



# CREaTE

Canterbury Research and Theses Environment

Canterbury Christ Church University's repository of research outputs

<http://create.canterbury.ac.uk>

Please cite this publication as follows:

Franz, A., Worrell, M. and Vögele, C. (2013) Integrating mixed method data in psychological research: combining Q methodology and questionnaires in a study investigating cultural and psychological influences on adolescent sexual behavior. *Journal of Mixed Methods Research*, 7 (4). pp. 370-389. ISSN 1558-6898.

Link to official URL (if available):

<http://dx.doi.org/10.1177/1558689813483368>

This version is made available in accordance with publishers' policies. All material made available by CReaTE is protected by intellectual property law, including copyright law. Any use made of the contents should comply with the relevant law.

Contact: [create.library@canterbury.ac.uk](mailto:create.library@canterbury.ac.uk)



Franz, A., Worrell, M & Vögele, C. (2013). Integrating mixed method data in psychological research: Combining Q methodology and questionnaires in a study investigating cultural and psychological influences on adolescent sexual behaviour. *Journal of Mixed Methods Research*.

**Integrating mixed method data in psychological research: Combining Q methodology and questionnaires in a study investigating cultural and psychological influences on adolescent sexual behaviour**

Abstract

In recent years, combining quantitative and qualitative research methods in the same study has become increasingly acceptable in both applied and academic psychological research. However, a difficulty for many mixed methods researchers is how to integrate findings consistently.

The value of using a coherent framework throughout the research process is discussed and arguments illustrated by referring to a study on individual- and cultural-level influences on sexual health behaviours conducted with adolescents in Germany and England.

The article concludes that using an appropriate framework throughout the research process can ensure integration of findings in a consistent and coherent way. This can improve mixed-methods research and produce greater “yield” (O’Cathain et al., 2007, 147).

Keywords: Multi-level integration, discourse analysis, psychology, Q methodology, adolescent sexual health

## **Integrating mixed method data in psychological research: Combining Q methodology and questionnaires in a study investigating cultural and psychological influences on adolescent sexual behaviour**

In psychology, mixed methods research is slowly gaining popularity as a new paradigm beside the more established qualitative and quantitative schools of thought with dedicated journals, books, conferences and foray emerging. This has led to debates on how to develop quality criteria specifically for mixed methods research, which take into account the unique nature and issues of mixed methods research (Johnson & Onwuegbuzie, 2004, Leech et al., 2010, O’Cathain et al., 2007). Issues around integrating paradigms and/ or qualitative and quantitative methods are a particular concern here (e.g. Bryman, 2007)

Within the debates about integration and unconceivable (epistemological) differences, it seems too often be forgotten that mixed research traditions have existed since the beginning of psychology. In fact, dual research epistemologies have been more acceptable than singular research approaches at certain times in the past, for example the dual psychology of Wilhelm Wundt (1832-1920), advocating experimental introspection (in Sprung & Sprung, 2001). The strong emphasis on quantitative and objective inquiry that currently characterises the discipline has only been a by-product of the general philosophical preoccupation with scientific enquiry as the highest standard for research (Yanchar et al., 2005) that emerged when psychology became recognised as an academic and professional discipline in the 1930s (Sprung & Sprung, 2001).

Since then, the shift towards conceptualising psychology as a scientific discipline based on positivism has, however, led to a predominant focus on measurement and generalisation in much of psychology, with a clear emphasis on quantitative research methods. This resulted in the use of the scientific method to research psychological issues

from an individualistic perspective, with the aim of generalising behaviour to a whole population (Murray & Campbell, 2003).

Opponents of this perspective have emerged almost since the beginning of positivist psychology, and particularly since the 1960s, with researchers calling for a more “*naturalistic, contextual and holistic understanding* of human beings in society” (Todd et al., 2004, p.4, emphasis in original). They criticise the widespread view of the isolated individual “who springs from who knows where, with no childhood, no family, no relationships, no community [and] no responsibility” (Duncan, 2000, p.3). It is argued that it is essential to acknowledge that experiences change across countries and cultures as well as for each individual and that quantitative methods cannot capture this diversity and multidimensionality of people’s lives sufficiently (e.g. Duncan, 2000, Mason, 2006).

This has led to a division in psychological research, where on one side research in its extreme positivist form ignores the social context and focuses predominantly on the individual and is measured using experiments and questionnaires, while at the other extreme, the post-modern perspective, the individual is ignored, and cultural context is almost exclusively used to explain the social world with most research utilising interviews or analysing media sources or written texts (Todd et al., 2004). Both these approaches are prone to fallacies. As Mason (2006) argues “social experience and lived realities are multi-dimensional” (p.10) and our understanding of these will be inadequate if we only examine them at one level or from one perspective.

This is where mixed methods surely have one of their greatest potential: In combining methods that allow for the social and political levels of a person’s life to be combined with the individual and biological levels to produce holistic and multi-level explanations for phenomena of interest.

## **Barriers to adopting a mixed-method approach for psychologically-based research – the problem of integration**

The shift towards combining different paradigms and approaches in research on human behaviour and experience mirrors applied psychological research where mixed methods are more frequently found and are seen as a useful tool and not a theoretical conundrum (Morgan, 2007, Green, 2008). As part of this move, research using multiple methods to study complex social problems is gaining acceptance (Todd et al., 2004, Bryman, 2004). For example, researchers advocate a mixed-method approach based on a “*contextual and evolving* theory of inquiry” (Yanchar et al., 2005, p.35, emphasis in original), that uses methods in a “flexible and unorthodox” (p.30) way to aid scientific progress and to find the most authentic solutions to the issues at hand (Johnson & Onwuegbuzie, 2004 ).

Having said that, truly integrated mixed methods research is still rare in psychology (Alise & Teddlie, 2010), despite its potential to provide comprehensive answers to complex social research problems (Mason, 2006, Christensen et al., 2011), not the least because of several obstacles that researchers face to using mixed methods in their research (Bryman, 2007).

One such obstacle is the widely held belief that quantitative and qualitative research paradigms cannot be meaningfully combined due to different theoretical and/ or philosophical assumptions. While, for example, one approach places importance on the generalisability of research findings from a randomly selected sample to a general population, the other advocates strategic sampling based on theoretical considerations (Brannen, 1992). At the centre of this “paradigm war” (e.g. Creswell, 2003) or “Methodenstreit” (e.g. Todd et al., 2004) is the notion that methods are synonymous with paradigms and therefore it is not only unattainable to combine the underlying epistemological ideas of quantitative (e.g.

positivist) and qualitative (e.g. constructivist and postmodern) research approaches, but that in addition the methods assigned to either of these positions cannot be integrated (Wiggins & Forrest, 2005).

Contrary to this conviction, Johnson and Onwuegbuzie (2004) highlight that methods *per se* do not reflect differing research methodologies. Instead, the paradigm determines how the data derived through a particular method, is treated and analysed. Some paradigms even encourage mixing methods. The most prominent is that of pragmatism (Creswell & Plano-Clark, 2007, Dures et al., 2010), which is often chosen as philosophical basis of mixed methods research because of its flexibility with regard to combining different systems of reality (Dures et al., 2010). However, other epistemologies can also be used as underpinning of mixed methods research (Creswell & Plano-Clark, 2007). Alise and Teddlie (2010) identified four different paradigms as basis for mixed methods research across pure and applied disciplines, including postpositivist, pragmatist, critical or transformative and constructivist paradigms.

A second barrier, particularly for researchers already using mixed-methods is often not the integration of paradigms but the integration of data sets. Many mixed methods studies fail to integrate findings from qualitative and quantitative data sets consistently, for example because of different data formats, because of certain stances towards paradigms such as the “Purist stance” discussed by Greene (2008) or because integration has not been sufficiently conceptualised within the design (O’Cathain et al., 2007, Bryman, 2007, Creswell & Tashakkori, 2007). To ensure consistent integration, it is important to provide a coherent framework illustrating how different levels are integrated and how methods are combined and interpreted (Castro et al., 2010, Mertens, 2011) to ensure the added value of mixed methods when compared to single method research becomes transparent for researchers and readers and is not lost in the process of interpretation or publication (O’Cathain et al., 2007).

