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A revised sexual knowledge assessment tool for people with intellectual disabilities: Is sexual knowledge related to sexual offending behaviour?

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### Abstract

# Background

The aim of the current study was to update an existing short measure of sexual knowledge and generate some initial reliability and normative data. Comparisons of sexual knowledge across several groups were made to examine whether or not a lack of sexual knowledge is related to sexual offending.

# Methods

The Bender Sexual Knowledge Questionnaire (BSKQ; Bender *et al.*, 1983) was revised and a new questionnaire was created, The General Sexual Knowledge Questionnaire (GSKQ), and administered to four groups of participants, 1) sex offenders with an intellectual disability and a history of engagement in treatment (N=12), 2) sex offenders with an intellectual disability and no history of treatment (N=13), 3) non-offenders with an intellectual disability (N=28), and 4) non-offenders without an intellectual disability (N=10). Between groups comparisons were made, internal consistency, split half reliability, and correlations were examined.

# Results

The internal consistency and the split half reliability of the entire questionnaire was good. Non-offenders without an intellectual disability scored significantly higher than non-offenders with an intellectual disability on all sections of the GSKQ. Sex offenders who had undergone treatment scored significantly higher than non-offenders with an intellectual disability on several sections of this questionnaire.

#### **Conclusions**

The initial findings from this study suggest that the psychometric properties of the GSKQ are promising. The assumption that lower sexual knowledge may be related to the risk of committing a sexual offence by men with intellectual disabilities is possibly erroneous and further research is required to clarify this possibility.

KEYWORDS: SEX OFFENDERS, INTELLECTUAL DISABILITY, SEXUAL KNOWLEDGE, GENERAL SEXUAL KNOWLEDGE QUESTIONNAIRE, BENDER SEXUAL KNOWLEDGE QUESTIONNAIRE

# Introduction

There is a general recognition that people with intellectual disabilities may not possess age-appropriate levels of sexual knowledge (McGillivray, 1992). Authors have suggested several different reasons for this lack of knowledge, which include difficulties with the learning and retaining of information (Aunos & Feldman, 2002), inadequate sex education training (McCabe, 1999), and inadequate information regarding the emotional and psychological aspects of intimate relationships (Thompson, 2001). The consequences of having limited sexual knowledge for people with intellectual disabilities may be considerable, and some have suggested that this may place them at increased risk of abuse (Niederbuhl & Morris, 1993).

In response to the reported lack of sexual knowledge amongst people with intellectual disabilities, many authors have attempted to design and evaluate interventions that aim to increase levels of sexual knowledge and studies have suggested that sex education training may improve levels of sexual and sociosexual knowledge (Bambury, Wilton & Boyd, 1999; Bennett, Vockell & Vockell, 1972; Foxx, McMorrow, Storey & Rogers; 1984; Lawrence & Swain, 1993; Lindsay, Bellshaw, Culross, Staines, Michie, 1992; Penny & Chataway, 1982; Robinson, 1984; Scotti, Speaks, Masia, Boggess & Drabman, 1996; Shapiro & Sheridan, 1985). However, with the exception of Lindsay et al., (1992), there have been no studies which have reported follow-up data demonstrating long term and generalised improvements in sexual and sociosexual knowledge.

Further to this, sex education training has generally formed part of therapeutic interventions for people with intellectual disabilities who have histories of sexual

offending and inappropriate sexual behaviour, and some have suggested that a lack of sexual knowledge may provide an explanation as for why some people with an intellectual impairment may commit a sexual offence (Barron et al., 2002). This is a tentative suggestion which has not been subject to appropriate empirical investigation, and many sex offender treatment programmes for men with intellectual disabilities include a sex education component. However, no known studies have assessed the impact of sex education training on outcome, especially sexual offence recidivism. It stands to reason, that if a lack of sexual knowledge is related to sexual offending, sex offenders with an intellectual disability may present with specific gaps in levels of sexual knowledge.

