' age group there were eight instances of pregnancy were reported; comprising four births, one miscarriage, one termination and two births pending. The births were reported by three females and one male and were reported to have occurred at the average age of 16.8 years, at an average time of 3.3 years since respondents had completed the Teens and Toddlers programme. The one miscarriage was reported by a female and occurred when she was 17.5 years old 2.7 years after she had completed Teens and Toddlers. The termination was reported by a female when she was 16.2 years of age, 1.9 years after programme completion. The two births pending were also reported by females who expected to give birth at an average age of 17.4 years, which would be an average of 2.0 years since the programme.

In the 'over 18' category 13 pregnancy incidents were reported, comprising eight births, one miscarriage, one termination and three births pending. The eight births were all reported by females and occurred at the average age of 19.2 years, an average of 4.4 years after they had completed the Teens and Toddlers programme. The miscarriage was reported by a young woman who was 20.4 years of age, 5.1 years after she had undertaken the programme. The termination was reported by another young woman who was 20.4 years of age, 4.1 years after she had completed Teens and Toddlers. And finally, of the three births that were pending, two were reported by females and one was reported by a young man. The age of the respondent at the expected time of birth will be 21.2 years, and is expected on average 4.9 years post the programme.

Table 4 shows the areas in which these pregnancies occurred in the different age groups of interest. It is worth noting that 14 pregnancy incidents occurred in Greenwich, five occurred in Southwark, two in Tower Hamlets and one in Camden. No pregnancy incidents were recorded in Islington or Brent.

Education, Employment and Training

Young people were asked to tell us if they are in education, training or employment. For each question the options were 'No', 'Yes, part-time' and 'Yes, full-time'. Table 5 provides the results for these questions. Please note that answers are not mutually exclusive. The important figure here is that 42 out of the 263 respondents (16%) were not in education, employment or training (NEET).

Attitudes and views about the Teens and Toddlers programme

Table 6 provides an overview of the results of responses to the attitudinal questions asked about the Teens and Toddlers project in relation to the five Key Outcomes for Every Child Matters. The table describes the number of responses (not all participants answered all questions), the mean response, standard deviations, and the minimum and maximum responses. Additionally the final column in the table provides a summary of the percentage of positive responses recorded for each question. As described in the methods section, response scales for this section comprised either one of two five point Likert scales, (either 'Strongly disagree', 'Disagree', 'Unsure', 'Agree' and 'Strongly agree'; or 'Not at all', 'Not much', 'Unsure', 'A little' and 'A lot'). Therefore the percentage of positive responses is achieved by summing the number of the 'Agree' and 'Strongly agree' responses, or the 'A little' and 'A lot' responses, to each question and then expressing them as percentage of the overall number of responses.

The other three questions in this section were not as clearly related to the five Key Outcomes for Every Child Matters. Participant responses to the question that asked how useful they felt the Teens and Toddlers programme would be to other teenagers yielded a mean response of 4.81 on a five point scale (N = 260, SD = 0.53) and achieved a 95% positive response, with 86.9% of respondents reporting that they felt that the Teens and Toddlers programme would benefit their peers 'A lot'.

The questionnaire also asked young people two questions designed to ascertain their views on when is the 'right time' to have a child. The question 'How much do you feel the T&T project influenced the age at which you would like to have children?' yielded a mean response of 3.96 on a five point scale (N = 262, SD = 1.20) with the following response frequencies: 5.7% 'Not at all'; 10.3% 'Not much'; 8.8% 'Unsure'; 32.8% 'A little'; and 42.4% 'A lot'. Responses to the second question "At what age do you think it would be the right time for you to become a parent?" are reported in Table 7. It is interesting to note that 87.4% of respondents reported that they felt that the right age for them to become a parent would be over 20, and 30.4% believed the right time would be when they were older than 25; which is in line with the Teens and Toddlers programme's aim to increase the age at which young people choose to have a child.

Differences associated with pregnancy status

The data suggests that pregnancy events do impact on education and employment status. When the data from questions about these variables was collapsed to dyad response (that is in some form of education or not, and in some kind of employment or not), those participants who reported a pregnancy incident responded differently to the education and employment variables. Note that no difference was found to exist regarding the frequency of respondents in training, however it should be noted that the training variable achieved relatively low response rates compared to education and employment. In terms of education, those who did not report a pregnancy incident (M = 1.7, SD = 0.5) were more likely to currently be in some form of education than those who did report a pregnancy incident (M = 1.2, SD = 0.4); ($t_{(24)} = 6.41, p < .001$). However, in terms of employment, those who reported a pregnancy incident (M = 1.5, SD = 0.5) were more likely to currently be in some form of employment than those who did not report a pregnancy incident (M = 1.3, SD = 0.4); ($t_{(24)} = 2.52, p < .05$).

Table 3: Births, miscarriages, terminations and births pending

Age band	Births	Miscarriage	Termination	Pending
Under 16	0	1	0	0
16-18	4	1	1	2
Over 18	8	1	1	3

Table 4: Births, miscarriages, terminations and births pending

Age band	Births	Miscarriage	Termination	Pending	Totals
Under 16					
Greenwich	0	0	0	0	0
Islington	0	0	0	0	0
Southwark	0	1	0	0	1
Tower Hamlets	0	0	0	0	0
Camden	0	0	0	0	0
Brent	0	0	0	0	0
16-18					
Greenwich	2	0	0	1	3
Islington	0	0	0	0	0
Southwark	1	0	1	0	2
Tower Hamlets	1	1	0	0	2
Camden	0	0	0	1	1
Brent	0	0	0	0	0
Over 18					
Greenwich	7	1	1	2	11
Islington	0	0	0	0	0
Southwark	1	0	0	1	2
Tower Hamlets	0	0	0	0	0
Camden	0	0	0	0	0
Brent	0	0	0	0	0

Table 5: Education, Employment and Training

	Education	Employment	Training
No	82 (33.5%)	173 (71.2%)	153 (67.1%)
Yes, part-time	30 (12.2%)	40 (16.5%)	32 (14%)
Yes, full-time	133 (54.3%)	30 (12.3%)	43 (18.9%)

