

**A MODIFIED VERSION OF THE
ABEL-BECKER COGNITION SCALE FOR USE WITH
INTELLECTUALLY DISABLED SEX OFFENDERS**

by

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A Modified Version of the Abel-Becker Cognition Scale

for use with Intellectually Disabled Sex Offenders

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Abstract

Cognitions that justify and rationalize sexual assault may play an important role in sustaining such assaultive behaviours. These cognitive distortions are ways of thinking that allow a sexual offender to deny, minimize, justify, and rationalize deviant behaviour. Consequently, it has been argued that effective sex offender treatment must assess and treat such distorted beliefs. The Abel-Becker Cognition Scale (ABCS; Abel, Becker, & Cunningham-Rathner, 1984a) was developed to assess the cognitive distortions of child molesters, however, its utility with some offenders may be questionable because of the complexity of its wording. Specifically, a group of offenders known as intellectually disabled sex offenders has been identified as being in need of simplified instruments to allow more valid assessments of their problems and treatment needs. The ABCS was modified in a number of ways, increasing its readability by over 3 grade levels. The Modified ABCS was found to be psychometrically comparable to the original scale, indicating that it is a potential alternative assessment instrument that could be used to more effectively assess the cognitive distortions of child molesters. However, other limitations of the ABCS such as its susceptibility to socially desirable responding have not been ameliorated with these modifications.

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To my wife, Danielle, I couldn't have made it through this without you. Thank you for always being there. I love you.

Dedication:

To my parents, Donna and Adrian Kolton

Your love and support has enabled me to reach my goals
and strive towards new challenges. I love you both.

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Introduction

The sexual abuse of children is a topic that is foremost in the minds of clinicians, researchers, and the general public. It is estimated that there were 3,245 sex offenders in Canadian federal institutions at the end of 1995 (Motiuk & Belcourt, 1996). This accounts for about 24% of the total federal inmate population, a number that has continued to grow rapidly and disproportionately to the total non-sex offender population. Those who are devoted to understanding and reducing the level of sexual violence in our society have witnessed major changes in our understanding of sexual offending, however, the sexual abuse of our children remains a major public health issue that merits further attention.

There is a growing body of research that has attempted to clarify the role of cognition in acts of sexual aggression. Cognitions that justify and rationalize sexual assault may play an important role in sustaining such assaultive behaviours (Abel, et al., 1984b; Conte, 1985). These cognitive distortions are ways of thinking that allow a sexual offender to deny, minimize, justify, and rationalize deviant behaviour. Sexual assault is thereby legitimized and perpetuated by these individuals as a normal and justifiable behaviour. Theories of sexual offending have increasingly incorporated cognitive distortions. It has been argued that effective treatment must assess and challenge such distorted beliefs (Murphy & Stalgaitis, 1987). A resulting demand has been created for psychological instruments that can assess these dysfunctional belief systems.

A movement in correctional treatment that also motivated this research is the identification of offenders with specialized treatment and assessment needs. One of these

groups is intellectually disabled sex offenders (IDSOs). They are a group of offenders with low IQs and poor social skills who tend to perform poorly in regular sex offender programs. Specialized treatment programs such as the Northstar Program at the Regional Health Centre (Pacific) have been developed for these individuals (Boer, Dorward, Gauthier, & Watson, 1995). With the development of these programs, clinicians have discovered that the traditional assessment instruments used with sex offenders are not valid because of the poor reading and comprehension abilities of IDSOs. Thus, a need for comprehensible self-report measures has been identified.

The Abel-Becker Cognition Scale (ABCS; Abel et al., 1984a) is a self-report instrument that is used to assess the cognitive distortions of child molesters. However, some clinicians have questioned its validity for use with IDSOs because of the complexity of its wording. The present study modified the Abel-Becker Cognition Scale so that it could be more effectively used with IDSOs. One of the main deficits of IDSOs is poor reading ability (Clare, 1993), thus, the main goal of this modification was to increase the readability of the instrument. Consequently, the modification process closely resembled the procedures recommended for improving readability of written information in clinical and health settings (Ley & Florio, 1996).

The Role of Cognitive Distortions in Sexual Offences Against Children

Sexual aggression against children has been explained by a number of theoretical models that emphasize cognitive components. A number of multivariate models have incorporated cognitive, as well as physiological, affective, and personality factors into their understanding of sexual assault (Finkelhor, 1984; Hall & Hirschman, 1991;

Marshall & Barbaree, 1990). Recently, cognitive-behavioural explanations of sexual offending have come to dominate the research literature (Sampson, 1994).

In the cognitive-behavioural model, sexually abusive behaviour may be learned when a sex offender comes to associate certain stimuli (e.g., images of children) with sexual satisfaction, perhaps as a result of childhood sexual experiences or interactions with children as an adult. This sexual behaviour is then reinforced by masturbation to fantasies of rape or child abuse and is thought to be sustained by belief systems designed to justify and support abusive behaviour (e.g., "Sexual contact with children is a method of educating them about sex"; Hall & Hirschman, 1992). These belief systems may also be reinforced in part from contact with other offenders with similar beliefs and from the attitude of other groups within society. For example, the publically stated goals of pedophile organizations such as the North American Man/Boy Love Association (NAMBLA) include the decriminalization of adult-child sex and the encouragement of adult sexual behaviour with children. This group publishes literature pervaded by statements and articles which blame victims and deny the consequent victimization and injury (DeYoung, 1984;1988;1989). As such, NAMBLA promotes a belief system that serves to justify an offender's behaviour and minimize any guilt that he or she might feel.

Empirical research has also provided evidence that men who sexually assault children have atypical cognitions about both children and adult sexual contact with children. Researchers have repeatedly found that sex offenders minimize their culpability in their offences with justifications, excuses and myths (Abel et al, 1984a; Abel, Mittleman, & Becker, 1985; Neidigh & Krop, 1992; Stermac & Segal, 1989). The content of these cognitions includes ideas that children desire sex with adults, adult-child

sex helps the child, children initiate child-adult sex for specific reasons, and child-adult sex is or will be acceptable in society (Abel et al., 1989). Victims are blamed for encouraging the offender: they are said to be willing participants in the offence, and the offender is often presented as a passive "victim" of the encounter (Sampson, 1994). Child molesters have been found to be more likely than other sex offenders and non-offenders to see children as seductive and desiring sex with an adult, as able to consent to sex with adults, and as unharmed by such activities (Gore, 1988). Stermac and Segal (1989) also observed that child molesters judged children to be more responsible for sexual contacts with an adult than did groups of rapists and non-offenders.

There has been a growing acknowledgement that these cognitive distortions are significant to the child molester's behaviour (Finkelhor & Araji, 1986; Groth, 1983; Langevin & Lang, 1985; Lockhart, Saunders, & Cleveland, 1988; Murphy, 1990; Nelson, Miner, Marques, Russel, & Achterkirchen, 1988; Pithers, Kashima, Cumming, Beal, & Buell, 1988; Segal & Stermac, 1990), however, there is some debate as to the specific role that the distortions actually play in sexual offending.

There appears to be little evidence that distorted beliefs are directly responsible for the sex offender's deviant behaviour (Abel, Rouleau, & Cunningham-Rathner, 1986). In fact, the direct examination of a causal relationship between offenders' expressed beliefs and child molesting may be difficult: "Specific cognitions or beliefs may play an etiological role in the development of adults' sexual interest in children, may merely be post hoc rationalizations or may be epiphenomena of deviant sexual arousal, such that once the arousal is eliminated, differences on cognitive measures will likewise disappear" (Stermac & Segal, 1989, pp. 573-574; see also Pollock & Hashmall, 1991). However, a

common belief is that cognitive distortions serve to legitimize the child molester's crimes and therefore maintain his deviant behaviour. In this way, it has been proposed that cognitive distortions have a role as perpetuating, if not generating, deviant sexual behaviour (Abel et al., 1989). It is argued that such beliefs not only alleviate the guilt for past sexual offending but also ensure that future acts tend not to arouse negative feelings (Abel, et al., 1984a; Conte, 1985). If negative consequences fail to result from sexual deviance, distortions can become entrenched to the point that engaging in deviant sexuality is seen by the offender as normal and justified (Abel, et al., 1984b). It should be emphasized that these are theoretical suppositions that have yet to be validated empirically.