Integration is an important aim in mixed methods research. Unless mixed methods research provides knowledge beyond single-paradigm and/ or single-method research, the value of conducting such research is questionable (O’Cathain et al., 2007). O’Cathain et al. (2007) identify six potential values of conducting mixed methods research:

Comprehensiveness, increased validity, development or facilitation, emancipation, satisficing and salvaging (p. 148)

To aid the design of mixed methods studies, Creswell (1994, 2003) advances three potential types of mixed methods research: The sequential research design, where one method is used to elaborate on the findings from the other; the concurrent research design, where both types of data are converged or combined to achieve a comprehensive analysis; and the transformative research design, which uses a theoretical stance throughout the research process, e.g. critical theory or feminism, and can be either sequential or concurrent in nature.

The concurrent research design combines aspects of qualitative and quantitative paradigms at all or many steps in the research process, e.g. in the introduction, the literature review and the purpose statement and draws on advantages of both paradigms (Creswell, 1994, Johnson & Onwuegbuzie, 2004) often leading to novel and more insightful solutions to complex social phenomena. It seems to be particularly well-suited to the value of comprehensiveness discussed by O’Cathain et al. (2007).

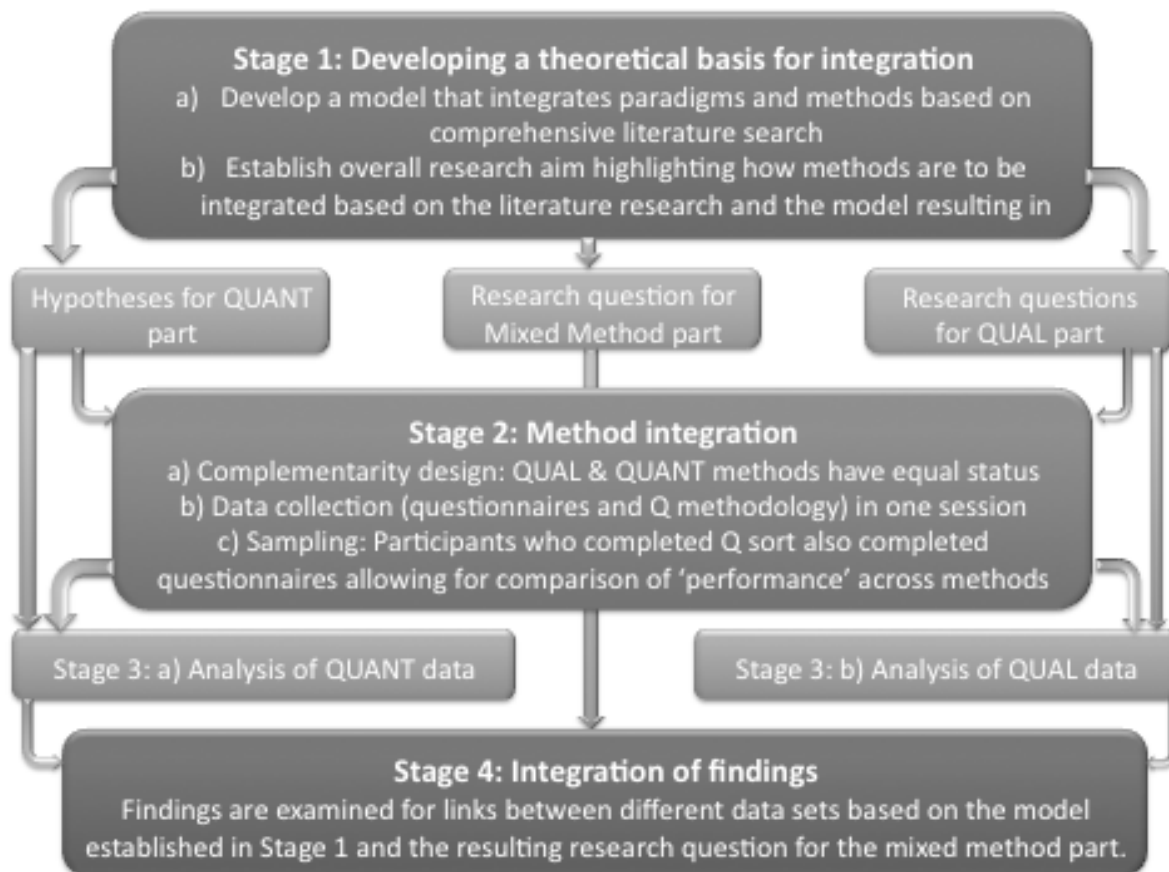
### **The example of a multi-level study on adolescent sexual behaviour**

This article will discuss the process of integration based on a theoretical model by drawing on a cross-sectional, cross-national study, which employed mixed methods in a concurrent design to research cultural and individual factors that influenced sexual health behaviour in a

sample of German and English young people between 16 and 19. Most of the literature is based on a single epistemological and methodological tradition, which means that findings are often separated in e.g. social constructionist (e.g. Frosh et al., 2002, Kehily et al., 2001) or social cognition camps (e.g. Wood-Baker et al., 2003, de Visser & Smith, 2004) and no or very little attempt is made to link these findings to provide a holistic model. However, as O’Cathain et al. (2007) argue, comprehensiveness “where using both qualitative and quantitative methods allows an issue to be addressed more widely and more completely” (p.148) can be a valid reason for conducting mixed methods research, and this also applies here. Adolescent sexual behaviour is a multi-faceted phenomenon (Ingham, 2006) and using a multi-paradigm and method approach can produce knowledge that is “greater than the sum of the parts” (Barbour, 1999, cited in O’Cathain et al., 2007, p. 148). Understanding, for example, if and how culturally shared knowledge and norms influence, and are influenced by, individual characteristics such as sexual self-assertiveness and sexual self-esteem can help to produce interventions that target behaviour on several levels and have a greater chance in succeeding in aiding young people to make the right sexual decisions for them.

To ensure that readers can assess the “yield” (O’Cathain et al., 2007, p.147) of mixed methods research, it is important to clearly demonstrate how integration has been achieved at different stages of a study. O’Cathain et al. (2007), for example, explain how integration at design, sampling, analysis and interpretation stages can be assessed, while Castro et al. (2010) illustrate integration procedures for design, conversion, analysis, interpretation and integration stages. The stages of integration in the current study are outlined in Figure 1 and elaborated on in the following sections.



**Figure 1: Stages of integration for the reported study**

In stage 1, the development of a model combining both social constructivist and social cognition research will be described arriving at a set of research questions and hypothesis targeted at the quantitative, qualitative and mixed methods parts of the research. Stage 2 will outline procedures at design, data collection and sampling, while stages 3 and 4 will elaborate on analysis and integration stages.