Clinicians and researchers have made using of a variety of methods to assess a person's level of sexual knowledge. For example, some studies have included games (Foxx et al., 1984), and semi-structured interviews (Lawrence & Swain, 1993), while the majority of studies have used some sort of questionnaire, often developed by the researchers for their particular study (Lindsay et al., 1992; Penny & Chataway, 1982; Shapiro & Sheridan, 1985). Others have used pre-existing questionnaires such as the Socio-Sexual Knowledge and Attitudes Test (SSKAT; Wish, McCombs & Edmonson, 1980; Bambury et al., 1999), which has been criticised for being time-consuming and failing to discuss the previous sexual experiences of the respondent (McCabe et al., 1999). The SSKAT has, however, been revised and good psychometric properties have been demonstrated (Griffiths & Lunsky, 2003). Another existing measure, developed by McCabe (1994), is the Sexual Knowledge, Experience, Feelings, and Needs Scale (SexKen-ID) which additionally asks

respondents about there own sexual experiences. This measure has also been reported to have good psychometric properties (McCabe et al., 1999).

Administration of both these measures may be lengthy, and as such, other researchers have relied on measures that have been developed specifically for their own studies without paying sufficient attention to the psychometric properties, and as a consequence, a variety of alternative measures exist (Bender, Altman, Biggs & Haug, 1983; Bennett et al., 1972; Lindsay et al., 1992; Penny & Chataway, 1982). However, there is a lack of short and easy to administer questionnaires with sound psychometric properties.

Given this, the current preliminary study was undertaken to update an outdated but existing assessment tool, the Bender Sexual Knowledge Questionnaire (BSKQ; Bender et al., 1983), which was originally developed for use with people who have intellectual disabilities, and generate some preliminary normative and psychometric data. The authors chose to update this questionnaire as it is relatively short and easy to administer compared to some of the more lengthy questionnaires that are available. Additionally, other researchers have suggested that sexual knowledge may be related to sexually inappropriate behaviour (Barron et al., 2002), and this possible link was also investigated as part of the current study. The revised sexual knowledge questionnaire was administered to four groups, 1) participants with an intellectual disability who have a history of sexually inappropriate behaviour and have undergone some form of psychological intervention to address their offending behaviour, 2) participants with an intellectual disability who have a history of sexually inappropriate behaviour and have not received any psychological treatment, 3)

participants with an intellectual disability but no history of sexually inappropriate behaviour, and 4) participants without an intellectual disability. These groups were chosen as it would allow us to compare levels of sexual knowledge amongst people with an intellectual disability who *do not have* a history of engagement in inappropriate sexual behaviour to people with an intellectual disability *who have* a history of engagement in inappropriate sexual behaviour, thereby shedding light on the possibility that levels of sexual knowledge may be related to sexual offending.

#### Method

# **Participants**

The current study included sixty three participants spread across four groups: 1) Twelve men with an intellectual disability who had a history of sexual offending behaviour and some history of engagement in psychological interventions aimed at addressing their offending behaviour (Sex Offender Intellectual Disability – Treatment Group (SOID-T Group)), 2) Thirteen men with an intellectual disability who had a history of sexual offending behaviour and had not received any psychological treatment (Sex Offender Intellectual Disability Group (SOID Group)), 3) Twenty three men and five woman with an intellectual Disability and no known history of sexually inappropriate behaviour, and (Intellectual Disability Group (ID Group)) 4) five men and five woman without an intellectual disability (No Intellectual Disability Group (no-ID Group)).

Participants with an intellectual disability who had a history of sexual offending behaviour (*Mean* Age=35.32, SD=13.42; *Mean* WAIS-III Full Scale IQ=64.9; SD=6.79) were recruited from secure learning disabilities services within the East Anglia region of the United Kingdom. The mean number of charges of sexual offences of any type for the group was 1.42 (SD=2.70). Further offence related information can be found in Table One. Twelve of these participants had taken part in a Sex Offender Treatment Group previously, while the remaining thirteen men were yet to receive any psychological treatment. Those who had participated previously in treatment had received group based cognitive behavioural treatment of some form. However, there were differences between the treatment that had been offered across different services and localities, and the current study did not aim to evaluate these

interventions. As such, only limited information was available with respect to treatment.