Table 6: Attitudinal variables: Views on the Teens and Toddlers programme

	N	Mean	SD	Min	Max	% +ve
Be healthy						
▪ During the T&T project I learned about emotional health issues, like relationships and feelings.	262	4.19	0.76	1	5	84.7
▪ During the T&T project, I learned how to express anger and difficult emotions in a more positive way.	260	3.98	0.86	1	5	75.4
▪ How much did T&T help you learn how to empathise with other people's feelings?	260	4.37	0.74	2	5	89.6
▪ How much do you feel that doing T&T helped you feel more confident in yourself as a person?	259	4.15	1.10	1	5	79.2
Stay safe						
▪ During the T&T project I learned about sexual health – issues such as Sexually transmitted Infections (STIs), pregnancy, and deciding when to have sex.	262	4.09	0.89	1	5	87.8
▪ How much did doing T&T make you think that if you were going to have sex you would use a condom?	262	4.46	1.00	1	5	87.4
Enjoy and achieve						
▪ During T&T I learned how to feel more in control of the decisions I make.	261	4.16	0.76	1	5	85.4
▪ T&T is the kind of project that teenagers need to help them make good choices and stay out of trouble.	261	4.35	0.78	1	5	90.0
▪ During the T&T project, I had the opportunity to think about my future and what I want out of life.	262	4.30	0.84	1	5	86.4
▪ How much do you feel that doing T&T made you more determined to achieve your goals?	261	4.22	0.87	1	5	84.3
▪ How much did doing T&T help you feel more confident in your skills and abilities?	259	4.28	0.89	1	5	83.4
Positive contribution						
▪ During the T&T project I enjoyed working with the toddlers, and I felt that my toddler enjoyed having me around.	259	4.52	0.72	1	5	94.2
▪ How much do you feel that T&T as a project makes a positive contribution to the local community?	261	4.48	0.81	1	5	86.2
▪ How much do you feel that you made a positive difference to your toddler during T&T?	261	4.34	0.87	1	5	84.7
Economic well-being						
▪ During the T&T project I learned that having a good education can give you more choices in life.	262	4.29	0.87	1	5	86.2
▪ How much do you feel that doing T&T helped you understand the need to have financial security and a stable relationship before having a child?	261	4.65	0.74	1	5	92.3
▪ How much do you feel that doing T&T had a positive impact on your grades and attendance at school?	260	3.43	1.32	1	5	54.6

Table 7: Age to become a parent

	N	%
Under 16	1	0.4
16-18	9	3.6
18-20	21	8.4
20-22	54	21.6
22-24	89	35.6
Over 25	76	30.4

It should be noted that age also impacts on these findings, as older respondents are more likely to have finished education and have started employment, and older participants are more likely to report a pregnancy incident. A significant negative correlation was found between respondents age at the time they completed the questionnaire and education status ($R = 0.45, p < .001$) and a positive correlation was identified between age at the time of the questionnaire and employment status ($R = 0.40, p < .001$). Similar patterns were observed when the findings for education and employment status were analysed in relation to the time since participants had completed the Teens and Toddlers

programme. These analyses also reveal a significant negative correlation between time since completing the programme and education status ($R = 0.38, p < .001$) and a positive correlation between time since completing the programme and employment status ($R = 0.42, p < .001$).

It is also interesting to note that some graduates of Teens and Toddlers programmes who report pregnancy incidents do also remain in education, employment or training. Table 8 provides a summary of findings about pregnancy incidents and education, employment or training status; most notable are the results reported for employment.

Respondents who reported a pregnancy incident differed significantly from those who did not on a number of the attitudinal variables measured. Those participants who recorded a pregnancy incident reported that they enjoyed working with the toddlers, and felt that their toddler enjoyed having them around ($M = 4.7, SD = 0.5$) slightly more than participants who did not get pregnant ($M = 4.5, SD = 0.7$); ($t_{(32)} = 2.12, p < .05$).

Table 8: Pregnancy incidents and Education, Employment & Training

	No	Yes, part-time	Yes, full-time	Total
Education				
Births	11 (100%)	0	0	11
Miscarriages	1 (33%)	0	2 (67%)	3
Terminations	1 (50%)	1 (50%)	0	2
Pending	4 (100%)	0	0	4
Employment				
Births	6 (50%)	1 (8%)	5 (42%)	12
Miscarriages	0	2 (67%)	1 (33%)	3
Terminations	1 (50%)	1 (50%)	0	2
Pending	3 (60%)	2 (40%)	0	5
Training				
Births	9 (82%)	1 (9%)	1 (9%)	11
Miscarriages	1 (33%)	2 (67%)	0	3
Terminations	1 (50%)	0	1 (50%)	2
Pending	4 (100%)	0	0	4

On this same theme, participants who became pregnant (or caused a pregnancy) were also slightly more positive in their feelings that that they made a positive difference to their toddler during the Teens and Toddlers programme (M = 4.6, SD = 0.6) than respondents who had not become or cause a pregnancy (M = 4.3, SD = 0.9); ($t_{(31)} = 2.37, p < .05$).

Not surprisingly, participants who did not become or cause a pregnancy reported a higher age when asked what the right age would be for them to become a parent (M = 4.9, SD = 1.1) which was approximately 22 years of age; compared to respondents who did report a pregnancy (M = 4.1, SD = 1.1) which was approximately 20 years of age. This difference was demonstrated by a statistically significant t-test ($t_{(248)} = 3.02, p < .01$).

The other two attitudinal variables in which differences existed between respondents who had become or caused a pregnancy and those who had not, were 'How much did T&T help you learn how to empathise with other people's feelings?' and 'How much do you feel that doing T&T helped you feel more confident in yourself as a person?' In terms of learning to empathise it was the respondents who reported a pregnancy incident that responded more positively (M = 4.7, SD = 0.5) than those who had not (M = 4.3, SD = 0.8); ($t_{(33)} = 3.63, p < .001$). With respect to gaining more self confidence it was also the respondents who reported a pregnancy incident that responded more positively (M = 4.6, SD = 0.6) than those who had not (M = 4.1, SD = 1.1); ($t_{(34)} = 3.05, p < .01$).

Gender differences

No differences were observed between male and female respondents for the education, employment and training variables. Gender differences were identified across three of the attitude questions; and in all cases the female respondents provided more positive responses than the male respondents. However, it should be remembered that this occurred for only three out of the 20 attitude questions asked, and for all other variables responses were statistically equivalent.