## **Stage 1: Developing a theoretical basis for integration**

### *a) Developing a model to guide integration*

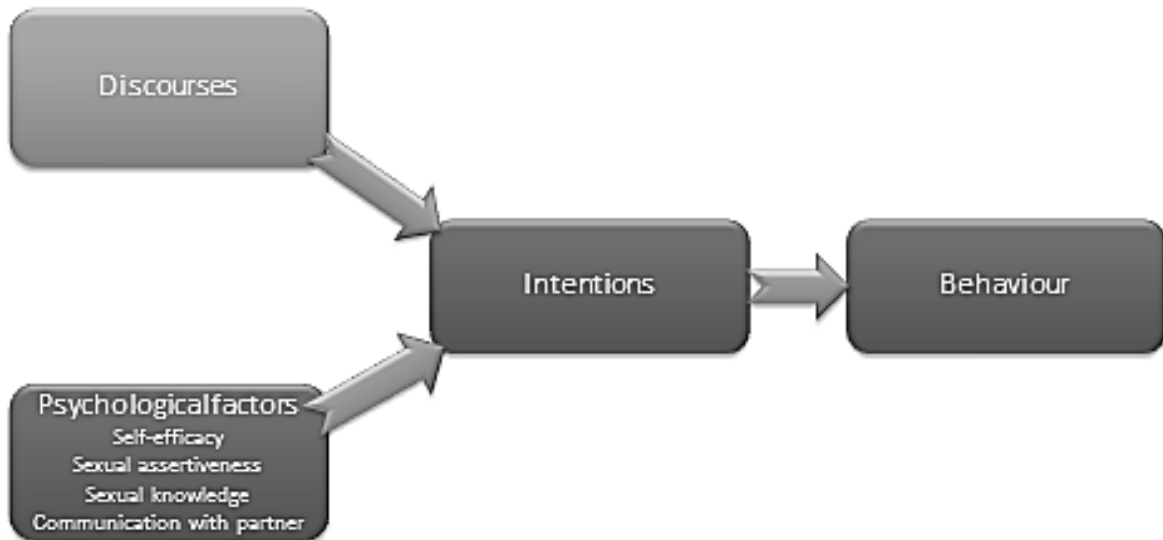
Psychology has attempted to theorise adolescent sexual health behaviour using a range of different models such as the Health Belief Model (Abraham & Sheeran, 2005, Laraque et al., 1997), the Theory of Reasoned Action (Fishbein, 2000, Fishbein et al., 2003), the Theory of Planned Behaviour (Sutton et al., 1999) and the Protection-Motivation Model (Webb & Sheeran, 2006). Some of these models, particularly the Theory of Reasoned Action and the Theory of Planned Behaviour have shown consistent effect sizes across studies on sexual behaviour (e.g. Webb & Sheeran, 2006).

However, these effect sizes are generally small suggesting that the models do not capture the whole story (de Visser & Smith, 2004, de Wit & Stroebe, 2004, Webb & Sheeran, 2006). In addition, the usefulness of some factors included in these models has been questioned in explaining sexual behaviour in general, and for adolescents specifically. For example, the role of volitional control, one of the assumptions underlying the Theories of Reasoned Action and Planned Behaviour, has been questioned for interactive behaviours such as sexual intercourse and contraceptive behaviour (Coleman & Ingham, 1999, Henderson et al., 2002, Webb & Sheeran, 2006), as the interactive nature reduces volitional control over the behaviour (de Visser & Smith, 2004, Coleman & Ingham, 1999, Henderson et al., 2002).

The Prototype-Willingness Model (Gibbons & Gerrard, 1995, Gibbons et al., 1998) offers a solution here by suggesting two distinct routes for health-risk behaviours. The Reasoned Action Model, which is very similar to the Theory of Reasoned Action, is used to explain behaviours that do not entail social dimensions, for example individual health behaviours like attending screenings or self-examinations.

The second route, the Social Reaction Route, is suitable for conceptualising behaviours that occur within a social context, and to this end, introduces the role of social images (Ricardo et al., 2006), called prototype perceptions, as key determinant of behaviour (Webb & Sheeran, 2006, p.250). The more favourable an individual's image of the type of person who engages in a particular behaviour (e.g. sexual active boys are more masculine), the more likely the young person is to engage in that behaviour (Gibbons & Gerrard, 1995, Gibbons et al., 1998).

For the model used in the current research, the Social Reaction Route was amended by exchanging discourses for prototype perceptions to take into account the fluidity of young people's choices with regard to which social images to utilise to explain or rationalise behaviour and to further overcome the problem of many of the traditional health models of over-relying on "cognitive-rational decision making" (Castro et al, 2010, p.346). For example, a girl's fear of being perceived as "silly" or a boy's anxiety that they will be seen as being only after sex if they introduce condoms (Coleman & Ingham, 1999) are conceptualised as created by available (and potentially dominant) discourses that prescribe gender roles within adolescent sexual relationships. Young people learn these discourses from media, the peer group, society in general and other sources that surround them. Depending on the specific situation, behaviour and person using them, the discourses that are drawn on can differ and lead to different behaviour. Figure 2 illustrates the re-conceptualised Social Reaction Route, which integrates discourses from a social constructionist perspective with social cognition variables, i.e. psychological variables and intentions in explaining adolescent sexual behaviour.

**Figure 2: Integrated model used in the study**

In the amended model, demographics, psychological factors, i.e. sexual self-efficacy, sexual assertiveness, communication with partner and sexual knowledge are influences on intentions and behaviour in line with social cognition research, all of which have been identified in the literature as important in explaining sexual behaviour (e.g. Fishbein et al., 2003, Fishbein, 2000). Discourses have been added to the model and replace prototype perceptions. They are conceptualised as moderating the impact of the psychological/ individual variables in the model such as sexual self-esteem, sexual assertiveness and sexual knowledge on intentions and behaviour. For example, consistency in condom use might be moderated by available discourses about who uses/ carries condoms, e.g. women who carry condoms are often constructed as easy or ‘up for sex’.

The model aided in forming research questions and hypotheses for the qualitative, quantitative and mixed methods components of the research and will be used to interpret findings from both data sets together and to make sense of the connections and relationships between them by guiding the researcher's thought processes. This approach is most similar to the "data consolidation" described by O'Cathain et al. (2006, p.150).

*b) Establishing research aim, questions and hypotheses*

The research was guided by a number of research questions and hypotheses, which aimed to investigate gaps in the current literature. Brewer and Hunter (1989) state that research questions "indicate gaps in the scope or the certainty of our knowledge" (p.55). Although the literature on sexual health and risk behaviours is plentiful, several such gaps still exist. This research was designed to address some of these with the hope of increasing our knowledge about the influences on adolescent sexual behaviour.

One such gap concerned the fact that much of the current work is conducted solely from a single- paradigm, single-method perspective (Alise & Teddlie, 2011), meaning that there is presently insufficient work which combines the insights that can be obtained from both quantitative and qualitative methods (Brewer & Hunter, 1989, Creswell, 1994). For example, research using quantitative methods has found that self-efficacy, brain development as well as partner communication and religiosity are important influences on adolescent sexual behaviour (Vögele, 2006, Casey et al., 2008, Henderson et al., 2002) while qualitative research has consistently illustrated the use of discourses in young people's positioning with regard to or justifying behaviour (Ricardo et al., 2006, Frosh et al., 2002, Kehily et al., 2001), e.g. young men draw on traditional discourses of women having to control sexual encounters to justify not introducing condoms (Gelder, 2002). However, so far little if any research has investigated whether there are links between these findings and whether integration of

paradigms, methods or findings might provide more complete explanations and potential for improved support services for young people engaging in sexual behaviour. For example, if sexual self-efficacy is related to the discourses young people use to position themselves with regard to their responsibilities in sexual relationships, interventions trying to improve sexual self-efficacy in young people will also need to provide discourses that are relevant and desirable for young people. As such the proposed research aimed to investigate in a systematic way young people's knowledge of sexual health, their beliefs and practices within the sexual domain, their sexual self-efficacy and assertiveness as well as the cultural climate in which young people negotiate sexual encounters, combining both positivist and constructivist paradigms, and qualitative and quantitative methods, to investigate the links between variables from different paradigms, whether there are any, and what these are. To fulfil this aim, the research was led by the following research questions and hypotheses related to the qualitative, quantitative and mixed-methods components.

The hypothesis guiding the quantitative research stated that the variables on sexual assertiveness, knowledge and self-efficacy as well as the demographics of the sample predicted sexual intentions and behaviour. The exact role of each of these variables was predicted to differ according to the specific sexual behaviour investigated (Henderson et al., 2002, Fishbein et al., 2003).

The qualitative analysis explored which discourses young people drew on to make sense of gender roles in adolescent sexual relationships and whether trends across e.g. country could be detected.