In summary, the available literature suggests that cognitive distortions play a role in the behaviour of child molesters. As such, the treatment and assessment of these distorted thoughts have become important in reducing sex offender's likelihood of recidivism (Abel, Mittelman, Becker, Rathner, & Rouleau, 1988).

The Treatment of Cognitive Distortions

The effectiveness of sex offender treatment programs is a much debated subject (for reviews, see Furby, Weinrott, & Blackshaw, 1989; Marshall & Pithers, 1994; Quinsey, Harris, Rice, & Lalumiere, 1993). However, there is considerable agreement among experts that effective sex offender treatment should be comprehensive, cognitive-behaviourally based, and include a relapse prevention component (Marshall & Pithers, 1994).

Most types of treatment target faulty cognitions regarding adult sexual contact with children. For example, both sociological and social learning theory-based programs emphasise treatment methods that involve challenging myths about sexual crime and dysfunctional attitudes towards women and children (Sampson, 1994). Multi-dimensional treatment programs also incorporate cognitive distortions as targets for intervention (Maletzky, 1991). Finally, cognitive-behavioural treatment programs typically include cognitive restructuring procedures that specifically target cognitive distortions (Jenkins-Hall, 1989; Laws, 1989; Marshall & Eccles, 1991; Marshall, Laws & Barbaree, 1990). Cognitive-behavioural theory provides hope that abusive behaviours may be modifiable because one of the central tenets of this theory is that what has been learned can be unlearned. When distorted cognitions are identified, they can be challenged and ultimately replaced with less harmful beliefs.

In some programs, cognitive changes are considered the primary treatment concern. Hall and Hirschman (1992) discuss "cognitively driven" sexual aggressors, who are thought to first require modification of distorted beliefs before becoming effective participants in other program components. In a study of brief group treatment for the modification of denial in child sexual abusers, O'Donohue and Letourneau (1993) devoted the first of seven sessions to focusing on irrational beliefs commonly found in child abusers. They found the ABCS beneficial in initiating discussion about why these beliefs were irrational. Post-treatment measures indicated that the majority of offenders had reduced their level of denial and had complied with subsequent sex offender therapy.

In summary, the importance of treating cognitive distortions is reflected in the sex offender treatment literature. It is also reflected by its presence in the goals of the

National Sex Offender Strategy of the Correctional Service of Canada (1995). The National Committee on Sex Offender Strategy has outlined treatment guidelines for sex offenders which include "attitudes and cognitive distortions" as a treatment target (National Sex Offender Strategy, 1995, p.13). Clearly, the modification of cognitive distortions is presently seen as an important component of sex offender treatment.

The Assessment of Cognitive Distortions

Assessing cognitive distortions has been considered important for a number of reasons. First, the degree to which an offender denies or minimizes the effects of his behaviour will reflect his motivation to actively participate in treatment (Kennedy & Grubin, 1992). The nature and degree of an offender's cognitive distortions also reflects the severity of his psychopathology. As well, the nature of the offender's cognitive distortions gives the treating clinician valuable information about the nature of the offender's crime cycle or pattern of offending. Finally, knowing the extent of an offender's justification and minimization enables more accurate prediction of reoffence as distorted thinking about sexual offending makes recurrence of such behaviour more likely (Murphy, 1990).

Although cognitions have played a significant theoretical role in understanding sexual offending, there has been limited research related to the assessment of these cognitions (Murphy, 1990). The development of self-report measures to assess a sex offender's cognitive distortions is a recent phenomenon. Two self-report tests that measure distorted cognitions in child molesters have been developed: The Multiphasic Sex Inventory (Nichols & Molinder, 1984) and the Abel-Becker Cognition Scale (Abel et

al., 1984a).

The Multiphasic Sex Inventory (MSI) is a 300-item true/false self-report inventory that was developed to assess psychosexual characteristics of sex offenders. The MSI items make up three sexual deviance scales (Child Molest, Rape, and Exhibitionism); five atypical sexual outlet scales (Fetishes, Obscene Calls, Voyeurism, Bondage, and Sado-Masochism); a sexual dysfunction scale comprised of four subscales (Sexual Inadequacies, Premature Ejaculation, Physical Disabilities, and Impotence); six validity scales (Parallel Items, Sexual Obsessions, Cognitive Distortions and Immaturity, Social Sexual Desirability, Lie Scale, and Justifications); and a scale of sexual knowledge and beliefs. The Justifications subscale and the Cognitive Distortions and Immaturity subscale of the MSI are experimental scales developed to tap cognitive aspects of sexual offending. The Justifications subscale measures what has been discussed above as cognitive distortions or “psychological justifications” for deviant sexual behaviour. The Cognitive Distortions and Immaturity scale includes some cognitive distortions, but also includes other general thinking errors and rationalizations (Murphy, 1990). According to the authors, the MSI is used in more than 1,400 hospitals, clinics, and agencies (Nichols & Molinder, 1984). Yet, there have been few examinations of its psychometric properties. One study demonstrated the subscales to have moderate to high internal consistency, however, the scales measuring cognitive processes appear to be assessing multiple dimensions because of their heterogeneous item content (Kalichman, Henderson, Shealy, & Dwyer, 1992). Therefore, the MSI has yet to be demonstrated as a reliable or valid measure of cognitive distortions.

The Abel-Becker Cognition Scale (ABCS; see Appendix A; Abel et al., 1984a) was one of the first measures of cognitive distortions developed for child molesters (Murphy, 1990). Descriptive research identified a number of broad categories of cognitive distortions. These categories were then translated into specific items thought to represent a range of commonly-used distortions. The final scale comprised 27 items tapping specific distortions and 2 items that reflect attitudes towards sex offender treatment. Respondents indicate the extent to which they agree with the statements on a 5-point scale (1 = *strongly agree*, 5 = *strongly disagree*). Items include such distortions as: "Having sex with a child is a good way for an adult to teach a child about sex" and "A child who doesn't resist an adult's sexual advances really wants to have sex with the adult." Lower scores on the ABCS are indicative of a greater degree of permissiveness towards adult-child sexual contact.

The ABCS has been shown to have adequate psychometric properties. Gore (1988) reported a test-retest reliability of .76 over a three week interval and coefficient alphas that ranged from .59 to .71 for the six subscales that were identified through factor analysis. These scales were: 1) adult-child sex helps the child (35.4% of variance), 2) children initiate child-adult sexual relationships (4.1% of variance), 3) adult's initiate child-adult sex for specific reasons (3.1% of variance), 4) the child's behaviour shows their desire for child-adult sex (2.6% of variance), 5) adults can predict when child-adult sex will damage the child in the future (2.5% of variance), 6) child-adult sex is or will be acceptable in society (1.8 % of variance).

The validity of the ABCS has also been demonstrated empirically. Stermac and Segal (1989) found that child molesters endorsed more items indicative of permissive

beliefs and attitudes towards adult sexual contact with children than did rapists, clinicians, lawyers, police, and lay persons. As well, Abel and his colleagues (1989) found that child molesters scored significantly higher on all six subscales than did non-offenders, however, the ABCS did not discriminate child molesters from other paraphiliacs. The six subscales were also found to account for 39% of the variance in the duration of molestation and a smaller amount of the variance in other categories of molestation such as number of sexual acts. This supports the postulate that cognitive distortions tend to increase as child molestation behaviours continue (Abel et al., 1989). Scores on the ABCS have also been correlated with external attribution of blame concerning the crime committed (Gudjonsson, 1990). Therefore, there is some empirical evidence to indicate that the ABCS is both a reliable assessment instrument and a valid tool for identifying an individual's deviant sexual beliefs.