# INSERT TABLE ONE ABOUT HERE

Participants with an intellectual disability who did not have a history of sexually inappropriate behaviour (*Mean* Age=33.52, SD=9.80; *Mean* WAIS-III Full Scale IQ=62.4; SD=6.43) were recruited from residential units within the East Anglia region of the United Kingdom.

There was no significant difference between the three groups of people with intellectual disabilities in terms of WAIS-III Full Scale IQ score (F(2, 40)=0.99, p=0.38) and age (F(2,40)=1.75, p=0.19).

Finally, participants without a learning disability (*Mean* Age=37.1, SD=15.3) were non-clinical staff (administrative and support staff) working within services for people with intellectual disabilities, and they did not have direct clinical contact with people with intellectual disabilities. No data regarding the level of general intellectual functioning of these participants were available.

# Design and Procedure

A between-subjects design was employed to allow comparisons across the four independent groups outlined above. The initial stage of the project began with revising the original BSKQ (Bender et al., 1983).

#### General Sexual Knowledge Questionnaire (GSKQ)

The original BSKQ (Bender et al., 1983) was taken as a starting point for developing a short and easy to administer questionnaire that could assess sexual knowledge. The original questionnaire contained sixty-one items and was split into seven sections, 1) physiology, 2) pregnancy, 3) the sex act, 4) masturbation, 5) contraception, 6) sexuality, and 7) venereal disease. One of the difficulties with the original questionnaire was that some of the items were outdated or incorrect (e.g. "When can't a woman conceive?"), while other items required updating to take into account recent advancements in contraception. Other items required updating because of issues around the use of possibly outdated language (e.g. "What is a bastard?")

The process of updating the questionnaire took place over several stages with the specific aim of devising a questionnaire that was suitable for people with and without intellectual disability. Initially, the existing sexual knowledge literature and questionnaires were reviewed, and the original BSKQ (Bender et al., 1983) was revised. This revised version was distributed to two clinicians working in the area of sexual health for comment, and following this, another draft of the new questionnaire was devised; inaccurate information was removed, and amendments were made to ensure that 'slang' language was appropriately scored. This draft was then sent back to clinicians for vetting

and feedback was gained. This was to ensure that the items and their answers were accurate. Following this, a series of trial interviews were carried out using the questionnaire with ten individuals. Comments were invited regarding the questions asked, and none of these participants reported any concerns. Given that the items and answers were correct in terms of content, and there were no noted difficulties reported by participants, the questionnaire was used as part of the current study.

The new questionnaire, the GSKQ contained sixty three items compared to the original questionnaire which contained sixty-one items. The new questionnaire was divided into six sections, 1) physiology A (Pictures) and B (Questions), 2) sexual intercourse, 3) pregnancy, 4) contraception, 5) sexually transmitted diseases, and 6) sexuality. Respondents scored one point for each correct answer; however, they may score more than one point for each question, depending on the nature of the question, giving a total score of 110 on the instrument.

Following the revision of the questionnaire, participants were recruited from both secure and residential services within East Anglia. Appointments were arranged and each participant was seen individually and the questionnaire was administered using a semi-structured interview format for all participants. The length of the interview took approximately 30 minutes.

**Ethics** 

The current study received a favourable ethical opinion from the Norwich Local Research Ethics Committee and the Cambridge Local Research Ethics Committee. All participants with an intellectual disability were afforded the opportunity to have another person present (e.g. advocate or keyworker) when consent to participate was being sought and when the interviews took place. None of the participants requested to have another person present. The study was explained using an information sheet and participants signed a consent form to indicate their agreement to take part in the study which was witnessed by their keyworker or named nurse. No participants judged to be unable to provide informed consent by their clinical team were included in the current study.

# Statistical Analysis

Kurtosis and skewness statistics were calculated and visual inspection of the data through the production of frequency histograms took place to ensure that data did not violate assumptions of normality. Cronbachs' alpha was calculated for the entire questionnaire and each section to examine internal consistency. The split-half reliability for the entire questionnaire and each section was also calculated. Correlations between IQ and scores on the GSKQ were also examined to investigate any possible relationship between general intellectual functioning and performance on the questionnaire. Additionally, correlations between all the sections of the questionnaire were examined. A one-way Analysis of Variance (ANOVA) and posthoc tests using the least significant difference method were completed to examine mean differences between the four groups of participants on all sections of the GSKQ.