Finally, the integration of qualitative and quantitative analyses was expected to offer insights into whether and how the discourses identified in the qualitative part were interlinked with the other variables of the integrated model, such as demographics, psychological variables, intention and sexual behaviour.

## **Stage 2: Method integration**

### *a) Design*

The study adopted a complementary approach to mixed methods research (Leech et al., 2010, Brannen, 1992), using qualitative and quantitative methods to investigate different aspects of a single research problem to attempt to provide a more comprehensive understanding (O’Cathain et al., 2007).

The use of multiple variables in the current research required several triangulations. Brannen (1992) mentions several types of triangulation: Multiple methods, multiple investigators, multiple data sets and multiple theories. These different forms of triangulation are not isolated but build on each other. For example, the use of multiple theories often leads to multiple methods, which in turn lead to multiple data sets. A researcher might also have different data sets because they use different research or information sources or because of different levels of analysis, e.g. individual, interactive or collective levels of analysis. The current study incorporated several of these. For instance, the multi-level triangulation described above forms the basis of the current research, which uses Q methodology to obtain cultural level data (discourses), and questionnaires to investigate inter- and intrapersonal aspects of a person’s life. In line with a mixed-method concurrent design, both data sets had equal status with regard to analysis and integration (Creswell, 2003).

### *b) Data collection*

Data collection took part in schools and colleges in Germany and England. The first part of the data collection phase involved the gathering of individual level data through the completion of the questionnaires (quantitative research method). The second part entailed the

discourse research in which participants completed a Q sort (qualitative research method). All of the questionnaires and the Q sort were self-administered; however, the researcher was present to answer any questions participants might have regarding the tasks. All participants had the choice of taking part in both parts of the research depending on teachers being prepared to allocate enough time for the research. Selection of participants particularly for the Q methodology part of the research was influenced by this. If one hour or less was offered to the researcher, participants were only asked to complete the questionnaires. In addition, as with all the measures, participants had the choice to opt out of completing the Q sort.

As Q methodology does not make any claim about generalisability of the results, it is not problematic that only a sub-sample participated in this part of the research (Stenner et al., 2008). In Q methodology, as long as a factor has emerged, adding additional participants to the analysis will not improve validity or reliability of factors, as generalisation is not a concern of researchers here (Stenner et al., 2008, Brown, 1980). The only aim of Q methodology is to illustrate the existence of a particular shared viewpoint. Considering the diversity of factors, which illustrate a good range of dominant and alternative discourses (Allen, 2002, Maxwell, 2007) with some overlap between discourses drawn on by German and English participants, and of the participants themselves, e.g. with regard to sexual experience, gender, sexual assertiveness, sexual self-efficacy, knowledge, religion, etc.. the sample appears to have been sufficiently diverse. Obviously, as with all qualitative methods, no claims to exclusivity of the factors are made, and in a different sample alternative or additional factors might emerge.



### Measures and material

To be able to investigate all the variables outlined in the integrated model (Figure 2), the research utilised three questionnaires to explore individual-level variables and Q methodology to identify the discourses.

### Questionnaires

The questionnaires were selected through literature searches. First the key variables were pinpointed as outlined in Figure 2; following this, the appropriate questionnaires were chosen to investigate them. Permission to use them for this research was sought and given for all three questionnaires.

Demographics, attitudes, intentions, sexual knowledge and behaviour were collated using the *Young People's Survey on Teenage Sexual Health*. It was designed by the Centre for Sexual Health Research, University of Southampton (Clements, 1999) by drawing on a number of items from other validated scales based on psychological theories and concepts, such as the Theory of Reasoned Action, behavioural intention and self-efficacy, and had originally been administered to 804 young people with a mean age of 15 years. The response format for questions ranged from forced choice to open-ended.

Sexual assertiveness was explored using a questionnaire developed by researchers at the University of Buffalo and used by Rickert et al. (2002). It is a 12 item online test for sexual assertiveness and is used for date rape prevention. The items (e.g. "*I have the right to use or not use contraception regardless of my partner's wishes*") are rated on a three point scale from 'never' to 'always'. The questionnaire was used in a study by Rickert et al. (2002) with a sample of 904 sexually active young women between 14 and 26 years of age. The internal consistencies (Cronbach's alpha) for the English and German samples in the current study are 0.860 and 0.778 respectively.

The Self-Efficacy Scale used in this research is a 12 item scale designed to measure sexual self-efficacy in young people (Soet et al., 1999). It is based on Bandura's (1977) theory of self-efficacy and is derived from a longer 21-item scale (Dilorio et al., 1997). An example item would be: *I can always talk to any potential partner to make him/ her understand why we should use a condom.* The scale measures a person's degree of confidence in the following areas of sexual negotiation: sexual refusal, condom use and general sexual discussion (Soet et al., 1999). The items are rated on a ten-point likert scale from "not at all sure I can do" (1) to "completely sure I can do" (10). In previous research, this particular scale demonstrated excellent internal consistency, with Cronbach's Alpha for the three sub-scales (Soet et al., 1999). Analysis for the current study produced similar levels of internal consistency (Cronbach's alpha) for the three sub-scales as the ones reported in the original study. Table 1 presents the internal consistency levels for German and English data.

**Table 1: Internal consistencies for English and German participants**

	<b>Self-efficacy</b>	<b>Sexual refusal</b>	<b>Condom use</b>	<b>Discussion</b>
<b>England</b>	<b>0.92</b>	<b>0.78</b>	<b>0.86</b>	<b>0.87</b>
		(0.74)	(0.93)	(0.87)
<b>Germany</b>	<b>0.86</b>	<b>0.68</b>	<b>0.80</b>	<b>0.79</b>

(in brackets are the original internal consistency scores taken from Soet *et al.*, (2005))

### Q methodology

Although Q methodology applies many techniques and procedures usually associated with quantitative statistical procedures, it is inherently a qualitative approach for use with multiple participants (see for example, Brown, 1980, Watts & Stenner, 2005, Watts & Stenner, 2012).

Its

“central issue [...] is the subjective dimension – peoples’ own meanings, understandings, points-of-view and so on – and their expression in a context that makes no *a priori* assumptions about the value or significance of a particular account.” (Stenner et al., 2008, p.231, italics in original)

It identifies these subjective viewpoints in a way that allows for them to be recorded in numerical form and is similar to Repertory Grid Analysis in its belief that meanings of statements differ across participants (Stenner et al, 2008.) It is important to realise that in Q methodology “participants are [...] *genuinely active participants* who operate on a set of items from an explicitly self-referential and semantic point of view” (Stenner et al., 2008, p. 218, italics in original).

Q methodology does differ from many other qualitative methods, of course, not the least in the fact that although it is often used to explore complex social and psychological phenomena, it does not employ a traditional theme-based approach or in-depth analysis of individual participants’ experiences as occurs for example in Interpretative Phenomenological Analysis. It is in effect a Gestalt procedure.

“This gestalt emphasis means it can never ‘break-up’ its subject matter into a series of constituent themes [Instead] it can show us the particular *combinations* or *configurations* of themes which are preferred by the participant group.” (Watts & Stenner, 2005, p.70, italics in original)

Because of this, Watts and Stenner (2005) relate Q methodology most closely to “narrative analysis” (Watts & Stenner, 2005, p.70).

In the current study, it was used to explore the discourses that young people draw on with regard to gender roles in sexual relationships.

Initially, 209 statements were selected from academic literature, conversations with various people, media and informal interviews with professionals who work with young people in the area of sexual health and/ or teenage pregnancy.

Based on the Fisherian variance design advocated by Brown (1970, 1980), the statements were divided into five categories, which captured the main topics of the statements: Sexual responsibility and risk-taking (e.g. *Getting pregnant is always the girl's fault*), Relationships and casual sex (e.g. *The best sex is with no strings attached*), Rights and control within sexual relationship (e. g. *It's okay for a boy to refuse to have sex*), Sexual power (e.g. *Men should have more power than women in sexual relations*), and Social regulation and peer pressure (e.g. *It is more shameful for girls than for boys to have casual sex*). An equal number of statements were selected for each category, balanced for positive, negative and neutral statements.