The question that asked if participants had learned how to express anger and difficult emotions in a more positive way from undertaking the Teens and Toddlers programme was differentially reported with females (M = 4.1, SD = 0.8) being more positive in their responses than males (M = 3.7, SD = 1.0); ($t_{(69)} = 2.73, p < .01$). Females (M = 4.4, SD = 0.7) were also more positive in their responses to the question 'Teens and Toddlers is the kind of project that teenagers need to help them make good choices and stay out of trouble' than males (M = 4.1, SD = 0.9); ($t_{(259)} = 2.46, p < .05$).

Finally a statistically significant result ($t_{(260)} = 1.98, p < .05$) demonstrated that females (M = 4.3, SD = 0.8) were more positive in their responses than males (M = 4.1, SD = 0.9) in their ratings of the question 'During the Teens and Toddlers project, I had the opportunity to think about my future and what I want out of life'.

Borough differences

Table 4 demonstrates that the number of pregnancy incidents differed considerably between Boroughs, with 64% occurring in Greenwich and 23% occurring in Southwark. It should be noted that these Boroughs are the areas in which the Teens and Toddlers programme has been operating the longest, meaning that respondents to the current study were older than respondents from other Boroughs, and were thus more likely to become pregnant. Differences across Boroughs were also observed for education, employment and training status. However when the influences of age at the time of the questionnaire and/or the time since respondents had completed the Teens and Toddlers programme were controlled for, the effects did not prevail.

The only attitudinal difference observed in terms of Boroughs was recorded for the question 'How much do you feel that doing T&T helped you understand the need to have financial security and a stable relationship before having a child?' An ANOVA analysis indicated a significant trend in responses from participants from the different Boroughs ($F_{(5,255)} = 3.10, p < .01$),

with the highest mean response being reported by respondents from Camden (M = 4.9, SD = 0.3); and the lowest from respondents from Greenwich (M = 4.4, SD = 1.0). It is interesting to note that respondents from Greenwich also reported the highest number of pregnancy incidents, which may be related to their lower than average response to this question.

Ethnicity differences

It was found that the number of pregnancy incidents recorded differed disproportionately with ethnicity with 14 of the 22 pregnancy incidents (64%) being recorded to 'White' participants; three of the 22 pregnancy incidents (14%) being recorded to 'Mixed' participants; and one pregnancy incident being recorded in each of the 'Black' and 'Asian' ethnic groups. These data are also related to the distribution of ethnicity in different Boroughs. For example in Greenwich, where most of the pregnancy incidents occurred, most Teens and Toddlers participants are from a White or Mixed ethnic background.

The only attitudinal difference observed in terms of ethnicity was recorded for the question 'How much did doing T&T help you feel more confident in your skills and abilities?' An ANOVA analysis indicated a significant trend across the different ethnic groups ($F_{(4,229)} = 2.74, p < .05$), with the highest mean response being reported by respondents from a 'Mixed' ethnic background and the lowest from the 'Chinese' ethnic group. However this effect is primarily due to the low sample size of the Chinese group (N = 3), and when the influence of this ethnic group is controlled for the effect dissipates.

Programme length differences

Participants in Teens and Toddlers programmes in different Boroughs had experienced programmes of different lengths. The conditions were that they either participated in a long programme which was delivered once a week for 20 weeks, or they participated in a short programme which was delivered twice a week for either 10 or 12 weeks. That is, the amount of actual contact time participants received was roughly equivalent, but the length of time

over which the programme was delivered varied.

A statistically significant difference existed in the number of pregnancy incidents reported in the different project length conditions. Participants who had undertaken the shorter programme of 10-12 weeks reported more pregnancy incidents (M = 1.1, SD = 0.3) than participants who had undertaken a 20 week programme (M = 1.0, SD = 0.2). This difference was demonstrated by a statistically significant t-test ($t_{(159)} = 3.47, p < .001$). However it should be noted that the shorter and longer Teens and Toddlers programmes are not offered in the same frequency, and that the shorter programme condition has been phased out by the organisation. Hence only participants from earlier programmes received that 10-12 week condition and are therefore older (M = 18.9, SD = 1.6) than participants who undertook the 20 week program (M = 16.6, SD = 0.9). It is not unreasonable to argue that older participants are more likely to become pregnant, and this is evidenced by a significant correlation between age and pregnancy status ($R = 0.22, p < .001$).

A few attitudinal differences were revealed to exist among participants from the different programme length conditions. For the question in which participants were asked to report whether the Teens and Toddlers programme had helped them learn about sexual health (issues such as sexually transmitted Infections, pregnancy, and deciding when to have sex) respondents from the 20 week condition (M = 4.3, SD = 0.7) were more positive in their responses than respondents from the 10-12 week condition (M = 4.1, SD = 0.8) which was demonstrated by a statistically significant t-test ($t_{(260)} = 2.33, p < .05$).

Additionally a statistically significant t-test ($t_{(194)} = 2.80, p < .01$) revealed that respondents from the 20 week condition (M = 4.6, SD = 0.8) were more positive in their responses than respondents from the 10-12 week condition (M = 4.3, SD = 1.2) about whether they felt their learnings from the Teens and Toddlers programme would influence their use of condoms if they were to have sex. It should be noted that as the

organisation has phased out the 10-12 week condition they also claim to have placed more emphasis on sexual health in the content of their programmes, so these results may reflect a positive indication that these efforts have been successful.

The only other attitudinal question upon which participants from the shorter and longer conditions differed on was 'How much do you feel that doing T&T helped you understand the need to have financial security and a stable relationship before having a child?'. In this case respondents who had undertaken 20 week programmes (M = 4.8, SD = 0.6) were more positive in their responses than respondents who had undertaken 10-12 week programmes (M = 4.5, SD = 0.9). This difference was demonstrated by a statistically significant t-test ($t_{(205)} = 2.49, p < .05$).

Examples of respondents' answers to open-ended questions

Respondents were asked 'Are there any other ways in which doing Teens and Toddlers has affected you and your life? Is there anything else you would like to say?' Tables 9–12 provide examples of verbatim comments received from respondents. These comments show that young people have a very positive view of the Teens and Toddlers programme.

These themes can be broadly categorised in to three groups: a) themes relating to thinking more carefully about safer sex and young parenthood; b) themes relating to personal development; c) themes relating to general enjoyment of the project, and d) themes from those who had experienced a birth. In many cases comments were linked, thus showing that often these benefits are also linked.