There is some evidence to suggest that the use of the ABCS should be limited to research use only. Langevin (1991) cautions against using the ABCS clinically because of response bias. In an attempt to examine the effects of a socially desirable response set, Langevin (1991) administered the ABCS to 45 men accused of sexual offences who were referred for pre-trial assessment. Very few of these men answered "neutral," "agree" or "strongly agree" to any item, except Item 13 ("An adult can tell if having sex with a young child will emotionally damage the child in the future"), Item 19 ("My daughter [son] or other young child knows that I will still love her [him] even if she [he] refuses to be sexual with me"), and Item 27 ("An adult can know just how much sex between him [her] and a child will hurt the child later on"). On average, over 75% of respondents strongly disagreed with all items. Clearly, the response bias was so strong in this sample as to

indicate that the ABCS is inappropriate for use with individuals motivated to portray themselves in a socially desirable way.

The Intellectually Disabled Sex Offender (IDSOs)

Sex offenders who demonstrate specific needs because of intellectual limitations have been identified in a number of different ways for inclusion in research and treatment. Many studies employ a diagnosis of "mental retardation" or "borderline-retardation" for inclusion into this group (e.g., Hawk, Rosenfeld, & Warren, 1993; Murphy, Coleman, & Abel, 1983a; Murphy, Coleman & Haynes, 1983b). However, adherence to any strict inclusion criteria for such a diagnosis is rarely achieved (i.e., a failure to utilize those criteria set out in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders*; American Psychiatric Association, 1994).

Typically, offenders who are diagnosed as mentally retarded meet an IQ requirement that falls in the retarded to borderline range of intellectual functioning (Caparulo, 1991). For example, Swanson and Garwick (1990) defined offenders as "low-functioning" if they had IQs in the range from 55 to 85. Other programs have entrance criteria that more closely resemble a diagnosis of mental retardation. The *Oregon State Hospital Social Skills Program*, in which offenders are termed "intellectually disabled," has the criteria of borderline intellectual functioning or lower with serious adaptive skill deficits (IQ range 55-84 on the WAIS-R; Haaven, Little, & Petre-Miller, 1990). In summary, the defining criteria vary somewhat, however, clinicians and researchers have identified this group of sexual offenders as in need of specific attention for treatment and study.

The prevalence of sexual offences among intellectually disabled offenders can be extrapolated from research that has identified the proportion of offenders who are diagnosed mentally retarded. Murphy and his colleagues (1983a) indicated that the reported incidence of sex offences among the mentally retarded is quite variable. The majority of published estimates of the proportion of sexual offenders who are mentally retarded suggest rates in the 10-15% range (Murphy et al., 1983a). They suggest that this may be an overestimate since retarded offenders are more likely to be apprehended given their limited social skills and cognitive abilities (Murphy et al., 1983b). However, others believe the reported incidence to be an underestimate because mentally retarded individuals are less likely to be charged with such crimes given police sympathy towards them (Hawk, et al., 1993).

Hawk and his colleagues (1993) found the prevalence of mental retardation among defendants evaluated in the state of Virginia during a six-year period to be 13%. However, more than 26% of the mentally retarded defendants in the sample were charged with a sex offence as compared to 15% in the non-retarded sample. The rate of sex offence charges was nearly twice as high among mentally retarded defendants as among defendants who were not retarded. No differences were found in the type of alleged sex offence. Regardless of the actual proportion of sex offenders who are intellectually disabled, these findings indicate that there is a considerable need for programs specifically designed for intellectually disabled sex offenders.

Special Needs of Intellectually Disabled Sex Offenders (IDSOs)

IDSOs comprise a small proportion of the sex offender population and their offences generally parallel those of non-disabled offenders (Knopp & Lackey, 1987); yet, they present special treatment and assessment challenges (Clare, 1993; Haaven, Little, & Petre-Miller, 1990; Murphy et al., 1983a; Murphy et al., 1983b). Historically, the offender with an intellectual disability was either treated in regular groups or refused treatment (Langevin & Pope, 1993). The effect of "mainstreaming" is unclear as there has been a relative dearth of research into the interaction between mental retardation and cognitively demanding assessment and treatment techniques (Schoen & Hoover, 1990).

In addressing the limited application of some assessment methods with this population, Clare (1993) outlines four areas in which impaired intellectual functioning interferes with valid assessment:

- 1) *Poor memory* - memory problems may lead to difficulties recalling past experiences even with co-operative offenders.
- 2) *Acquiescent and suggestible responding* - there is evidence that IDSOs are more likely than intellectually average individuals to be acquiescent regardless of question content and to be more suggestible in interrogative situations.
- 3) *Reading difficulties* - This group has below average reading abilities, and even if this is overcome by administering written material verbally, this places a high demand on verbal memory ability, which is also generally poorer.
- 4) *Problems in understanding complex language and concepts and discriminating responses* - There is anecdotal evidence that this group may have difficulty in

understanding the material used in many standard self-report measures, and making the fine distinctions required for responding.

The impact of intellectual impairments on self-report data suggests that there is a need to adapt traditional assessment instruments in ways that alleviate the above problems.

The recent attention devoted to this population has resulted in the development of specialized treatment programs for use in both correctional and community settings (Boer, et al., 1995; Demetral, 1994; Griffiths, Hingsburger, & Christian, 1985; Haaven et al., 1990; Murphy et al., 1983b; Swanson & Garwick, 1990). These programs parallel other sex offender programs in content, however, adjustments are made to take into account the special needs of the population.

One of the goals of treating IDSOs is the modification of cognitive distortions. Clinicians believe that intellectually disabled sex offenders' cognitive distortions parallel those of non-disabled offenders, differing only in terms of sophistication (Caparulo, et al., 1988 as cited in Schoen & Hoover, 1990). Problems with perception and discrimination, as well as attitudes towards women, children, and violence are thought to play a role in the sexual offences of the mentally retarded (Murphy et al., 1983b); however, this belief has not been supported empirically. There is a need for an empirically developed, reliable and valid measure of the cognitive distortions of IDSOs. Such a measure would allow an investigation into the role and nature of the cognitive distortions of IDSOs, as well as possibly providing a clinically useful instrument for treatment purposes.

Readability of Psychological Tests

As one of the main deficits of IDSOs is poor reading comprehension, the adaptation of assessment measures for use with IDSOs must focus on improving the readability of the instruments. Much of the direction in assessing the readability of written materials comes from research in clinical and health settings. Readability formulas have been applied to the measurement of written materials in many areas, including informed consent (Ogloff & Otto, 1991), therapy manuals, and the wording of psychological tests and personality inventories (Schinka & Borum, 1993).

Readability formulas were developed empirically using multiple regression equations that predict the reading ability required to understand a given piece of text. The equations usually involve one or more of the following: average word length in syllables; average sentence length, in words; proportion of common words used; proportion of words with three or more syllables; and proportion of words that are monosyllabic. Ley and Florio (1996) examined the most commonly used formulas that measure the readability of written information in clinical and health settings and recommend the following procedure for improving written information:

- 1) Use a word-processing package that uses one or more of the readability formulas to determine the reading grade level of the written material. If more than one formula reports a reading grade level either take the mean of those grades, or take the highest estimate. The following readability formulas were used in this study: The Flesch Reading Ease (Flesch, 1948; 1962), Gunning Fog Index (Gunning, 1973), Flesch-Kincaid Formula (Kincaid, Fishburne, Rogers, & Chissom, 1975).

- 2) Assess the difficulty of the vocabulary used in the text using a vocabulary data base.
- 3) Revise the text in the light of the above analysis, aiming for a reading grade level of 4 to 5.
- 4) Examine the text (subjectively) to eliminate any obvious ambiguities and other causes of misunderstanding.
- 5) Test the text on samples of its intended target population.

The Present Study

A specific hindrance to the treatment and study of IDSOs is the lack of assessment instruments that have been validated with this population. It is impossible to compare the beliefs and distortions of IDSOs to non-IDSOs or to draw conclusions about their cognitive distortions without completing this process (Schoen & Hoover, 1990). Self-report measures used to assess the general offender population are often too sophisticated for the intellectually disabled offender. The present study follows directly from Clare's (1993) suggestion that self-report inventories be adapted for use with IDSOs. Specifically, the modifications to the ABCS address the findings that IDSOs have below average reading abilities and problems in understanding complex language and concepts. Thus, improving the readability of the ABCS while maintaining its comparability to the original scale was the main goal of the initial study.