To ensure the balance and representativeness of the Q set, the statements were piloted employing several stages from asking some pilot participants to sort statements in three piles of agree, disagree and neutral (a step traditionally employed in the Q sorting task) and tracking movements of statements across the three different categories to ensure statements allow for varied perspectives and positions to emerge, to asking participants to complete the complete Q sort to check for clarity of statement and instruction wording. Statements were amended as necessary to ensure clarity. The final sample contained 45 statements.

### *c) Participants*

The study was conducted with 296 young people, 149 young women and 147 young men, between 16 and 19 years of age (mean age was 17.2) from Germany and England. Germany and England are suitable for such a comparison due to their similarities on a number of

dimensions such as sexualisation in media and similar effects of lack of career prospects on sexual health risk behaviour (Franz et al., 2009).

This age group was selected because 16 is the legal age to have sex in England which meant that young people were expected to be more honest about their sexual lives as they did not have to fear repercussions from teachers or others. Although it was made clear to the participants that their data would not be shared with teachers and others outside the research team, concerns about the confidentiality and legality of responses was raised by young people throughout the research sessions in England.

The English sample consisted of 136 participants, 85 young women and 51 young men. The mean age of the English participants was 17.02. The participants were from five different institutions in the Greater London Area.

Thirty-two of the English participants took part in the Q methodology part of the research (16 boys and 16 girls). All participants completing the Q methodology belonged to the general sample and would usually also have provided the questionnaire data.

In Germany, 160 participants took part in the study, 64 females and 96 males, with a mean age of 17.45. German participants were recruited from 5 institutions based in the greater area of Stuttgart, the capital of the German state of Baden-Württemberg, and were comparable to the English participants in terms of their educational level<sup>1</sup>. Seventy-three German participants completed the Q sort (48 boys and 25 girls).

In total 105 participants completed the Q sort (mean age = 17.61), 73 German participants and 32 English participants, of which 41 were young women and 64 were young men.

As researchers have pointed out, integration needs to be considered at all stages of the design, including sampling (O’Cathain et al., 2007, Castro et al., 2010). As will be explained below, all participants who completed the Q sort also completed the questionnaires. This

allowed the researchers to compare those young people who loaded onto the Q factors on a variety of variables such as sexual self-assertiveness, sexual self-efficacy and sexual knowledge (see table 6 in Stage 4).

### **Stage 3: Analysis**

The questionnaire data was entered into SPSS and analysed using a range of statistical tests including descriptive statistics and logistic regression.

The Q sort data was entered into PQMethod, a free software adapted by Peter Schmolck from the QMethod software by John Atkinson, which can be downloaded from <http://www.rz.unibw-muenchen.de/~p41bsmk/qmethod/>, and analysed using inverted Principal Component Analysis and Varimax Rotation to arrive at the 5 factor solution decided on for the current study.

In the following section, we will briefly discuss the separate findings from the qualitative and the quantitative components before investigating the added value of integrating them in stage 4.

#### *a) Quantitative findings*

Logistic and ordinal regressions were conducted to identify predictors of three specific sexual behaviours investigated: Whether young people had had sex at the time of the research (see Table 2 for the final model), whether they had a high or low number of sexual partners<sup>ii</sup> (see Table 3 for the final model) and how consistently they used contraception (see Table 4 for the final model).

**Table 2: Logistic regression model for adolescents' sexual activeness**

Variable	B	S.E.	Wald	df	Sig.	Exp (B)
Sexual knowledge	-0.41	0.11	14.19	1	0.00	0.67
Intention	-0.65	0.17	15.05	1	0.00	0.52
Sexual assertiveness	-0.05	0.07	0.58	1	0.45	0.95
Importance of self- efficacy	0.02	0.02	0.60	1	0.44	1.02
Self-efficacy	-0.03	0.02	2.93	1	0.09	0.97
Attitudes to sex	-0.15	0.11	1.97	1	0.16	0.86
Attitudes to contraception	0.20	0.09	4.70	1	0.03	1.22
Country	-1.14	0.53	4.63	1	0.03	0.32
Gender	-0.25	0.58	0.19	1	0.67	0.78
Constant	8.59	2.75	9.72	1	0.002	5351.80

Table 3: Ordinal regression model for consistency of contraceptive use

Variable	Estimated B	S.E.	Wald	df	Sig.
Intentions	-0.26	0.08	9.54	1	0.002
Country	1.22	0.36	11.59	1	0.001
Discussion with partner	1.47	0.74	4.02	1	0.045
Gender	-0.59	0.34	3.05	1	0.081

Table 4: Logistic regression model for high/ low numbers of sexual partners

Variable	B	S.E.	Wald	df	Sig.	(Exp) B
Step 1						
(Constant)	-2.69	1.30	4.29	1	0.04	0.07
Attitudes to sex	0.24	0.10	5.61	1	0.02	1.28
Attitudes to contraception	0.04	0.10	0.13	1	0.72	1.04
Importance of religion	1.03	0.71	2.09	1	0.15	2.81
Step 2						
(Constant)	-5.11	2.86	3.20	1	0.07	0.01

Attitudes to sex	0.41	0.16	6.96	1	0.01	1.51
Attitudes to contraception	-0.05	0.13	0.14	1	0.71	0.95
Importance of religion	1.95	0.88	4.90	1	0.03	7.00
Intentions	0.50	0.19	6.80	1	0.01	1.65
Country	-0.06	0.70	0.01	1	0.93	0.94
Gender	1.03	0.90	1.30	1	0.25	2.80
Sexual self-efficacy	-0.35	0.20	3.09	1	0.08	0.71
Sexual assertiveness	-0.15	0.39	0.14	1	0.71	0.87
Sexual knowledge	0.06	0.14	0.16	1	0.69	1.06

The results largely confirmed the predictors of adolescent sexual behaviour identified in past research and outlined in the integrated model and illustrated the importance of psychological variables particularly self-efficacy, sexual knowledge and intentions in explaining adolescent sexual health (Clements, 1999, de Wit & Stroebe, 2004, Dilorio et al., 1997, Fishbein, 2000, Fishbein et al., 2003, Rickert et al., 2002, Soet et al., 1999) and intentions (de Wit & Stroebe, 2004, Fishbein, 2000, Fishbein et al., 2003, Gibbons & Gerrard, 1995, Henderson et al., 2002, Vögele, 2006).

For example, behavioural intentions, which were identified as one of the key variables in the model, were a significant predictor for all of the behaviours investigated. Greater behavioural intentions predicted later sex, more consistent contraceptive use and higher numbers of partners.

Self-efficacy was an important predictor of the number of sexual partners. Further predictors were attitudes to sex and contraception, with more positive attitudes to contraception predicting young people being sexually active at the point of data collection and more positive attitudes to sex predicting higher number of sex partners. In addition, greater importance of religion in the family predicted having fewer sexual partners.



Knowledge was important only for predicting which young people already had sex at time of data collection, with greater knowledge predicting later sex. This indicates that knowledge can prevent young people from having sex too young and before they feel ready for it.

As predicted, the regressions indicated that there are different predictors for different behaviours, illustrating the need for a model that can be applied to a variety of behaviours (Fishbein et al., 2003, Henderson et al., 2002), something the current model seemed capable of.

However, a problem with the findings is that it is not possible to infer from these findings how cultural messages interact with the individual variables investigated in the regression analyses in influencing sexual health behaviour, which is important to know for the development of effective support services as discussed previously.