Table 9: Themes relating to thinking more carefully about safer sex and young parenthood

- "Thanks for all the help you have given me!!! It made me realise as a teen that it's not about having sex whenever you can it's about you and your partner bonding and having a good relationship. When you care for people, they will care back." (Male, 16)
- "It made me think that a child takes a lot of your time and that you do need to be in a stable relationship and have a regular income to have a child." (Male, 21)
- "At the time I really wanted to be a young mum but T&T made me realise it's best to be in a stable position first." (Female, 18)
- "It helped me to realise that I want to make something of my education and career before having a child." (Female, 16)
- "Doing T&T made me realise children have a lot of needs that need to be fulfilled, not just love alone and that children can be very demanding." (Female, 19)
- "T&T helped me to have a better outlook on life and get an understanding of being a parent and not just having a baby for fun." (Female, 17)
- "Doing T&T made me realise that you have to be careful with what you do, especially when it comes to sex." (Female, 15)
- "When I was at school I did want to have a baby when I was young but now I'm at work doing hairdressing I now want to achieve so much more before I have a baby." (Female, 17)

Table 10: Themes relating to personal development

- “It made me see that toddlers are a very good way to learn about life because they teach us to be more cautious and thoughtful. T&T changed my life.” (Male, 16)
- “The Teens and Toddlers course made me improve much more on my communication skills.” (Female, 16)
- “I would like to say that I thoroughly enjoyed being part of T&T. I also learnt many skills such as: how to empathise, show someone that you’re listening, sexual health and how to look after children.” (Female, 15)
- “T&T made me think a lot about life in general and I am now currently doing a Level 3 Diploma in Childcare and Education. It made me think a lot more about my sexual relationships.” (Male, 17)
- “This project has brought me closer to my siblings and has caused them to see a positive change in me. This project is very useful and I highly recommend it. Thank you.” (Male, 16)
- “I changed in to a good person and it helped me to decide where I wish to go in life.” (Female, 16)
- “T&T has made me more confident that I can achieve my goals.” (Female, 19)
- “The project just makes you feel very confident and makes you feel that you are needed.” (Female, 17)
- “It helped build a confident and independent me!” (Female, 16)
- “Participating in the T&T project allowed me to think about focusing on my education and growing up fully before having a child. It also taught me ways of managing children.” (Male, 17)

Table 11: Themes relating to general views about the project

- “I would like to say I’m really grateful for having the opportunity to have taken part in the T&T course. It definitely has affected my life in a positive aspect.” (Female, 17)
- “I would like to say thanks for giving me an opportunity of a lifetime.” (Female, 17)
- “Thanks a lot for everything. And I wish you continue to do the T&T project because it will benefit the younger generations a lot. Thanks.” (Female, 16)
- “I really enjoyed T&T. It’s a really good project, I have learned a lot from it and it has made me think about the future. Thank you!” (Female, 17)
- “I think it’s a great project which helps teenagers see life and what is right & wrong.” (Female, 16)
- “T&T was great, it really made me think about my choices in life. All schools should have this project.” (Female, 19)
- “It gave me someone to talk to when I needed it.” (Female, 16)

Table 12: Themes from those who had experienced a pregnancy incident

Births

- “They made me realise about having a baby isn’t about you. It’s about giving the most to your child, that’s by having a stable relationship and being financially stable.” (Female, 20. Child at 19).
- “I can’t really say but I would advise people to have a baby when they are over 25, but I’ve got 2 kids and I’m not even 20 yet but I’m coping really well thanks to skills I learnt on T&T. So not only does T&T help you in deciding when to have a baby, it helps you if you have a baby at the wrong time. I think T&T was a really good thing to do and I found it better to do T&T than go to school cos after T&T you know you’ve learned something new.” (Female, 19. Children at 17 & 19).
- “Thinking and knowing something you know you’re supposed to do is a lot easier said than done!” (Female, 19. Child at 18).
- “I am happy now with partner and baby. Not married yet but engaged. I learnt a lot when I lived in London and did T&T.” (Female, 21. Child at 19)
- “Over 25 would have been the right time but I’m a mum of 2 and very proud too. Just by doing T&T it has taught me how to discipline and have a good relationship with my children.” (Female, 22. Children at 17 and 22).

Terminations

- “T&T was a great experience, toddlers can be hard to understand and very hard work. It changed my mind on being pregnant.” (Female, 16. Termination at 16)
- “T&T made me aware that if I plan to have a child make sure that it’s something I want, and not forced in to wanting.” (Female, 20. Termination at 20).

Miscarriages

- “I feel that I have become more wiser and I still feel to this day I find it useful and made me look at life and the future more.” (Female, 18. Miscarriage at 15).
- “It’s helped me to recognise how important is to help and care for others. It was a joy to be involved with such a good project.” (Female, 21. Miscarriage at 20).

Pending

- “I’m 16 now, but I don’t think I’m the right age to have a baby. But I strongly disagree with abortion so I’ve decided to keep the baby and now I’m glad I chose that option. I want to thank T&T for giving me the opportunity to be a part of your organisation. If I didn’t do T&T I now wouldn’t be confident that I’d make a good mum.” (Female, 16)
- “I’m currently 23 and I’m due to have my first child. I feel this is a nice age as I have a job, home and a happy relationship with my partner who I’ve been with for 8 years. I feel the T&T project was one of the best course I have ever done, I think every school student should be a part of this wonderful experience and knowledge about sex and deciding when to have children.” (Female, 23)

Discussion

The sample and population

In order to discuss the results of the current study, it is useful to consider a brief review of the population that is targeted for inclusion in the Teens and Toddlers programme. Creating a realistic view of the sample will facilitate a meaningful interpretation of the findings. As discussed at length previously, the process of selection and inclusion in the programme involves a rating of participants on the basis of the risk factors which are thought to predispose an individual to teenage pregnancy. These risk factors have been derived from academic literature and the expert judgement of the facilitators involved in the programmes.

The assessment of risk factors is undertaken by teachers in the schools from which the at-risk sample is drawn. Teachers are asked to rate potential participants on: (1) personality factors; (2) attitudes and behaviours about sex and other risk-taking behaviours; and, (3) personality background information. Teachers are asked to rate each potential participant on these three domains, in comparison to other students that they teach.