The Abel-Becker Cognition Scale was modified using many of the procedures recommended by Ley and Florio (1996). The following steps were repeated several times to achieve the final product: (1) question length was reduced; (2) vocabulary was simplified; (3) multiple subjects were eliminated (for example, changing "he/she" to "they"); (4) questions were analysed using readability statistics; and (5) clinicians were consulted regarding the comparability of the new questions to the originals. Study I was conducted to examine whether the readability of the ABCS could be improved while maintaining the essential meaning of the scale items.

Study II was conducted to determine the psychometric comparability of the original and Modified ABCS. One group of child molesters was administered both

versions of the ABCS in a test-retest format. A second group was administered the Modified ABCS on both occasions in a test-retest format. Finally, a third group was administered the Modified ABCS on only one occasion.

The impact of social desirability on cognitive self-reports is an important issue given the finding that child molesters often falsify self-reports (Murphy, 1990). Since the ABCS has high face validity, it was clearly necessary to investigate the impact of social desirability on the participants responses (Langevin, 1991; Murphy, 1990; Stermac & Segal, 1989). The Balanced Inventory of Desirable Responding (BIDR; Paulhaus, 1984, 1988) was chosen because it measures two constructs: self-deceptive positivity and impression management.

A priori hypotheses were as follows: 1) The readability of the Modified ABCS was expected to be significantly improved as compared to the ABCS. 2) Child molesters were expected to respond similarly to both scales. 3) Social desirability was expected to be negatively correlated with cognitive distortion level.

Study I

Methodology

The modification of the ABCS was completed in several steps to reduce scores on the readability statistics and eliminate obvious ambiguities and other causes of misunderstanding in the original ABCS. The first step of the modification involved reducing the length of each question by simplifying the content and vocabulary. Multiple subjects were eliminated because it was felt that this contributed to the overall confusion of the instrument. The second step involved analysing each question using the readability statistics. Finally, clinicians involved in sex offender treatment were consulted regarding the comparability of the new questions to the originals and changes were made to ensure that the distortion content remained similar. This process was repeated several times until it was felt that no further improvements could be made. Examples of both the original and Modified ABCS items are presented in Table 1.

Table 1

Original and Modified ABCS Items

Item	Original ABCS	Modified ABCS
2	A man (or woman) is justified in having sex with his (her) children or step-children, if his (her) wife (husband) doesn't like sex.	It is O.K. for a man to have sex with his child if his wife or girlfriend does not like sex.
5	If a 13 year old (or younger) child flirts with an adult, it means he (she) wants to have sex with the adult.	If a child flirts with an adult it means they want to have sex.
8	If I tell my young child (step-child or close relative) what to do sexually and they do it, that means they will always do it because they really want to.	If a child does what I want them to do sexually once, it means they will always want to.
11	Children don't tell others about having sex with a parent (or other adult) because they really like it and want it to continue.	Children do not tell about having sex because they like it and want it more.
14	An adult just feeling a child's body all over without touching her (his) genitals is not really being sexual with the child.	When you feel a child's body it is not being sexual unless you touch the child's sex parts.
22	When a young child walks in front of me with no or only a few clothes on, she (he) is trying to arouse me.	If a child walks around with no clothes on it means they are trying to turn me on.
25	The only way I could do harm to a child when having sex with her (him) would be to use physical force to get her (him) to have sex with me.	The only way to hurt a child while having sex with them is by using force.

Note. The ABCS and Modified ABCS can be found in Appendices A and B.

The reading levels of both the original and modified ABCS were then analysed to determine whether the reading level of the modified ABCS was significantly lower than the original. Several readability statistics were obtained for each item of the scales using the *Microsoft Word 6.0 Grammar Check* software (Microsoft Corporation, 1993). The following readability statistics were reported:

- 1) ***Flesch Reading Ease*** (Flesch, 1948; 1962). This score is based on the average number of syllables per word and the average number of words per sentence. It is derived from the mean Grade Level of those who correctly answered 75% of the comprehension questions about the McCall-Crabbs Passages.
- 2) ***Flesch-Kincaid Grade Level*** (Kincaid et al., 1975). This index is also based on the average number of syllables per word and the average number of words per sentence. This formula was validated for US armed forces use and is one of the most commonly used indices in health care settings.
- 3) ***Gunning Fog Index*** (Gunning, 1973). This index is based on the average number of words per sentence and the percentage of words which are three or more syllables in length. It was partly validated on the McCall-Crabbs passages and bases predictions on the average Grade of those who correctly answered 90% of the questions about the passage.

Results

The modifications completed on the ABCS resulted in a measure with items that are shorter and easier to comprehend. The changes in readability are presented in Table 2. The length of each item was reduced by an average of 4.90 words, making the Modified ABCS items 24% shorter than the original items. As well, the readability statistics indicate that the modifications significantly reduced the reading level of the ABCS: The Flesch-Kincaid Grade Level was reduced from 8.20 to 4.47; the Gunning Fog Index was reduced from 10.84 to 6.94; and, the Flesch Reading Ease Score was increased from 73.3 to 90.9. These differences were tested using unequal variance t-tests for equality of means. They were all statistically significant ($p < .001$).

The magnitude of the differences between the means of the readability statistics can be determined by measuring effect size. An effect size above .80 is considered statistically large (Cohen, 1969). The effect size for the difference in the length of items is 1.00; the effect size for the difference in the Flesch-Kincaid Grade Level is 1.49; the effect size for the difference in the Gunning-Fog Index is 1.37; and, the effect size for the difference in the Flesch Reading Ease is 1.32. Consequently, the modifications made to the ABCS has resulted in a statistically large increase in its readability.

Table 2

Mean Readability of Items in the Original and Modified ABCS

	Original ABCS	Modified ABCS	
Words per Sentence	20.83 (4.89)	15.93 (3.02)	$t(1, 46.7) = 4.59 (p < .001)$
Flesch-Kincaid Grade Level	8.20 (2.00)	4.47 (1.42)	$t(1, 46.9) = 8.56 (p < .001)$
Gunning Fog Index	10.84 (2.54)	6.94 (1.48)	$t(1, 44.8) = 7.13 (p < .001)$
Flesch Reading Ease	73.34 (12.34)	90.92 (7.17)	$t(1, 44.9) = -6.63 (p < .001)$

Note. $N=29$ items per scale. *SD* in parentheses.

In addition, the standard deviations of the readability statistics were all reduced for the Modified ABCS. Levene's Tests for equality of variances were all significant ($p < .05$) indicating that the readability of each of the Modified ABCS items cluster more closely around the mean than do those of the original ABCS. The reduced variability in readability scores is also seen when the range of scores for each of the readability statistics is presented. Table 3 presents the range of readability scores for the original and Modified ABCS. It is evident from this data that the Modified ABCS has a much lower required reading level even for the most difficult items.

The clinical meaning of these differences can be discerned by the score interpretations provided in Table 4. The readability statistics for the original ABCS indicate that it has a reading level that can be described as between "standard" to "fairly difficult"; whereas, the Modified ABCS has a reading level that can be described as "very easy." In addition, the final column of the table provides estimates on the percentage of the population likely to understand material at the corresponding reading level. Based on the figures provided, the original ABCS would be understood by approximately 83% of the adult population, whereas, the Modified ABCS would be understood by over 93% of the adult population.¹ Thus, the modifications to the ABCS have resulted in a clinically meaningful increase in its readability.

¹ These figures should be interpreted with caution. Flesch (1962) indicated that the figures were based on USA Census data concerning the percentage of the adult population who have completed the indicated Grade level. This presents a few difficulties. First, the figures are out of date and based on the US population. Another problem lies in the assumption that that adults' reading ability is at the level of the highest Grade they completed at school (Ley & Florio, 1996).

Table 3

Range of Readability Scores for the Original and Modified ABCS

	Original ABCS		Modified ABCS	
	Min	Max	Min	Max
Words per Sentence	8.0	31.0	8.0	21.0
Flesch-Kincaid Grade Level	4.4	11.8	2.5	7.0
Gunning Fog Index	6.8	16.0	4.4	10.3
Flesch Reading Ease	47.6	91.5	74.3	103.5

Note. N= 29 items per scale.