### *b) Qualitative findings*

Q methodology identified six independent discourses on gender roles in sexual relationships: Factor 1 “Sex as responsible, intimate and shared experience”, Factor 2 “Sex as joint fun”, Factor 3 “Ideal versus reality”, Factor 4 “Sex has to be responsible, consensual and shared”, Factor 5 “Caring relationships offer the perfect context for fulfilling sex” and Factor 6 “Equality between partners”<sup>iii</sup>. Table 5 presents number of English and German participants loading on each factor, Eigenvalue and Variance explained for each factor.

In Q methodology, participants are treated like items are in traditional factor analysis (e.g. Watts & Stenner, 2012), which means that only those participants are included in the final factor solution and interpretations that clearly and only load onto one factor (Watts & Stenner, 2005, Kitzinger, 1989). In this study, this means that 41 of the participants who initially completed the Q sort, loaded on one of the six factors.

**Table 5: Number of participants defining each factor, Eigenvalues and explained variances for the six factors**

Factor	Number of German Participants	Number of English Participants	Eigenvalue	Variance explained (in %)
1. Sex as responsible, intimate and shared experience	10	2	13.52	13
2. Sex as joint fun	4	6	11.44	11
3. Ideal vs. reality	0	3	4.16	4
4. Sex as responsible, consensual and shared	7	0	8.32	8
5. Caring relationships offer the perfect context for fulfilling sex	4	2	7.28	7
6. Equality between partners	3	0	7.28	7

The factors comprise a diverse set of positions that young people use to make sense of sexual relationships. On the one hand, young people draw on discourses, which challenge gender inequality within sexual relationships, and on the other hand, they utilise discourses, which reinforce them. This supports findings by Maxwell (2007) that young people use traditional and alternative discourses, sometimes interchangeably, when positioning themselves with regard to sexual behaviour.

Some of the factors were limited to specific groups, i.e. Factor 5, which strongly emphasises the necessity of emotional involvement and relationship context, was only utilised by boys in this sample, and Factor 3 was only drawn on by English participants. Interestingly, the discourses often utilised by English participants, e.g. Factor 3, were more likely to involve careful negotiations between how sex should be and what the reality of sex is like for many young people. This seemed to support claims that young people in England

receive mixed and prohibitive messages with regard to sexual behaviour (Blugh & Ruth, 2001, Social Exclusion Unit, 1999, Tincknell et al., 2003).

It has to be stressed that this is only a tentative exploration of the data and certainly the fact that German and English young people do load on the same factors frequently implies that young people from both countries have similar discourses available to them. It might be more a matter of adolescents from the different countries being *more likely* to use some discourses over others when trying to make sense of their sexual realities.

Nevertheless, this part of the research did ascertain how young people made sense of their sexual realities and similarities between the discourses and pervasive cultural messages could be identified. However, it could not identify psychological variables interacted with these discourses.

#### **Stage 4: Integration of findings**

The current research did not rely on data conversion as advocated by Castro et al. (2010) to aid integration of data sets, but theoretical/ contextual integration based on the model in Figure 1, with the “principle aim [...] to examine research evidence gathered using both data forms, to generate “deep structure” conclusions (Castro & Nieri, 2008) that offer enhanced explanatory power above and beyond the sole use of a qualitative or quantitative approach” (Castro et al., 2010, p.345). Guided by researcher knowledge of context and data, integration was achieved by careful cross-examination and combination of the two data sets based on study context and participant characteristics. This “contextualization” (Castro et al., 2010, p.345), usually seen as a property of qualitative research, allows for the “development of emerging theory so that the theory is applicable to other settings and to other populations to whom the research is applied” (Morse, 1994, cited in Castro et al., 2010, p.354). This

integration was conducted with close attention to patterns and relationships between variables such as demographics and the emergent discourses.

As discussed above, the qualitative and quantitative components of the current study were integrated from the design stage onwards, based on existing literature and the model presented in Figure 2. The data for both components was collected in one session and analysis occurred initially separately. However, in the final stage, the qualitative and quantitative findings were combined to provide a holistic explanation of cultural and individual influences on adolescent behaviour guided by the integrated model.

*Mixed methods: Added value?*

As can be seen, in the current study, both components did allow for important insights into adolescent sexual health behaviour to emerge. However, they were limited in the type of conclusions that could be drawn. The quantitative part could not explain the influence of discourses on young people's behaviour, while the discourse research could not make inferences about the relationship of the discourses to individual characteristics. Combining both components did indeed produce a "yield" (O'Cathain et al., 2007, 147), as the interplay between cultural and individual factors became far clearer when all the findings of the research were considered together in more depth.

The findings suggest that there appears to be a link between psychological findings and the discourses young people draw on when making sense of their sexual reality.

Although this link cannot be assumed to be stable and generalisable, Table 6 illustrates such potential relationships.

**Table 6: Comparison of participant characteristics across the six Q factors**

<b>Characteristics</b>		<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>	<b>Factor 4</b>	<b>Factor 5</b>	<b>Factor 6</b>
<b>Country</b> (No. of participants)	<i>Germany</i>	10	4	0	7	4	3
	<i>England</i>	2	6	3	0	2	0
<b>Gender</b> (No. of participants)	<i>Boys</i>	9	4	1	6	6	1
	<i>Girls</i>	3	6	2	1	0	2
<b>Age (Mean)</b>		17.33	17.70	16.33	17.71	18.17	18
<b>Importance of religion</b> (No. of participants)	<i>Not at all</i>	3	4	1	5	2	No responses
	<i>Somewhat</i>	6	3	1	1	2	
	<i>Very</i>	2	1	1	1	0	
<b>Has had sex</b> (No. of participants)		9	7	2	6	5	3
		2	3	1	0	1	0
<b>Has not had sex</b>							
<b>Sexual assertiveness</b> (Mean)		31.38	30.13	12	25.40	29.2	32
<b>Sexual self-efficacy</b> (Mean)		110.13	81.71	100	95	107.33	104

For example, participants who define Factor 1, which advocates a view of sexual relationships based on emotional intimacy, sharing of pleasure and responsibility, have the highest mean scores for sexual assertiveness, self-efficacy and perceived importance of self-efficacy compared to all other factors. In contrast, Factor 2 portrays a more casual sexual reality, where young people lack confidence to discuss sex. In line with this, participants who draw on this Factor, when compared to those on Factor 1, have lower sexual assertiveness. In addition, they have the lowest mean score for self-efficacy across all factors. On the other

hand, they have the second highest knowledge scores of all the groups. As all participants who completed the Q sort also completed the questionnaires, it was possible to compare such trends between the discourses young people drew on and individual characteristics of the participants who defined them.

For example, participants utilising Discourse 1, which emphasises sexual responsibility and rights as well as the need for emotional involvement in sexual relationships, generally had high levels of sexual assertiveness, sexual self-efficacy, and sexual knowledge, indicating that young people who draw on this particular discourse have a healthy belief in their rights within sexual encounters, such as the rights to refuse sex, ask for sex, and generally to express their wishes and needs. The relationship between discourses and individual variables suggests that the young people drawing on this particular account might also be more likely to be able to negotiate the sexual reality it portrays. In contrast, the participants drawing on Discourse 2 tended to have lower sexual assertiveness but generally high sexual knowledge. This factor very much describes a struggle between ideal and reality, which fits well with the combination of low sexual assertiveness and good knowledge. Young people know how they should ideally behave in sexual situations, but might not necessarily have the skills to do so adequately.

Considering the links between discourses and variables such as sexual self-efficacy and knowledge, the importance of these for the causal relationships described previously in the regression models need to be considered. If higher sexual self-efficacy, an important predictor of lower numbers of sexual partners, is associated with discourses emphasising sexual responsibility and rights, and emotional involvement in relationships, it might be important for support services, interventions and media to promote not only the skills but also ensure young people find the discourses that highlight these factors relevant and desirable. Gibbons and Gerrard (1998) suggest that young people exhibit certain behaviour even if they

disagree with it, if it allows them to live up to a social image they aspire to. For example, although English young people in the current research know that contraception is an important aspect of having sex, the discourses available to them make it difficult in some situations to introduce them, leading to less consistent condom use when compared to German adolescents.