It is acknowledged by Teens and Toddlers that the assessments made by teachers are subjective, and rely very much on how good teachers are at making educated guesses and comparisons. However, it can also be argued that teachers can have the best, and often the only, accessible insight to students' circumstances. Furthermore, it has been found that teachers can make positive predictions about students' future health behaviours and how 'at-risk' young people can be (e.g., De La Barra, Toledo & Rodriguez, 2005; Carbonneau et. al., 2005).

Thus it can be concluded that the processes currently used by Teens and Toddlers to select and enrol participants to their programmes is a relatively non-invasive and robust ranking process that identifies the young people considered to be most at-risk in a local population. This process, coupled with the fact that Teens and Toddlers operates in boroughs and wards that have high teenage pregnancy rates according to national statistics, suggests that the

organisation does indeed work with young people who are much likely than average to become teenage parents.

The challenge in interpreting the effect of the Teens and Toddlers programme lies primarily in understanding how to interpret the population statistics in relation to the 'at-risk' group that Teens and Toddlers works with. The very aim of the Teens and Toddlers programme is to attempt to identify the young people most likely to become teenage parents and therefore contribute to the teenage pregnancy population statistics. That is, the target group represents a sub-sample of the normal population in which the percentage of young people who do become or cause pregnancy is very much higher than the average for that Borough. It can be extrapolated that the 'at-risk' group which Teens and Toddlers targets are the individuals who are the primary causes of the population statistics, and so causing a reduction in this sub-sample will cause a reduction in the overall Borough figures.

In the previous retrospective study a Teenage Pregnancy Co-ordinator, an Inclusion Officer, and a Youth Worker who were familiar with the population Teens and Toddlers targets, but were not directly involved in the programme, were asked to estimate what percentage of young people in the target group would be likely to become pregnant if no interventions were made. This was in order to gain further understanding of the population that Teens and Toddlers works with. In their professional opinions, it was felt that between 25% and 45% of the target population would become pregnant if they received no intervention and were left to their own devices. While such predictions are hardly scientific and to be considered as 'evidence' would require a whole study of their own, they provide a sense of "reality check" and reference point upon which comparisons of the results of this study can be made.

Pregnancy incidents

A 64% response rate was achieved in this study, due to an extensive contact strategy with three contact phases, a follow-up phone call where possible, and a cash incentive for

questionnaire completion (a 50% response rate is usually considered to be very good for social research with low socio-economic groups). The results of the current study compare relatively well with the findings of the previous retrospective survey of graduates from Teens and Toddlers programmes conducted in 2006. In the previous evaluation two births and two losses under the age of 18 were recorded, from a sample size of 163. This was considered strong evidence for the programme's efficacy as a strategy for teenage pregnancy prevention in an 'at-risk' population. The births represented 1.2% of the sample, as did the two losses, and therefore it was extrapolated that 97.5% of participants in Teens and Toddlers programmes did not become pregnant, and nearly 99% did not become parents, under the age of 18.

The current study builds on the findings of the previous year's research and includes 100 more respondents in the sample. One difference in the assessment of pregnancy incidents in the current study was that it included an opportunity for participants to report births, miscarriages, terminations and births pending; whereas the previous year's study focussed only on births and 'losses'. Thus a greater detail is achieved in the current study. Such detail, while helpful for organisational tracking and research purposes, makes it difficult to make direct comparisons with national statistics as the data collected by the Government does not include unknown miscarriages

In terms of the overall number of pregnancy incidents under the age of 18 reported in the Teens and Toddlers data set there was one miscarriage under the age of 16; and four births, one miscarriage, one termination and two births pending in the 16-18 age band. That is a total of 9 pregnancy incidents or 3.4% of the sample (9 out of 263 respondents). If the current data set is considered in the same way that the Government statistics are calculated, that is not including miscarriages in the calculations, the results would be four births, one termination and two births pending in the 16-18 age band (7 pregnancy 'incidents' out of 263 respondents), meaning that 97.3% of the sample did not report a

pregnancy incident. It is clear that this is a very low pregnancy rate given the high risk sample that Teens and Toddlers targets.

The number of pregnancy incidents differed considerably between boroughs, with 64% occurring in Greenwich and 23% occurring in Southwark. It is important to remember that these are the two boroughs in which Teens and Toddlers has been working the longest, thus meaning that respondents from these two boroughs are older than respondents from other boroughs (and thus more likely to have had a pregnancy incident). Possible reasons for this occurrence include either a more at risk population in Greenwich, some sort of logistical or organisational biases, or some local effect. This result should be interpreted in with the knowledge that the clustering of teenage pregnancies is not an uncommon finding in the literature, as we noted earlier in the report. However, further investigation into the possible causes for this result should be investigated.

It is important to investigate the teenage pregnancy rates in these boroughs, in order to establish whether these findings are comparable with borough rates. The next section of this report aims to look at these borough rates to attempt to work out the level of risk of the young people in this study.

Cumulative risk: a suggested model

The target population selected for inclusion in the Teens and Toddlers programme is at risk, and therefore not comparable to the national teenage pregnancy statistics that provide rates across the entire population. Nevertheless, interested parties inevitably ask how the programme compares against national statistics, presumably because they provide a useful benchmark. Therefore an unsophisticated attempt at comparison is offered below. It should be noted in advance that this comparison is quite superficial given the at-risk population sampled by Teens and Toddlers and the relatively small sample size.

The most recent teenage pregnancy rates available from the Office of National Statistics are for 2005 (ONS & TPU, 2007a). These statistics report the conceptions

recorded among females aged 15, 16 and 17 years in any given year and is expressed as a rate per 1000 females in that age band. For example, in 2005 the recorded under-18 conception rate for England was 41.1 (or 4.11%) with 46.9% leading to abortion. The 2005 under-18 conception rates for the boroughs in which Teens and Toddlers operate are as follows: Greenwich 63.2 (or 6.32%), with 56.4% leading to abortion; Islington 55.8 (5.58%), with 57.1% leading to abortion; Southwark 68.1 (6.81%), with 62.9% leading to abortion; Tower Hamlets 43.2 (4.32%), with 62.7% leading to abortion; Camden 39.6 (3.96%), with 71% leading to abortion; and Brent 44.5 (4.45%), with 65.5% leading to abortion (ONS & TPU, 2007b).

These rates imply the likelihood or probability that a female could become pregnant if she is under the age of 18 (for 2005). However, in order to calculate the overall likelihood of a female becoming pregnant before the age of 18, we must consider the cumulative effect of the aforementioned rates in each of the years that a female is 15, 16 or 17. That is, a female is at risk of becoming pregnant each year as she progresses to the age of 18, and this must be taken into account when postulating about the overall likelihood of her conceiving before the age of 18.