# <u>Results</u>

# Internal Consistency & Spilt Half Reliability

Cronbach's alpha for the entire questionnaire was found to be high (Table Two). Additionally, Cronbach's alpha for the individual sections of the questionnaire was also generally high, with the exception of Physiology Section A: Pictures (Table Two). The split-half reliability of the questionnaire was also good (Table Two), as was the slit-half reliability of the individual sections of the questionnaire, again with the exception of Physiology Section A: Pictures. This would appear to have been associated with a ceiling effect on this section of the questionnaire as the standard deviation for the mean score of the no ID group was zero. This section of the questionnaire was not included in further parametric analysis.

#### INSERT TABLE TWO ABOUT HERE

#### General Intellectual Functioning & Correlations

There was a significant positive correlation between all sections of the GSKQ and Full Scale IQ, with the exception of the Sexuality Section of the questionnaire which was not significantly correlated with the measure of intelligence (Table Three). These findings suggest that there is a relationship between performance on the GSKQ and intelligence. However, it is not clear whether general intellectual functioning impairs a person's ability to take part in the semi-structured interview such that the assessment of sexual knowledge is unreliable, or those with lower levels of general intellectual functioning merely have lower levels of sexual knowledge.

Considering the correlations between the individual sections of the GSKQ, all sections were positively correlated with one another (Table Three). This suggests that all sections, although designed to assess differing aspects of sexual knowledge, may all be related to a single construct, namely, sexual knowledge.

# INSERT TABLE THREE ABOUT HERE

## Group Differences

The one-way ANOVA revealed a significant difference across the groups on all sections of the GSKQ, including the total score (Table Four). Post-hoc comparisons revealed that the no-ID Group scored significantly higher than the other three groups on the Total Score of the GSKQ (p<0.001), and the following sections, 1) physiology (p<0.001), 2) pregnancy (p<0.001), 3) contraception (p<0.001), and 4) sexually transmitted diseases (p<0.001; Table Four). These results suggest that participants with an intellectual disability have lower levels of sexual knowledge than participants without an intellectual disability.

The post-hoc comparisons also revealed that on the sexual intercourse section the no-ID Group scored significantly higher than the other three groups (p<0.001), while the SOID-T group also scored significantly (p<0.05) higher than the ID group, but not significantly higher than the SOID group. There was no significant difference between the ID and the SOID group on the sexual intercourse section. The no ID group and the SOID-T group scored significantly higher than the ID group, but not the SOID group, on the sexuality section of the questionnaire (p<0.05). There was no significant difference between the SOID-T group and the soID-T group and the soID-T group on the sexuality section of the no-ID group on the sexuality section.

# INSERT TABLE FOUR ABOUT HERE

Overall, these results indicate that participants without an intellectual disability scored significantly higher than non-offenders with an intellectual disability on all sections of the GSKQ. Additionally, there were no significant differences between sex offenders with an intellectual disability who had or had not undergone treatment on any of the sections, although sex offenders who had undergone treatment tended to score higher than sex offenders who had not received treatment (Table 4). Furthermore, sex offenders who had undergone treatment scored significantly higher than non-offenders with an intellectual disability on the sexual intercourse and the sexuality section of the questionnaire, suggesting that treated sex offenders were more knowledgeable about sexual intercourse and sexuality than non-offenders with an intellectual disability. However, their level of knowledge on these sections was not significantly different from sex offenders who had not received treatment.

# Discussion

Examination of the individual sections of the GSKQ revealed that the internal consistency and split-half reliability was generally good for all sections, excluding the Physiology – Pictures section of the questionnaire. This was attributable to the fact that all participants without an intellectual disability received the maximum score on this section resulting in a standard deviation of zero. This section was used to calculate the internal consistency and split-half reliability of the questionnaire, but was not used in between group comparisons. The current sample of participants did not include people with intellectual disabilities who fell within the 'moderate' or 'severe' range of intellectual disability, and the Physiology-Pictures section may have proven very useful with this population. The use of the GSKQ with people who have more severe intellectual disabilities would not be entirely appropriate until further reliability and normative data can be generated for this population.