With regard to the integrated model, the research provided evidence for all the variables included in it, highlighting the value of using a model based on theoretical considerations to guide mixed methods integration. The finding that discourses are interrelated with multiple psychological and communication variables and seem to link to cultural messages would not have emerged if only one method had been used. Using mixed methods instead made it possible for the complexity of the influences of adolescent sexual behaviour to emerge. This allowed for a holistic picture of the behaviour and to identify what and how the different methods contribute to each other.

The illustration of clear links between more traditional social cognition variables and discourses is an insight that has not been clearly demonstrated before and illustrates the value of mixed methods integration in the area of mixed methods research. The initial engagement with, and development of the integrated model aided the researchers in identifying these links and connections by guiding research processes throughout the study and offering questions that could be asked of the data to recognise possible links.

### **Limitations**

The current research indicates that discourses are related to multiple psychological and communication variables. For example, the national campaign in England raising awareness of sexual health behaviours seems to have had an effect not only on the discourses young people draw on but, through them, on the behaviour itself. High numbers of the participating

young people report using condoms. However, the direction of this relationship between discourses and individual factors is not clear. Do young people draw on certain discourses to make sense of their sexual reality because they possess a certain set of psychological and interpersonal characteristics, or do they possess the psychological and interpersonal characteristics because they are trying to live up to a certain social image?

Also, unfortunately, because of the method of data collection and integration, these findings only indicate tentative trends. Future research into these relationships is needed, as understanding the connection between discourses and psychological variables has the promise of providing novel and potentially very important understanding of why young people in England show such different teenage pregnancy rates as adolescents in Germany, indicating key differences in sexual behaviour.

Finally, one study cannot provide conclusive findings on its own and further research is needed to identify more precisely the relationships between different variables in the model and help to modify or delete redundant variables from the model to increase its explanatory power.

However, the research has illustrated the connection between discourses and psychological variables and that such an approach has the promise of providing novel and important insights into why young people in England show different patterns with regard to sexual behaviour than German young people. This illustrated the integrative potential of mixed-methods studies firmly rooted in theoretical models.

## **Conclusions**

The aim of this article was to discuss the value of using a coherent framework in order to ensure integration of data in a mixed methods study on individual- and cultural-level



influences on sexual health behaviours conducted with adolescents in Germany and England. The combination of the variables in the integrated model did indeed allow for the complexity of adolescent sexual behaviour to emerge and provided insights that single factor research would not have been able to provide.

The inclusion of discourse research into more traditional survey research on individual characteristics added a level not usually present in other research and provided, beside many more questions, novel and valuable knowledge about the processes involved in adolescent sexual behaviour. How discourses and social images, that young people utilise to define their own sexuality, might influence and be influenced by their own characteristics such as self-efficacy.

These findings have emerged because of explicit consideration of links between data sets guided by the integrated model. Without this explicit framework, integration would likely have been less focused and many novel and interesting findings might have been missed. This clearly illustrates the need to, and value of, planning integration of data from an early stage onwards, by using an appropriate framework throughout the research process. This can ensure integration of findings in a consistent and coherent way and improve mixed-methods research and produce greater “yield” as promoted by O’Cathain et al. (2007, 147).

## References

- ABRAHAM, C. & SHEERAN, P. (2005). The health belief model. IN NORMAN, M. & Connor, P. (Ed.) *Predicting health behaviour*. 2nd edition. New York, Open University Press.
- ALISE, M. A. & TEDDLIE, C. (2010). A continuation of the paradigm wars? Prevalence rates of methodological approaches across the social/ behavioral sciences. *Journal of Mixed Methods Research*, 4, 103-126.
- ALLEN, D. (2002). Research Involving Vulnerable Young People: a discussion of ethical and methodological concerns. *Drugs Education Prevention And Policy*, 9, 275-284.
- BANDURA, A. (1977). Self-efficacy: Towards a unifying theory of behavioural change. *Psychological Review*, 84, 191-215.
- BLUTH, J. & RUGH, D. (2001). England. IN CHERRY, A. L., DILLON, M. E. & RUGH, D. (Eds.). *Teenage pregnancy: a global view*. Westport, Conn., Greenwood Press.
- BRANNEN, J. (1992). Combining qualitative and quantitative approaches: An overview. IN BRANNEN, J. (Ed.) *Mixing methods: qualitative and quantitative research*. Brookfield, USA, Avebury.
- BREWER, J., & HUNTER, A. (1989). *Multimethod Research: A Synthesis of Styles*, California, Sage
- BROWN, S. R. (1970). On the use of variance designs in Q methodology. *Psychological Record*, 20, 179-189.
- BROWN, S. R. (1980). *Political subjectivity: Applications of Q methodology in political science*. New Haven, CT, Yale University Press.
- BRYMAN, A. (2004). *Social research methods*. Oxford, Oxford University Press.
- BRYMAN, A. (2007). Barriers to integrating quantitative and qualitative research. *Journal of Mixed Methods Research*, 1, 8-22.
- CASEY, B. J., JONES, R. M. & HARE, T. A. (2008). The Adolescent Brain. *Annals- New York Academy of Sciences*, 1124, 111-126.

- CASTRO, F.G., KELLISON, J.G., BOYD, S.J. & KOPAK, A. (2010). A methodology for conducting integrative mixed methods research and data analysis. *Journal of Mixed Methods Research*, 4, 342-360.
- CHRISTENSEN, P., MIKKELSEN, M.R., NIELSEN, T.A.S. & HARDER, H. (2011). Children, mobility, and space: Using GPS and mobile technologies in ethnographic research. *Journal of Mixed Methods Research*, 5, 227-246.
- CLEMENTS, S. (1999). *Young people's sexual health in South-East Hampshire: A survey of young people's knowledge, use and opinions of sexual health services, their sexual knowledge, attitudes, behaviour and opinions of sex education*. Southampton Centre for Sexual Health Research, University of Southampton.
- COLEMAN, L. M. & INGHAM, R. (1999). Exploring young people's difficulties in talking about contraception: how can we encourage more discussion between partners? *Health Education Research*, 14, 741-750.
- CRESWELL, J. W. (1994). *Research Design: Qualitative and Quantitative Approaches*, Thousand Oaks, Ca, Sage.
- CRESWELL, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (2<sup>nd</sup> Edition). London, Sage.
- CRESWELL, J. W. & PLANO-CLARK, V. L. (2007). *Designing and conducting mixed methods research*. London, Sage.
- CRESWELL, J. W. & TASHAKKORI, A. (2007). Developing publishable mixed methods manuscripts. *Journal of Mixed Methods Research*, 1, 107 – 111.
- DE VISSER, R. O. & SMITH, A. M. A. (2004). Which intention? Whose intention? Condom use and theories of individual decision making. *Psychology Health And Medicine*, 9, 193-204.
- DE WIT, J. & STROEBE, W. (2004). Social Cognition Models of Health Behaviour. IN WEINMAN, A. K. A. J. (Ed.) *Health Psychology*. Oxford, Blackwell Publishing.
- DILORIO, C., MAIBACH, E., O'LEARY, A., SANDERSON, C. A. & CELENTANO, D. (1997). Measurement of Condom Use Self-Efficacy and Outcome Expectancies in a Geographically Diverse Group of STD Patients. *Aids Education And Prevention*, 9, 1-13.