In order to make such calculations two broad assumptions need to be made. First, it must be assumed that each female in a population is as likely to become pregnant as any other. Clearly, a female from a sample such as the one accessed by Teens and Toddlers is more 'at-risk' of conceiving than is reflected in figures provided for the national population, however as no specific conception rates for at risk groups exist the national statistics must be used. Second, calculating the overall likelihood of conceiving during the ages of 15, 16 and 17 by using the rate provided for under 18 conceptions, assumes that females are equally likely to conceive at the ages of 15, 16 or 17; where in fact, the risk of becoming pregnant increases with age. However, the national rates are averaged across year groups and therefore the increasing rates should be controlled in the averaging process. Nevertheless, it should be noted

that calculations that employ specific rates for each year (15, 16 and 17) would provide a more accurate picture of the cumulative risk.

While acknowledging these assumptions, it is possible to make a crude estimation of the cumulative risk of a female conceiving before the age of 18 by using the under 18 conception rate to calculate the chances of her not becoming pregnant in each of the three years. This is achieved using the equation $(1 - \text{conception rate when 15}) \times (1 - \text{conception rate when 16}) \times (1 - \text{conception rate when 17})$ or simply $(1 - \text{conception rate under 18})^3$. For example England wide, where the under 18 conception rate is 41.11, the likelihood of not becoming pregnant is $(1 - 0.0411)^3$ or 88.2%. Therefore the overall likelihood of becoming pregnant across the ages of 15, 16 and 17 is 11.8%.

Applying the same equation to the specific conception rates recorded for boroughs where Teens and Toddlers operates it can be calculated that the likelihood of becoming pregnant before the age of 18 is 17.8% in Greenwich, 15.8% in Islington, 19.1% in Southwark and 12.4% in Tower Hamlets, 11.4% in Camden and 12.8% in Brent. While it is acknowledged that these figures are not completely accurate and should therefore be interpreted conservatively, they do give some indication of the cumulative risk that individuals face as they progress through the years to 18. Given these relatively high levels of risk associated with only being a resident in the boroughs that Teens and Toddlers have targeted, the relatively low number of pregnancies recorded in the current data set is very encouraging.

The following table (Table 13) shows the number of pregnancy incidents in this study of participants of Teens and Toddlers, compared to each borough's average rates (ONS & TPU, 2007b). The table also illustrates the results from the current study if the pregnancy incident inclusion criteria were the same as the Government's (i.e., not including miscarriages). It is clear that the teenage pregnancy response rate from this study (2.7%) is substantially lower than the national rate (4.1%). Note the unusually high rate recorded for Camden is due to a very low sample size.

Table 13: Pregnancy rates in this study compared to each borough's average rates

	Under 18 all pregnancy incidents	Under 18 excluding miscarriages
Totals		
National	?	4.1%
All T&T (N=263)	3.4%	2.7%
Greenwich		
Population	?	6.3%
T&T (N=76)	3.9%	3.9%
Southwark		
Population	?	6.8%
T&T (N=68)	4.4%	2.9%
Islington		
Population	?	5.6%
T&T (N=63)	0	0
Tower Hamlets		
Population	?	4.3%
T&T (N=32)	3.1%	0
Brent		
Population	?	4.5%
T&T (N=11)	0	0
Camden		
Population	?	4.0%
T&T (N=13)	7.7%	7.7%

Attitudinal results

The responses to the attitudinal measures in this study are very positive, both in terms of the questions asked that related to pregnancy, and to those related to the broader goals of the Every Child Matters (ECM) strategy. While attitudes do not necessarily 'cause' behaviour change, it is reasonable to propose that positive attitudes may lead to positive related behaviours, and indeed this is the premise of all educational and awareness building programmes. The current study demonstrates results that position the Teens and Toddlers programme as extending beyond its original remit of a teenage pregnancy prevention programme to also incorporating strong elements of a

youth development approach. In fact, the findings demonstrate that participants receive broad benefits from the programme which are in line with the ECM framework; and therefore Teens and Toddlers is perhaps best considered to be a youth development programme with a focus on sexual behaviour and sexual health, rather than being thought of as only a teenage pregnancy prevention programme.

Teens and Toddlers claims to address all five core outcomes of the UK Government's ECM agenda (DfES, 2004a; 2004b) and therefore the attitude measures employed by this study were designed to fit in with the 5 ECM outcomes. Due to the fact that the vast majority of attitudinal measures were rated very highly by respondents in this study, it stands to reason that Teens and Toddlers is contributing to the five ECM outcomes. However, it should also be noted that it remains to be demonstrated whether the Every Child Matters outcomes are actually predictive of behaviour, but this is a far bigger further research question than can be addressed in the scope of the current study.

The attitudes towards the Teens and Toddlers programme that were reported by participants were extremely positive. It is clear that young people see Teens and Toddlers as a very useful and worthwhile programme, which has affected their attitudes regarding a number of important issues. It is interesting to note that their responses are not affected by the time since participants undertook the programme, indicating a strong and lasting effect on participant attitudes. The question which produced the most positive answers was 'How much do you feel that doing T&T helped you understand the need to have financial security and a stable relationship before having a child?' The percentage of respondents who scored this question as positive (i.e. the two most positive answers on the scale) was 92.3%. This finding clearly demonstrates that participants feel the programme explains the value of waiting until you are ready to have a child. Coupled with the very low number of pregnancy incidents reported, this finding demonstrates that Teens and Toddlers succeeds in its

agenda of using a youth development approach to encourage participants to postpone becoming a parent.

Perhaps the strongest finding that indicates how positively participants value the programme was that 95% of respondents gave a positive answer for the question 'How useful do you think Teens and Toddlers would be to other teenagers?' with 87% choosing the highest possible answer. Interestingly, the question which yielded the lowest percentage of respondents choosing the two most positive answers was 'How much do you feel that doing T&T had a positive impact on your grades and attendance at school?' 54.6% of respondents chose the top two answers. A possible explanation for this comparatively low score is that the young people who participate in Teens and Toddlers are often those who are having problems at school (e.g. non-attendance, victims of bullying, negative relationships with peers and teachers, disinterest and disengagement).