The results of the correlational analyses revealed a positive association between levels of general intellectual functioning and sexual knowledge. It is not possible to conclude that people who score lower on measures of intellectual functioning simply have lower levels of sexual knowledge, or a lower level of intellectual functioning impairs performance on the questionnaire. However, the questionnaire is administered as a semi-structured interview, and makes use of verbal language; therefore, people with expressive vocabulary difficulties may perform less well on this questionnaire.

In addition, the correlational analyses revealed that all sections of the GSKQ were highly correlated with one another. Although the current sample size is not as large as

that recommended by others (Comrey & Lee, 1992) to allow for a factor analysis, the strong correlations between all the sections, and the level of internal consistency for the entire questionnaire, suggests that the GSKQ may be made up of one factor, namely sexual knowledge.

Between group comparisons indicated that participants without an intellectual disability scored significantly higher on all sections of the GSKQ than non-offenders with an intellectual disability. There was also no significant difference between sex offenders with an intellectual disability who had and had not undergone treatment, although there was a tendency for those who had received treatment to score higher. Some authors have suggested that limited sexual knowledge may possibly account for the sexual offences of some people with an intellectual disability (Barron, Hassiotis & Banes, 2002). If this were the case, within the current study, sex offenders who had not received treatment should have scored differently than non-offenders on the GSKQ, and this was not the case. As such, limited sexual knowledge may not be a factor that sufficiently places men with intellectual disabilities at risk of committing sexual offences. Other dynamic and static factors, such as the denial of an offence, antisocial attitudes, and variables that affect psychological development (e.g. relationship with mother, and childhood sexual abuse), along with response to treatment may provide more effective explanations as to why people with, and without, intellectual disabilities may engage in sexual offending (Lindsay, Eliot, & Astell, 2004). Given this, concluding that limited sexual knowledge is related to risk of re-offending may be erroneous. This is an important conclusion to draw, as Holland, Clare & Mukhopadhyay (2002) pointed out, there are a variety of factors that may influence the decision-making process used by carers and criminal justice

agencies to determine whether or not a person with an intellectual disability may become subject to criminal justice procedures. It is not beyond the realm of possibility that some may decide that a person with an intellectual disability may have committed a sexual offence because they did not have a sufficient level of sexual knowledge, and therefore may not take appropriate action. However, the results of the current study suggest that levels of sexual knowledge amongst sex offenders who have not had treatment, and non-offenders, is not sufficiently different to warrant such a generalised conclusion.

Previous studies have reported significant gains in sexual knowledge following treatment (Lindsay et al., 1992), but how these gains relate to sex offenders and recidivism is yet to be determined in a well controlled study. In the current study, sex offenders who had engaged in treatment scored significantly higher than non-offenders with an intellectual disability on some sections of the GSKQ. The difference between sex offenders who had undergone treatment and non-offenders with an intellectual disability is most likely attributable to the sex education training that forms part of most sex offender treatment packages. However, the sample size included in the study is problematic as a much larger sample size may have yielded further significant differences between the groups. In fact, the small sample size does limit the conclusions that can be drawn from this study. However, the recruitment of larger numbers of sex offenders with an intellectual disability did prove problematic from this region of the United Kingdom.

It was also problematic to recruit sex offenders who had not at some point engaged in some form of psychological treatment aimed at addressing their sex offending. This

is a significant weakness of the present investigation as it means that we were unable to disentangle the effects the differing previous treatments may have had upon sexual knowledge for the group of sex offenders who had engaged in treatment.

Considering future work, although the internal consistency and split half reliability of the questionnaire was determined as part of the current study, no attempt was made to assess the test-retest reliability of the questionnaire, and this work is in need of completion. Further research including participants with more 'severe' intellectual disabilities also needs to take place in order to determine the usefulness of this questionnaire with this population. Following on from this, larger prospective studies that are well controlled are needed if we are to fully understand what factors are associated with risk of sexual offending by men with intellectual disabilities.