Table 4

The Interpretation of Readability Formulas

Type of Writing	Reading Ease	Reading Grade Level	Verbal Description	Gunning-Fog Index	% of People likely to Understand
Comics	90-100	5	very easy		93
Pulp Fiction	80-90	6	easy	7	91
Slick Fiction	70-80	7	fairly easy	9	88
Digests	60-70	8-9	standard	10	83
Quality	50-60	10-12	fairly difficult	12	54
Academic	30-50	13-16	difficult		33
Scientific	0-30	college graduate	very difficult		4.5

Note. Adapted from Ley and Florio (1996). Columns 1-4 and 6 provided by Flesch (1962) and column 5 by Gunning (1973).

Discussion

The modifications to the Abel-Becker Cognition Scale resulted in a significant increase in the readability of the scale. The overall length of the items was reduced by 24% and the reading level was reduced on all measures of readability. The large effect sizes of these reductions indicate that a meaningful change in readability was accomplished. As well, interpretations of the readability statistics indicate that the modified ABCS can be considered equivalent to “very easy” literature such as a comic book.

In addition, the variability in the readability statistics was reduced. This indicates that the readability of each of the Modified ABCS’s items is clustered closer to the means reported. As well, the readability scores for the most difficult items were substantially reduced. This is meaningful because it decreases the likelihood that individuals with low reading ability will encounter an item beyond their reading capability.

Overall, it appears that the modification of the ABCS has resulted in an improvement over its predecessor. The readability of the measure was improved while the essential meaning of the items was maintained. These changes should enable offenders, specifically IDSOs, to more easily read and comprehend the test items. Consequently, more effective evaluation of the cognitive distortions of IDSOs can be accomplished.

Much of the research concerning cognitive distortions has utilized the ABCS because it has been established as a reliable and valid assessment instrument. Therefore, to establish the validity of the Modified ABCS as a comparable measure, Study II was conducted to compare its psychometric reliability to the original.

Study II

Methodology

Participants

The study included 89 convicted child molesters from four locations. Consenting participants were either incarcerated offenders in one of three Canadian federal prisons ($n=62$) or US prisoners involved in a sex offender treatment program ($n=27$).

Recruitment of participants took place within the institutions and was accomplished in one of two ways. In the Canadian institutions, the experimenter obtained a list of inmates serving a sentence for a sexual offence against a child from various Case Management Officers. Inmates from these lists were contacted individually by the experimenter and asked to participate in the study. The American participants were recruited by a psychologist from a sex offender treatment program. They were given an information package about the study and asked to participate voluntarily.

Sample Characteristics

The 89 participants ranged in age from 18 to 66 years ($M = 39.0$). Level of education ranged from Grade 1 to university, with the average being 9.84 years of education. Forty-five of the participants were administered reading and IQ tests. The reading level of these participants ranged from below grade 3 to above grade 12 with a mean Wide Range Achievement Test (Jastack & Wilkinson, 1984) Reading Level score of 54.8 which corresponds to a grade 9 reading level. The Full Scale IQ estimate ranged from 67.5 to 131 with a mean of 94.6. The demographic characteristics of the sample are shown in Table 5.

Table 5

Demographic Characteristics of Participants

Variable	Mean (SD)
Age (in years)	39.0 (12.63)
Education	9.84 (2.72)
IQ (WAIS-R or Estimated)	94.62 (13.23)
Reading Level (WRAT-R)	54.82 (13.45) Grade 9 equivalent

Note. $N=89$ except IQ and Reading Level $N=45$.

Of the 89 child molesters, 46 (52.9%) reported having no previous convictions for a sexual offence. In 68.5% of the cases, the offender had exclusively female victims, in 14.6% of the cases the offender had exclusively male victims, and 16.9% of the cases involved victims of both genders. Of the 44 child molesters who participated on two occasions 21 (48%) were related to the child or serving the role of father.

Sixty-seven percent of the participants reported being currently involved in a sex offender treatment program. The amount of time they reported having spent in treatment ranged from 0 to 120 months with a mean of 16.7. Fifteen of the 89 participants (17.0%) reported having never participated in sex offender treatment. The offence and treatment characteristics of the participants are presented in Table 6.

Table 6

Offence and Treatment Characteristics of Participants

Variable	Mean (SD) / Percent
No Reported Previous Offence	52.9%
Victim Gender:	
Female	68.5%
Male	14.6%
Both Female and Male	16.9%
Presently in Treatment	67.0%
Total Treatment (in months)	16.78 (22.29)
Never Treated	17.0%

Note. N=89.

Confidentiality

To ensure that participation was voluntary, participants were given an information document outlining the procedures, potential risks and benefits, confidentiality, and opportunity to withdraw (see Appendix E). If it appeared that the subject had difficulty reading the document, the experimenter read it to the subject and explained any difficult concepts. Participants were also asked if they had questions regarding any of the information. They were then asked to sign a consent form (see Appendix F) indicating that they understood that their participation was voluntary and had no impact on their incarceration or relationship with their institution.

In addition, a confidential identification number was assigned to each subject so that experimental materials could be kept together without any associated identifying information. This identification number was created out of demographic information known only to the experimenter.

Materials

Abel-Becker Cognition Scale (Abel et al., 1984a; see Appendix A). This is the original version of the ABCS as described in the Introduction.

Modified Abel-Becker Cognition Scale (see Appendix B). The modified scale was constructed for the current study by reducing the length of questions, by simplifying vocabulary, and eliminating the use of multiple subjects (for example, changing "he/she" to "they"). Attempts were made to insure that the modified ABCS is identical to the original scale in terms of number of items and the distortion content contained in each question.

The Balanced Inventory of Desirable Responding (Paulhaus, 1984, 1988; see Appendix C). The BIDR is a 40 item self-report instrument that measures two constructs: self deceptive positivity (SDE) and impression management (IM). Research indicates that the validity and reliability of the ABCS is within acceptable limits (Paulhaus, 1988, 1991). Coefficient alphas range from .68 to .80 for the SDE and from .75 to .86 for the IM scale. When all 40 items are summed as a measure of socially desirable responding the alpha is .83. Test-retest correlations over a 5-week period are .69 and .65 for the SDE and IM scales respectively.

Demographic Data Form (see Appendix D). The demographic questionnaire was constructed for the current study and contains questions about sex offence type, relationship to victim(s), the sex and age of victim(s), treatment duration, as well as other items of personal information.

Estimate of Full Scale IQ. Full scale IQ was estimated using various methods. Often, a completed WAIS-R (Wechsler, 1984) or estimate was taken from the inmates Institutional Psychology File. If a score was not available, the subject was administered the Vocabulary and Block Design subtests of the WAIS-R. These scores were then converted to a Full Scale IQ estimate using the appropriate WAIS-R Short Form conversion table (Brooker & Cyr, 1986).

Reading Level. The participants reading level was assessed using the WRAT-R² Reading Level Test (Jastack & Wilkinson, 1984). This test requires participants to read aloud up to 75 words of increasing difficulty, producing a score out of 89. This score is then converted to a grade level equivalent.

Procedure

The first group of offenders ($n=51$) participated on two occasions separated by one week. During the first session they were asked to participate and signed the consent form. They completed the demographic information form, were administered the reading test and Full Scale IQ estimate. They were then given the experimental questionnaires which consisted of the BIDR and either the ABCS or the Modified ABCS. During the second session they were again administered a set of experimental questionnaires. Twenty-four participants in this group were administered the Modified ABCS on both occasions as a check of test-retest reliability. The remainder of the participants ($n=27$) were administered the ABCS on one occasion and the Modified ABCS on the other. Throughout the study, participants were encouraged to ask questions if they had any concerns. The second group of participants ($n=38$) participated on only one occasion, completing the BIDR and the Modified ABCS.

Results

The psychometric comparability of the original and Modified ABCS was examined in a number of ways. Items 28 and 29 were excluded from the following analyses because these items are not cognitive distortions, but rather, questions concerning sex offender treatment.

1. Pattern of Response (Total Scores). The proportion of participants who answered *disagree* or *strongly disagree* to every item was comparably high for the Modified and original ABCS. Table 7 depicts the proportion of participants denying belief in all cognitive distortions for the different administrations of the measures. Those participants who completed both the ABCS and Modified ABCS ($n=27$) denied belief in all cognitive distortions at a proportion of 40.7% and 44.4% for the ABCS and Modified ABCS respectively. This pattern of response indicates that an equivalent number of participants failed to endorse any of the items for both measures.