Therefore, they often see Teens and Toddlers as something very different to school, and something practical that they can do which is separate from their school lives. That is, it is possible that they do not associate the programme with school and how it has affected their grades and attendance. Conversely, other anecdotal research undertaken by Teens and Toddlers seems to indicate that teachers report a positive effect of the programme on participants' attendance, engagement and grades at school both during and afterwards. This is an area in which the organisation is planning to undertake more detailed research in the future. However, it is also worth noting that 86% of respondents agreed that during the project they learned that having a good education would offer them more choices in life.

One area in which the results from responses to attitude questions is particularly interesting in looking for patterns of response among those participants who report a pregnancy incident. Those participants who reported a pregnancy incident reported that they enjoyed working with the toddlers and felt that their toddler enjoyed having them around slightly more

than participants who did not get pregnant. On this same theme, participants who became pregnant (or caused a pregnancy) were also slightly more positive in their feelings that they made a positive difference to their toddler during the Teens and Toddlers programme. It is difficult to accurately interpret these findings. Participants' answers could be influenced by the fact that they are now parents, or they may indicate that the experience of working with toddlers somehow influenced their decision to become a parent earlier than they might have if they had not undertaken the programme.

For example, a young woman who has become a mother since doing the programme may rationalise their decision to have a baby by saying that they enjoyed working with, and felt they made a positive difference to, their toddler. This could help them to explain and justify why they became a parent (i.e. because they enjoy being around children, and they are good at it). This could also serve to rationalise that they are good parent, and making a positive difference to their own child. It is also suggested that, in the cases where a birth has subsequently occurred, participation in the Teens and Toddlers programme could have helped these young people to become better parents. It could be that the programme works as more of a youth development programme for these particular teenagers, and it helps them to see the realities of parenthood and learn how to look after young children, while building up their self-confidence.

An alternative hypothesis is that respondents who reported a pregnancy incident had such a positive experience with their toddler, that it influenced their decision to become pregnant. Although we can not wholly discount that enjoyment of the programme could be a contributing factor in a very small amount of cases, we do not think that this is the case with the vast majority of participants. Here we can take in to account other findings which show that even though they did become a parent before the age of 18, they still report an ideal age to become a parent as closer the age of 20.

It is also possible that there are some young people who are desperate to have a child before they even start the Teens and Toddlers programme and, in these cases, it could be that no intervention could dissuade them. The fact that they are keen to become a young parent could even have motivated them to participate in the programme. A study in to poverty and disadvantage and 'planned' teenage pregnancy (Cater and Coleman, 2006) found that for those who are particularly keen to become a young mum, it is extremely difficult to intervene and present new options to them. It is feasible that the Teens and Toddlers programme works with such young people, because it works with 'high-risk' young people, from areas of poverty and disadvantage.

Further, Cater and Coleman (2006) found that some young people are 'positively ambivalent' towards the idea of becoming a young parent. That is, they do not mind what 'happens to' their body and they are not taking active steps to avoid pregnancy (i.e. they are not using contraception). They do not necessarily feel in control of their sex lives, their bodies, and subsequently their pregnancy status. It was found that this group of young people are key, because they are more open to interventions and are more open to other ways of thinking about their future. The issue of whether the Teens and Toddlers programme ever reinforces or even increases a young person's wish to have a child is clearly something that requires future research, but it is suggested here that some young people have already made up their minds before starting the programme, and therefore interventions can be less successful with this group.

This report includes some quotes from young people who had a pregnancy incident, and it is interesting to see how the quotes differ from those who have not experienced a pregnancy. It could be that, for those who have had a pregnancy incident (particularly a birth) the programme has different beneficial effects. For example, some respondents say that the programme made them realise the responsibilities involved, gave them ideas on how to discipline and have a good relationship with young children, and feel more confident in themselves and their own abilities. Clearly,

this area requires further research and therefore a follow-up study that will undertake qualitative interviews with those participants who did report a pregnancy incident has been planned.

The number of pregnancy incidents also differed considerably between boroughs, with 64% occurring in Greenwich and 23% occurring in Southwark. It is important to remember that these are the two boroughs in which Teens and Toddlers has been working the longest, thus meaning that respondents from these two boroughs are older than respondents from other boroughs (and thus more likely to have had a pregnancy incident). The most finding in relation to responses to attitude questions and borough differences was that those respondents from Greenwich answered significantly lower to the question 'How much do you feel doing T&T helped you understand the need to have financial security and a stable relationship before having a child?'. The finding that young people from Greenwich did not agree with this statement as much as respondents from other boroughs, suggests that the programme was less successful in achieving its goals in Greenwich.

Interestingly, a few attitudinal differences were revealed among participants from the different programme length conditions. This was particularly so in terms of participants' views on their learning of sexual health issues, with those from the longer programmes being more positive in their responses than those from the shorter programmes. Those from the longer programmes were also more positive that their learnings from Teens and Toddlers would influence their use of condoms if they were to have sex. In recent times the organisation has phased out the shorter programmes and is also now paying more attention to sexual health. These findings are interesting, and they reinforce the organisations' belief that a 20-week project is the optimum length for better learning, attitude changes and behaviour change to occur.

The majority of the attitudinal questions showed no statistically significant differences between males and females.

However, three attitudinal questions pointed to a marked significant difference. Females felt that through the programme they had learned to express anger and difficult emotions in a more positive way, that Teens and Toddlers was the sort of programme teenagers need to help them make good choices and stay out of trouble, and that the programme gave them the opportunity to think about their future and what they want out of life. The last of these three questions is interesting, as it seems that young women found that the project made them think about their futures more. This is an important aim of Teens and Toddlers, and it could be that girls are affected in this way more than boys.

NEET

Another measure of the 'at-risk' level of participants in Teens and Toddlers programmes is their NEET status. From the current study, 42 out of the 263 respondents (16%) were not in education, employment or training (NEET). While these data are indicative of NEET respondents ranging across ages of 15 to 22, it is interesting to compare these findings to national averages. The proportion of 16-18 year-olds not in education, employment or training (NEET) in the whole of England decreased from 10.9% at the end of 2005 to 10.3% at the end of 2006. The total number of 16-18 year-old NEETs was estimated at 206,000 at the end of 2006 (ONS & DfES, 2007). While the age levels are not directly equatable, these data do provide further evidence that Teens and Toddlers is sampling at-risk young people.