- DUNCAN, S. (2000). Challenging rational action theory. Presented at the ESRC research group on Care Values and Future of Welfare workshop 'Frameworks for understanding policy change and culture'. Leeds, University of Leeds.
- DURES, E., RUMSEY, N., MORRIS, M. & GLEESON, K. (2010). Mixed methods in psychology: Theoretical and practical considerations of the third paradigm. *Journal of Health Psychology*, 16, 332-341.
- FISHBEIN, M. (2000). The role of theory in HIV prevention. *Aids Care*, 12, 273-278.
- FISHBEIN, M., HENNESSY, M., YZER, M. & DOUGLAS, J. (2003). Can we explain why some people do and some people do not act on their intentions? *Psychology Health And Medicine*, 8, 3-18.
- FRANZ, A., WORRELL, M., GILVARRY, C. & VÖGELE, C. (2009). The potential of including the UK in comparisons with other European countries in research on teenage pregnancy. *Critical Social Policy*, 29, 548-559.
- FROSH, S., PHOENIX, A. & PATTMAN, R. (2002). *Young masculinities: understanding boys in contemporary society*. Basingstoke, Palgrave.
- GELDER, U. (2002). Boys and young men: 'Half of the solution' to the issue of teenage pregnancy - a literature review. Newcastle, University of Newcastle.
- GIBBONS, F. X. & GERRARD, M. (1995). Predicting Young Adults' Health Risk Behavior. *Journal of Personality and Social Psychology*, 69, 505.
- GIBBONS, F. X., GERRARD, M., BLANTON, H. & RUSSELL, D. W. (1998). Reasoned Action and Social Reaction: Willingness and Intention as Independent Predictors of Health Risk. *Journal of Personality and Social Psychology*, 74, 1164-1180.
- GREENE, J.C. (2008). Is mixed methods social inquiry a distinctive methodology? *Journal of Mixed Methods Research*, 2, 7-22.
- HENDERSON, M., WIGHT, D., RAAB, G., ABRAHAM, C., BUSTON, K., HART, G. & SCOTT, S. (2002). Heterosexual risk behaviour among young teenagers in Scotland. *Journal Of Adolescence*, 25, 483-494.

- INGHAM, R. (2006). The importance of context in understanding and seeking to promote sexual health. IN INGHAM, R. & AGGLETON, P. (Eds.) *Promoting young people's sexual health: International perspectives*. Abingdon, Routledge.
- JOHNSON, R. B. & ONWUEGBUZIE, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational researcher*, 33, 14-26.
- KEHILY, M. (2001). Bodies in School: Young Men, Embodiment, and Heterosexual Masculinities. *Men and Masculinities*, 4, 173-185.
- KITZINGER, C. (1989) *The social construction of lesbianism*, London, Sage Publications.
- LARAQUE, D., MCLEAN, D. E., BROWN-PETERSIDE, P., ASHTON, D. & DIAMOND, B. (1997). Predictors of Reported Condom Use in Central Harlem Youth as Conceptualized by the Health Belief Model. *Journal Of Adolescent Health*, 21, 318-327.
- LEECH, N. L., DELLINGER, A.B., BRANNAGAN, K.B. & TANAKA, H. (2010). Evaluating mixed research studies: A mixed methods approach. *Journal of Mixed Methods Research*, 4, 17 – 31.
- MASON, J. (2006). Mixing methods in a qualitatively driven way. *Qualitative research*, 6, 9-25.
- MAXWELL, C. (2007). 'Alternative' Narratives of Young People's Heterosexual Experiences in the UK. *Sexualities*, 10, 539-558.
- MERTENS, D. (2011). Publishing mixed methods research. *Journal of Mixed Methods Research*, 5, 3-6.
- MORGAN, D. L. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. *Journal Of Mixed Methods Research*, 1, 48-76.
- MURRAY, M. & CAMPBELL, C. (2003). Living in a Material World: Reflecting on Some Assumptions of Health Psychology. *Journal Of Health Psychology*, 8, 231-236.
- O'CATHAIN, A., MURPHY, E. & NICHOLL, J. (2007). Integration and publications as indicators of "yield" from mixed methods studies. *Journal of Mixed Methods Research*, 1, 147-163.

- RICARDO, C., BAKER, G., PULERWITZ, J. & ROCHA, V. (2006). Gender, sexual behaviour and vulnerability among young people. IN INGHAM, R. & AGGLETTON, P. (Eds.) *Promoting young people's sexual health: International perspectives*. Abingdon, Routledge.
- RICKERT, V. I., SANGHVI, R. & WIEMANN, C. M. (2002). Is lack of sexual assertiveness among adolescent and young adult women a cause for concern? *Perspectives on Sexual and Reproductive Health*, 34, 178-183.
- SOCIAL EXCLUSION UNIT (1999). Teenage pregnancy. *Command papers. Cm ; 4342*. London, Stationery Office.
- SOET, J. E., DUDLEY, W. N. & DILORIO, C. (1999). The effects of ethnicity and perceived power on women's sexual behavior. *Psychology of Women Quarterly*, 23, 707-724.
- SPRUNG, L. & SPRUNG, H. (2001). History of modern psychology in Germany in 19th- and 20th-century thought and society. *International Journal of Psychology*, 36, 364-377.
- STENNER, P., WATTS, S. & WORRELL, M. (2008). Q methodology. IN WILLIG, C. & STAINTON ROGERS, W. (Eds.) *The SAGE handbook of qualitative research in psychology*. London, SAGE.
- SUTTON, S., MCVEY, D. & GLANZ, A. (1999). A Comparative Test of the Theory of Reasoned Action and the Theory of Planned Behavior in the Prediction of Condom Use Intentions in a National Sample of English Young People. *Health Psychology*, 18, 72-81.
- TINCKNELL, E., CHAMBERS, D., VAN LOON, J. & HUDSON, N. (2003). Begging for it: "New Femininities", Social Agency, and Moral Discourse in Contemporary Teenage and Men's Magazines. *Feminist Media Studies*, 3, 47-63.
- TODD, Z., NERLICH, B., MCKEOWN, S. & CLARKE, D. D. (2004). *Mixing methods in psychology: the integration of qualitative and quantitative methods in theory and practice*. Hove, Psychology Press.
- VÖGELE, C. (2006). Sexualverhalten. IN LOHAUS, A., JERUSALEM, M. & KLEIN-HEßLING, J. (Eds.) *Gesundheitsförderung im Kindes- und Jugendalter*. Göttingen, Hogrefe.
- WATTS, S. & STENNER, P. (2012). *Doing Q methodological research: Theory, method and interpretation*. London, Sage.

- WATTS, S. & STENNER, P. (2005). Doing Q methodology: theory, method and interpretation. *Qualitative Research in Psychology*, 2, 67-92.
- WEBB, T. L. & SHEERAN, P. (2006). Does Changing Behavioral Intentions Engender Behavior Change? A Meta-Analysis of the Experimental Evidence. *Psychological Bulletin*, 132, 249-268.
- WIGGINS, S. & FORREST, S. (2005). Integrating quantitative and qualitative approaches in psychology research methods teaching: The example of a classroom debate. *Psychology Learning and Teaching*, 4, 90-94.
- WOOD-BAKER, C., LITTLE, T. D. & BROWNELL, K. D. (2003). Predicting Adolescent Eating and Activity Behaviors: The Role of Social Norms and Personal Agency. *Health Psychology*, 22, 189-198.
- YANCHAR, S. C., GANTT, E. E. & CLAY, S. L. (2005). On the Nature of a Critical Methodology. *Theory And Psychology*, 15, 27-50.

## Endnotes

---

<sup>i</sup> To ensure comparability of samples across countries, services were categorised based on the revised CASMIN (Comparative Analysis of Social Mobility in Industrial Nations) classification (Brauns & Steinmann, 1999). The classification indicates that the participants from both countries belonged predominantly into one main category: 2c (either general or vocational). Six English participants were recruited at university (3b), while several German participants were recruited from vocational schools corresponding with the category 2a. In general, however, the level of the schooling which most participants experienced is comparable across samples according to the CASMIN educational classification system (Brauns & Steinmann, 1999).

<sup>ii</sup> Because of the large variance in reported number of sexual partners, the data was divided into two groups using median-split. The cut-off point was 2 partners.

<sup>iii</sup> The complete Q methodology analysis, including a detailed description of the findings is beyond the scope of this paper and is reported in a manuscript submitted to another journal. Therefore they will not be reported here.