2. Pattern of Response (Item Scores). Another demonstration of the comparability of the Modified ABCS to the ABCS can be seen by analysing the pattern of response at the level of the individual item. There are 5 response alternatives for each item on the ABCS: 1 *strongly agree*; 2 *agree*; 3 *neutral* (neither agree nor disagree); 4 *disagree*; and 5 *strongly disagree*. The frequency of responses in each of the 5 alternatives for each item are presented for the ABCS in Table 8, and for the Modified ABCS in Table 9. Only those participants who completed both the ABCS and Modified ABCS were

included in this comparison ($n=27$). The patterns of responses to these two scales were very similar, on average, 82.2% *strongly disagreed* with all items of the ABCS; whereas, 81.9% *strongly disagreed* with the items of the Modified ABCS. As well, very few participants responded *strongly agree* or *agree* for any of the cognitive distortion items, except items 13, 19, and 27.

The pattern of response found in this study is also similar to that found by Langevin (1991). He reported that, on average, 75.4% *strongly disagreed* with all items and that very few men answered *agree* or *strongly agree* for any item except items 13, 19, and 27. Thus, the pattern of response for the Modified ABCS was similar to the ABCS with participants in both this study and previous research.

Table 7

Proportion of Participants Denying Belief in all Cognitive Distortions

	Percent "Strongly Disagree"	Percent "Disagree" or "Strongly Disagree"
ABCS ^a	33.3%	40.7%
Modified ABCS ^b	37.0%	44.4%
Modified ABCS ^c	24.7%	29.2%

Note. ^a N=27. ^b subjects in old/new condition; N=27. ^c all subjects; N=89.

Table 8

Item Endorsement Frequency of the Abel-Becker Cognition Scale

Item #	Percent of Responses in Each Category				
	1	2	3	4	5
1			11.1	14.8	74.1
2	3.7		3.7	11.1	81.5
3			3.7	3.7	92.6
4	3.7	7.4		7.4	81.5
5		3.7	11.1	3.7	81.5
6		3.7		11.1	85.2
7		7.7		3.8	88.5
8			7.4	11.1	81.5
9			3.7	7.4	88.9
10				7.4	92.6
11		3.7	3.7	7.4	85.2
12	3.7		3.7	3.7	88.9
13	25.9	3.7	3.7	7.4	59.3
14		3.7	11.1	11.1	74.1
15			3.8	7.7	88.5
16		7.4	3.7	3.7	85.2
17	3.7	3.7		11.1	81.5
18	7.4	11.1	3.7	3.7	74.1
19	8.0	12.0	20.0	8.0	52.0
20	3.7			11.1	85.2
21	7.4	7.4		3.7	81.5
22		3.7		7.4	88.9
23	3.8			3.8	92.3
24		3.7		11.1	85.2
25	3.8	3.8		3.8	88.5
26		3.7		11.1	85.2
27	18.5		7.4	7.4	66.7
28				11.1	88.9
29	7.4		3.7	3.7	85.2
Average	3.4	3.1	3.6	7.6	82.2

Note. N=27.

Table 9

Item Endorsement Frequency of the Modified Abel-Becker Cognition Scale (Old vs. New Condition)

Item #	Percent of Responses in Each Category				
	1	2	3	4	5
1		3.7		22.2	74.1
2				7.4	92.6
3			11.1	7.4	81.5
4			7.4	14.8	77.8
5		3.7	11.1	7.4	77.8
6			3.7	11.1	85.2
7		3.7		7.4	88.9
8		3.8	7.7	15.4	73.1
9				11.1	88.9
10					100
11			11.1	7.4	81.5
12	3.7		11.1	3.7	81.5
13	7.4	14.8	7.4	3.7	66.7
14	3.7	7.4	14.8	7.4	66.7
15		3.7		3.7	92.6
16				7.4	92.6
17	3.7		3.7	7.4	85.2
18	3.7		14.8		81.5
19	19.2	11.5	3.8	7.7	57.7
20				3.7	96.3
21			7.4	3.7	88.9
22	3.7		3.7	7.4	85.2
23			3.8	7.7	88.5
24				7.4	92.6
25	3.8	7.7		3.8	84.6
26	3.7	7.4	3.7	7.4	77.8
27	3.7	7.4	11.1	3.7	74.1
28	7.4			14.8	77.8
29	11.1	3.7	3.7	18.5	63.0
Average	2.6	2.7	4.9	8.0	81.9

Note. N=27.

Dichotomous Scoring

The above analyses indicate that there is a bias in a large proportion of the participant's responses. Approximately 80% of the items were responded to with the endorsement of the *strongly disagree* response alternative. Because of this response bias, it was determined that information obtained from the ABCS may be meaningful if responses to alternatives other than *strongly disagree* are analysed. The current scoring system (i.e., Likert scale from 1 to 5) does not seem to emphasize this point. Total scores on the ABCS are uniformly high because very few individuals *agree* or *strongly agree* with any of the items. However, *neutral* and *disagree* responses may be equally as meaningful given the response set.

To remedy this problem, an alternative scoring system is proposed that corrects for this response bias. This scoring system would have responses from 1 *agree* to 4 *disagree* scored as 1 and the response 5 *strongly disagree* scored as 0. This scoring system will identify those cognitive distortions that the offender does not *strongly disagree* with and provide an ABCS total score in which a higher score indicates a greater number of distortions. The remaining analyses will utilize both scoring systems in an attempt to determine the feasibility of this proposed dichotomous scoring system.

3. Correlation (Total Score). The correlation between the total scores of the ABCS and Modified ABCS was $r = .84$ ($p < .001$) over a 1-week interval. The correlation between the total scores of the ABCS and Modified ABCS when they are scored using the dichotomous scoring system was $r = .88$ ($p < .001$) over a 1-week interval. These large total score correlations indicate that the two scales are highly related.

4. Correlations (Item Scores). The correlations between the ABCS and Modified ABCS items ranged from $r = .14$ to $r = .91$. These item correlations are presented in Table 10. Twenty-three of the 27 item correlations were statistically significant ($p < .05$). When the Likert response scales of the ABCS and Modified ABCS are scored as dichotomous variables the kappa coefficients between scale items range from .11 to .89. Twenty-three of the 27 kappas were statistically significant ($p < .05$). Item numbers 6 and 9 are the only items that have non-significant associations for both standard and dichotomous scoring. This suggests that these items may have been interpreted by the participants as having a different meaning between the original and Modified ABCS.

Table 10

Correlations Between the ABCS and Modified ABCS (Standard and Dichotomous Scoring)

	Standard Scoring (Pearson's <i>r</i>)	Dichotomous Scoring (Kappa Coefficient)
Item #		
1	.38	.42
2	.21	.52
3	.42	.20
4	.43	.43
5	.91	.89
6	.23	.11
7	.63	.34
8	.57	.57
9	.14	.25
10	-	-
11	.55	.60
12	.33	.70
13	.34	.52
14	.50	.47
15	.75	.34
16	.38	.26
17	.51	.60
18	.41	.57
19	.81	.84
20	.18	.36
21	.55	.71
22	.89	.83
23	.88	.77
24	.80	.63
25	.66	.50
26	.47	.51
27	.38	.65
Total Score	.84	.88

Note. $N=27$. All correlations and coefficients above .36 are significant ($p<.05$).
 - = correlation could not be calculated due to zero variance.

5. Test-retest Reliability. The one week test-retest reliability of the Modified ABCS total score ($n=24$) was $r = .99$ ($p < .001$). This can be compared to the reported ABCS total score test-retest reliability of $r = .76$ over a 3-week interval (Abel et al., 1989). The test-retest reliability for each item of the Modified ABCS is presented in Table 11. The reliabilities were all significant and generally high, ranging from $r = .63$ to $r = 1.00$. When the Modified ABCS was scored using the dichotomous scoring system, the total score test-retest reliability was $r = .94$ ($p < .001$). The kappa coefficients for individual items were also generally high, ranging from .30 to 1.00. Only two of the items had a non-significant test-retest reliability. These results indicate that the ABCS and Modified ABCS have comparably good temporal stability.