Finally, GSKQ has some benefits over other questionnaires in that administration time is short, and it is generally easy to administer. Comparative studies of the GSKQ and other questionnaires have not taken place and would also be of interest. It is also important to note that the GSKQ is a measure of sexual knowledge, and not a measure of social skills involved in or related to aspects of sexual activity (e.g. dating).

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Victim Type	Mean Number of Known Offences(SD)
Male Child	0.47 (0.77)
Female Child	1.74 (1.19)
Male Adult without an Intellectual Disability	0.21 (0.63)
Female Adult without an Intellectual Disability	3.05 (8.46)
Male Adult with an Intellectual Disability	0.11 (0.32)
Female Adult with an Intellectual Disability	0.21 (0.54)

*Table 1*: Offence related information relating to the sex offenders included in the study (N=25).

Section	Number of Items	Chronbach's Alpha	Split Half Reliability		
1. (a) Physiology –	16	0.35	0.43		
Pictures					
(b) Physiology –	13	0.86	0.79		
Questions					
2. Sexual Intercourse	10	0.85	0.85		
3. Pregnancy	8	0.66	0.67		
4. Contraception	5	0.76	0.80		
5. Sexually Transmitted	8	0.85	0.83		
Diseases					
6. Sexuality	3	0.72	0.72		
All Items	63	0.94	0.80		

*Table 2*: Cronbach's alpha for the individual sections of the General Sexual Knowledge Questionnaire (GSKQ).

Table 3: Correlations between general level of intellectual functioning and all sections of the General Sexual Knowledge Questionnaire (GSKQ).

Variable	IQ	Physiology Pictures	Physiology Questions	Sexual Intercourse	Pregnancy	Contraception	Sexually Transmitted Diseases	Sexuality
Physiology Pictures	0.40**							
Physiology Questions	0.48***	0.62***						
Sexual Intercourse	0.47***	0.64***	0.75***					
Pregnancy	0.42**	0.59***	0.71***	0.72***				
Contraception	0.47**	0.63***	0.75***	0.73***	0.78***			
Sexually Transmitted Diseases	0.32*	0.52***	0.77***	0.75***	0.77***	0.78***		
Sexuality	0.17	0.34**	0.41**	0.62***	0.45***	0.463**	0.52***	
All Items	0.48**	0.69***	0.89***	0.88***	0.87***	0.88***	0.92***	0.58***

\*p<0.05 \*\*p<0.01 \*\*\*p<0.001

*Table 4:* Means and Standard Deviations of the participants scores on the GSKQ for the four groups included in the study: 1) Sex offenders with an intellectual disability who had engaged in treatment (SOID-T Group), 2) Sex offenders with an intellectual disability who are yet to be offered treatment (SOID Group), 3) Participants with an intellectual disability and no history of inappropriate sexual behaviour (ID Group), and 4) participants without an intellectual disability (no-ID Group).

Group									
	SOID-T (N=11)		SOID (N=13)		ID (N=28)		No-ID (N=10)		
Section	M=	SD=	M=	SD=	M=	SD=	M=	SD=	F (3,57)=
1. (a) Physiology – Pictures	15.33	0.65	15.38	0.51	14.82	0.91	16.00	0.00	-
(b) Physiology – Questions	8.08	3.26	8.00	2.68	7.82	4.74	15.9	1.85	12.55**
2. Sexual Intercourse	6.58	2.19	5.76	1.64	4.68	2.76	9.80	0.42	13.27**
3. Pregnancy	5.67	2.10	5.38	1.94	5.21	2.10	10.5	2.07	17.56**
4. Contraception	7.17	2.78	5.77	2.35	6.36	2.80	12.8	2.14	17.39**
5. Sexually Transmitted	6.33	4.23	4.15	2.70	4.89	2.69	14.5	3.31	20.57**
Diseases									
6. Sexuality	2.58	0.67	2.07	1.12	1.55	1.07	2.60	0.52	5.09*
TOTAL SCORE	53.17	14.39	47.53	10.39	45.14	15.08	82.60	7.88	20.87**
*p<0.01									

\*\*p<0.01

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