In the Teenage Pregnancy Strategy (SEU, 1999) the Government set the target of getting 60% of young mothers into education, employment or training (EET). This target is broadly considered to be controversial because some argue that young mothers do not follow the 'normal' route taken by many other young people; that is secondary and further education followed by employment. Harris et. al., (2005) argue that despite help with childcare, an education maintenance allowance and coordinated support from trained professionals, young mothers face unique difficulties and barriers associated with getting back into EET. They found that

many other factors such as: the extent of existing support from families; adjustment to the new role of motherhood; adjustment to independent living and parenting skills; information about EET options; and good quality, affordable and accessible childcare; all affect the NEET status of young mothers.

Despite these barriers, it is encouraging to note that approximately 50% of respondents in this study who reported a pregnancy incident also reported that they were in some kind of employment. These findings show that some graduates of Teens and Toddlers programmes who report pregnancy incidents do remain in education, employment or training. This is partially explainable by the fact that the young people who have experienced births are quite a lot older, and so they are more likely to be in employment than their younger counterparts. And of course we do not know what types of jobs these young people are doing, and this could be an area worthy of future research. However, it could point to the idea that, if graduates of Teens and Toddlers become pregnant, they are equipped with the motivation to work as they understand the importance of creating emotional and financial stability in order to raise a child appropriately. However, this area needs further research before the exact causal influences can be explained.

Establishing causal links

The extent to which Teens and Toddlers is solely responsible for these positive figures is difficult to assess as many other factors can also have an effect on graduates during the long tracking period between when they participate in the programme and when they answered the questionnaire in this study. Causation is always a difficult concept to demonstrate, but the very positive evaluations made by respondents about the extent to which they felt the programme affected their attitudes and behaviours, and the fact that these impacts seem to last over time indicates that the Teens and Toddlers programme is effective. This proposition is corroborated by the positive findings about pregnancy status which is further evidence of a strong impact of the programme on young people's decisions about becoming parents.

A brief summary of the major findings demonstrates this, with: 87% of respondents reporting that the right age to become a parent would be over 20, and 30% believing that the right time would be when they are older than 25; 88% agreeing that the programme helped them learn about sexual health issues such as STIs, pregnancy and deciding when to have sex; 92% reporting that doing the programme had helped them to understand the need to have financial security and a stable relationship before having a child; 90% reporting that Teens and Toddlers is the kind of project that teenagers need to help them make good choices and stay out of trouble; 79% reporting that doing T&T helped them to feel more confident in themselves as a person.; and 95% reporting that the programme would be beneficial to their peers. Additionally, participants who had undertaken a 20 week project reported stronger attitudinal changes and learnings than participants that experienced the shorter 10-12 week condition. This was particularly true for learnings around sexual health and safer sex.

The relatively few differences identified when data was analysed for effects and differences on the basis of ethnicity, gender, age and the time passed since they had undertaken the programme, suggests a relatively robust and undifferentiated positive appreciation of the programme by participants. Such attitudes and behaviours seem to influence pregnancy status in the desired direction in the vast majority of respondents. The significance of such a result is perhaps best interpreted against the estimates of the experts previously mentioned who predicted in 2005 that 25% to 45% of the at-risk target population would be likely to become pregnant if they did not receive any intervention. Further, the qualitative data gathered in the survey is good evidence that the primary objectives of the Teens and Toddlers programme are largely understood and integrated by participants. The themes and verbatim quotes presented in Tables 9 - 12 demonstrate that both factual knowledge about the implications of becoming a teenage parent, and the personal development benefits associated with an

experiential approach (opportunities to talk about issues), are valued by respondents.

The current retrospective study also demonstrates excellent results regarding pregnancy incidents, with young people that have undertaken a Teens and Toddlers programmes reporting fewer pregnancies than what would be expected in general population of people their age. Therefore, the results of this study suggest that the Teens and Toddlers programme in its work with an at-risk sample, is efficacious to the point that out performs the teenage pregnancy rates for the general population.

Improvements to the study's design and implementation

The last study suggested that the study could be improved by seeking further information from respondents about the nature of any losses, and this was achieved in this study. Respondents had the option to choose either 'miscarriage' or 'termination' and so these results are very specific. Another factor that would improve the overall validity of findings would be to further increase the sample size and the response rate. While a 64% response rate is very good, especially for the at-risk population sampled, the improvement of this would be highly positive, enabling more definitive statements about the programmes efficacy. The last study in 2006 suggested that there be more intensive monitoring of tracking and associated database management, and this has been achieved. The benefits of this improved tracking are likely to show in next year's annual study, as respondents are only included in the retrospective sample when a year or more has passed since they completed Teens and Toddlers.

It was also suggested in last year's study that further questions were asked about the respondents' views on school and education and their employment status and this has been achieved in this study. While the original aim of the tracking was to source pregnancy status only, it is suggested that the inclusion of these variables makes it possible for the organisation to draw further conclusions about the programme's effectiveness given the multiple proposed benefits of Teens and Toddlers.

Further research

It is clear that further research is required in to why there are clusters of pregnancies in certain boroughs, as there could be very interesting factors that predispose to pregnancy. Similarly it would be beneficial to assess the level of 'planning' of the young people who had a pregnancy incident. The London Measure of Unplanned Pregnancy – LMUP (Barrett, 2004) is a useful tool to measure 'planning', and it could be incorporated in to the work of Teens and Toddlers, in order to identify even further those most 'at-risk'. Another interesting area is the different effects the programme could have on those who report a pregnancy incident, compared to those who do not. It seems that the programme may teach positive messages about how to be a good parent, which young people remember and retain even if they do have a pregnancy incident after the programme. There is also a need for further research in to the extent that the programme affects school engagement, because increasing this is a high priority for many Local Authorities.

Conclusion

The findings of this retrospective study suggest that the Teens and Toddlers programme is a youth development programme that includes a robust teenage pregnancy prevention intervention that can be used effectively with at-risk populations. The lower than expected pregnancy rates achieved within the sample, coupled with consistent changes in important attitudes and behaviours (related to the Every Child Matters 5 Key Outcomes), are strong evidence for the programme's efficacy. Further evidence is required through the gradual development of a larger sample size and regular tracking of graduates from Teens and Toddlers programmes. In conclusion, the findings of this study, in conjunction to those of the 2006 retrospective analysis, suggest that the Teens and Toddlers approach is very effective both in influencing young people's attitudes and actually preventing teenage pregnancy.

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