Table 11

Modified ABCS Test-retest Reliability (Standard and Dichotomous Scoring)

	Standard Scoring (Pearson's <i>r</i>)	Dichotomous Scoring (Kappa Coefficient)
Item #		
1	.95	.65
2	.84	.50
3	.89	.50
4	.96	.89
5	.99	1.00
6	.75	.30
7	.98	.83
8	.63	.69
9	.86	.44
10	.96	.60
11	.92	.75
12	.93	.70
13	.64	.55
14	.87	.57
15	.93	.60
16	.63	.33
17	.89	.80
18	.79	.56
19	.80	.66
20	.98	.86
21	1.00	1.00
22	.87	.81
23	.95	.89
24	.97	.89
25	.64	.64
26	.94	.80
27	.84	.52

Note. $N=24$. All correlations and coefficients above .40 are significant ($p<.05$).

6. Internal Consistency. The distribution and internal consistency for the original and Modified ABCS are presented in Table 12. Cronbach's alpha coefficients and mean inter-item correlations were all high suggesting acceptable item homogeneity; the coefficient alpha and the mean inter-item correlation were, respectively, .93 and .42 for the ABCS, and .97 and .58, for the Modified ABCS using the standard scoring system. When dichotomous scores were used, the coefficient alpha and the mean inter-item correlation were, respectively, .90 and .29 for the ABCS, and .93 and .40, for the Modified ABCS. As well, Table 13 presents the Modified ABCS corrected item-to-total correlations which were uniformly high, with the exception of items 13 and 19, for both standard and dichotomous scoring systems. Both the original and Modified ABCS can therefore be considered a homogeneous, unidimensional scales with acceptable inter-item consistency.²

² **Factor Structure.** An exploratory factor analysis was conducted on the Modified ABCS ($n=89$) which revealed an overall structure that is similar to that found for the original scale. The original ABCS was analysed via a factor analysis which yielded six factors. The *factor based scales* derived from these factors were all considered reliable and valid (Gore, 1988; Abel et al., 1989). However, only the first two factors had Eigenvalues above 1.0 (10.27 and 1.19 respectively), accounting for 35.4 and 4.1 percent of the variance. Consequently, only the first factor accounts for a substantial percentage of the variance. The exploratory factor analysis conducted for the Modified ABCS revealed a similar overall structure with the first unrotated principle component accounting for 60.4% of the variance. Therefore, a large proportion of the variance is accounted for by the first factor in both the ABCS and Modified ABCS. It should be noted that the factor analyses conducted for both the ABCS and Modified ABCS included sample sizes that are considered too small to attain a stable factor structure and therefore should be considered exploratory.

Table 12

Distribution and Internal Consistency of ABCS and Modified ABCS

	Standard Scoring			Dichotomous Scoring		
	Mean (SD)	Alpha	MIC	Mean (SD)	Alpha	MIC
ABCS ^a	125.5 (14.4)	.93	.42	3.54 (4.08)	.90	.29
Modified ABCS ^b	122.4 (17.2)	.95	.52	3.13 (4.94)	.93	.40

Note. ^a N=27. ^b N=89. Alpha = Cronbach's alpha; MIC = mean inter-item correlation.

Table 13

Distribution and Reliability of Modified ABCS Item Scores (Standard and Dichotomous Scoring)

Item #	Standard Scoring		Dichotomous Scoring	
	Mean (SD)	Corrected Item- Total Correlation	Mean (SD)	Corrected Item- Total Correlation
1	4.60 (.80)	.75	.09 (.29)	.65
2	4.85 (.58)	.73	.02 (.15)	.59
3	4.63 (.87)	.71	.09 (.29)	.51
4	4.62 (.91)	.79	.09 (.29)	.62
5	4.59 (.89)	.74	.10 (.31)	.62
6	4.74 (.75)	.76	.05 (.21)	.63
7	4.79 (.72)	.86	.05 (.21)	.80
8	4.53 (.93)	.83	.10 (.30)	.76
9	4.73 (.64)	.87	.05 (.21)	.76
10	4.76 (.73)	.80	.03 (.18)	.78
11	4.59 (.82)	.80	.09 (.29)	.64
12	4.63 (.90)	.72	.08 (.28)	.66
13	3.90 (1.50)	.35	.33 (.47)	.35
14	3.91 (1.41)	.50	.34 (.47)	.43
15	4.64 (.90)	.76	.07 (.25)	.70
16	4.81 (.56)	.82	.02 (.15)	.71
17	4.64 (.89)	.82	.08 (.27)	.73
18	4.43 (1.16)	.70	.15 (.36)	.66
19	3.61 (1.58)	.39	.41 (.49)	.26
20	4.74 (.65)	.72	.03 (.18)	.62
21	4.62 (.78)	.66	.10 (.30)	.50
22	4.65 (.82)	.82	.08 (.28)	.64
23	4.65 (.76)	.78	.07 (.26)	.59
24	4.63 (.78)	.72	.08 (.28)	.63
25	4.50 (1.06)	.52	.11 (.32)	.43
26	4.47 (.97)	.76	.15 (.36)	.60
27	4.15 (1.32)	.50	.23 (.42)	.55

Note. N=89. Alpha = Cronbach's alpha.

8. Social Desirability. Given the tendency of participants to *disagree* or *strongly disagree* with most items, the ABCS and Modified ABCS were examined for social desirability response set. Table 14 presents the correlations of the ABCS and Modified ABCS with the 2 scales of the Balanced Inventory of Desirable Responding: Self Deception and Impression Management. All of the correlations were similarly small and non-significant.

The correlations between social desirability and the individual items of the original and Modified ABCS were also investigated. One item of the original ABCS and 6 items of the Modified ABCS were significantly correlated with one of the BIDR scales. However, all of the correlations were small and non-significant when corrected for an inflated Type I error rate using the Bonferroni procedure (see Appendix G).

Table 14

Correlations Between ABCS, Modified ABCS and Social Desirability Variables

	BIDR Self Deception	BIDR Impression Management
ABCS ^a	.17	.14
Modified ABCS ^b	.13	.14

Note. ^a N=21. ^b N=89. All correlations NS. BIDR= Balanced Inventory of Desirable Responding

Omission of Items

Based on the analyses just presented, there appears to be sufficient justification for eliminating 5 of the items in both the original and Modified ABCS. Items 28 and 29 were not presented in the analyses because the content of these items are not cognitive distortions, but rather, questions regarding sex offender treatment. Although they may be clinically useful, they are not consistent with the intention of the scale. As well, there is psychometric justification for the elimination of items 13, 19, and 27. These items have endorsement frequencies that are inconsistent with the other items. As well, items 13 and 19 both have low item-total correlations. Previous research conducted using the ABCS has explained these differences by indicating that these items have ambiguous meanings (Langevin, 1991; Schweighofer, 1993). For example, question 13 states "An adult can tell if having sex with a young child will emotionally damage the child in the future." According to Abel, agreement with this item indicates a deviant response. However, an offender could respond *strongly agree* to this statement if he believed sexual relations with an adult would damage a child (Schweighofer, 1993). Items 19 and 27 could be similarly misinterpreted. The ambiguity of these items results in interpretations and responses that are counter to the test authors' intent. Therefore, the exclusion of items 13, 19, 27, 28, and 29 eliminates some of the tests ambiguity while also increasing its psychometric integrity.

Discussion

The two studies presented were designed to improve the readability of the ABCS and investigate the comparability of the rewritten items to the original items they were designed to replace. Study I demonstrated that the Modified ABCS has improved readability compared to the original, suggesting that the Modified ABCS is suitable for use with offenders, specifically IDSOs, with reading levels as low as grade 4 or 5. Study II demonstrated that the Modified ABCS is psychometrically comparable to the original. The pattern of response alternative endorsement is similar for both scales when analysed at the level of total score and individual item responses. As well, the total score and item correlations were adequate for both the standard and dichotomous scoring systems. Although a factor analysis with such a small sample size can only be considered exploratory, the large proportion of variance accounted for by the first factor in the Modified ABCS is comparable to the factor structure reported for the original. In addition, the test-retest reliability and internal consistency of the Modified ABCS is acceptable and similar to the original scale (Abel et al., 1989). Finally, the original and Modified ABCS had comparably small correlations with measures of social desirability, thus demonstrating similar divergent validity.

The simplification of the original 5-point Likert scale into a dichotomous scoring system appears to have had only minor psychometric consequences. The test-retest reliabilities for the Modified ABCS are lower for the dichotomous scoring than the standard scoring, however, only two of these were reduced to a level of non-significance. As well, the internal consistency of both the original and Modified ABCS is slightly

reduced when the dichotomous system is used. Consequently, the psychometric properties of the scales are slightly weakened when items are scored dichotomously but remain acceptable.

The benefits to the dichotomous scoring system are twofold. First, when the scale is used for clinical purposes, it is more likely that an individual's cognitive distortions will be identified. Although an offender may be reluctant to respond *strongly agree* to an item, any response other than *strongly disagree* provides clinical information that indicates the offender may believe the distortion. The dichotomous scoring system enables these to be identified, thus reducing extremity bias. The second benefit to the dichotomous scoring system is that the individual's total score becomes an indicator of the number of distortions to which the offender adheres. Consequently, it becomes a more meaningful indicator of the degree of pathological thinking. Although the dichotomous scoring system has weaker psychometric properties, it is an alternative that should be considered in clinical use and future research.

Another modification that was considered for the ABCS was the elimination of a number of the original items. The omission of items 13, 19, 27, 28, and 29 decreases the length of the ABCS and eliminates some of its ambiguity. As well, the psychometric properties of these items suggests that their elimination will not have an adverse effect. Therefore, future versions of the original or Modified ABCS should consider omitting these items.

Response Bias of the ABCS and Modified ABCS

One of the limitations of both the original and Modified ABCS is their susceptibility to response bias. On average, 75-85% of the items were responded to with *strongly disagree* and 25-45% of participants who were promised confidentiality still denied belief in any cognitive distortions. These findings are consistent with Langevin's (1991) sample of pre-trial offenders who were not promised confidentiality. As well, Gore (1988) reported that 10-30% of the subjects in the original sample scored perfectly at pre-treatment. Therefore, it seems as though the face validity of the ABCS makes it an easy assessment instrument to manipulate.

Conversely, other authors have suggested reasons other than denial for the low rate of endorsement to the ABCS items. Neidigh and Krop (1992) reported that only 42% of a sample of offenders who completed the ABCS prior to commencing treatment acknowledged a belief in any of the items. The mean number of items endorsed in this sample was 1.8. In contrast, when the same offenders were given an open ended questionnaire, all respondents produced at least one cognitive distortion with the mean number of distortions identified being 3.5. These researchers suggested that sex offenders may not adhere to the deeper dysfunctional rules or beliefs found in the ABCS items, but rather, they may distort their surface level cognitions so that they can see their situation as a "special case."

Schweighofer (1993) indicated that an additional shortcoming of the ABCS is the limited content of items included on the scale. The literature suggests that there are two types of rationalizations for sexual offending that are invoked to allay guilt and anxiety: justificatory and excusatory. Justificatory statements are rationalizations which admit

that the act was committed but for various reasons it was not wrong. An example of this kind of statement is: "My relationship with my daughter is strengthened by the fact that we have sex together." Excusatory statements acknowledge that an act was wrong but that the offender bears no or only partial responsibility for it. An example of such a statement is: "I was high or drunk at the time I touched her." It would appear that assessment of both types of rationalizations would be needed to examine how sex offenders defend their behaviour. Yet, the ABCS includes only items with justificatory content. This compromises the content validity of the ABCS (Schweighofer, 1993). The extent of this compromise is demonstrated by Pollock and Hashmall (1991) who found that 83% of the child molesters they studied ascribed to either situational or psychological excuses for their offences.

Another explanation for the low rate of endorsement of the ABCS items is the possibility that cognitive distortions may not be a necessary component of child molestation. One of the fundamental assumptions of Abel's research is that sexual offenders initially feel guilt and anxiety regarding their sexual deviancy. The need to allay these feelings then leads to the development of cognitive distortions (Abel et al., 1989). This assumption is arguable. For example, psychopathic individuals have been described as feeling little guilt or anxiety for the crimes they commit (Hare, 1991). Therefore, sex offenders who are psychopathic may have no need to develop cognitive distortions. Estimates in the literature suggests that approximately 15% of child molesters are psychopathic (Prentky & Knight, 1991). As well, there is some evidence to indicate that even some sex offenders who are not psychopathic may not feel the guilt and anxiety that has been ascribed to them (O'Carroll, 1980).

In summary, it appears as though there are a number of possible reasons why so few offenders endorse the items of the ABCS. One reason may be that offenders are unwilling to reveal the deeply held beliefs that defend their behaviour. Additionally, the ABCS may not include items that tap these beliefs. Finally, it is possible that a proportion of child molesters do not feel guilt or anxiety regarding their behaviour and therefore do not need to develop beliefs to allay these feelings.

The Effect of Social Desirability

Each of the participants in this study completed the Balanced Inventory of Desirable Responding (BIDR) to control for a social desirability response set. However, the BIDR was not significantly correlated with either the ABCS or the Modified ABCS. This result is consistent with recent research that also found no relationship between social desirability and endorsement of cognitive distortions (Bumby, 1996).

Interpretation of non-significant correlations with measures of social desirability should be made with caution. In his research, Bumby (1996) indicated that the lack of a significant correlation with the Marlowe-Crowne Social Desirability Scale indicates that the MOLEST Scale is "free from a socially desirable response bias" (p. 45). This may be an overstatement. The construct that the Marlowe-Crowne and BIDR attempt to measure is a global social desirability response set. However, scales like the ABCS and the MOLEST Scale are measuring very specific beliefs. Therefore, it is possible for an individual to respond to the ABCS or MOLEST Scale with socially desirable responses without scoring high on measures of social desirability. An individual can present the impression that they disagree with child molestation without having to present an overall

positive impression of themselves. Consequently, clinicians and researchers should be cautious when interpreting a lack of significant correlation with measures of social desirability, as this may not necessarily mean that the scale is free from this type of response bias.

The Direct Assessment of Cognitive Distortions

It must be acknowledged that the direct assessment of cognitive distortions necessarily poses measurement difficulties that may be very difficult to overcome. Sex offenders undergoing assessment and treatment, particularly if mandated by the criminal justice system, have much to gain by appearing as socially appropriate as possible.

Clinicians and researchers interested in the cognitive distortions of child molesters appear to assume that some offenders are honest in their admission to distorted beliefs. There are a number of offenders who may admit to having distorted beliefs about adult-child sexuality. Some offenders may be unaware of the strict social norms against the practice. Other offenders can be righteously indignant towards those social norms and are therefore proud to admit to these beliefs. A third group are those who believe that their admission to cognitive distortions has few, if any, consequences. Finally, there are those offenders who believe that they have a problem and are attempting to change their beliefs and behaviour. Researchers and clinicians assume that cognitive distortions can be measured directly in these groups of offenders. However, even within these groups, there is reason to doubt the validity of the offender's responses. For example, even in offenders who are righteously indignant we can expect responses to be manipulated by the offender with strong enough motivation to do so. As well, there are very few

instances when an offender's admission to distorted beliefs has no consequences.

Researchers often make the assumption that honest responses are generated when an offender is assured confidentiality. There are two reasons why this is untrue. First, it is possible for an offender to not believe that their responses are confidential, yet participate in a research project for fear that their refusal would be counted as a mark against them. In this case, the offenders responses are influenced by a threat against themselves personally. Secondly, an offender may believe that their responses are confidential, yet not respond honestly for fear that their admission to distorted beliefs would be used against sex offenders as a group generally. In this case, the fear that motivates dishonest responding is that a mark against sex offenders generally would eventually count against them personally. Therefore, it appears that any attempts to directly assess the cognitive distortions of sex offenders may be open to manipulation.

The socially appropriate answers on the ABCS are highly transparent. If we desire to measure the specific distortions that an offender may subscribe to, the direct approach advocated by the ABCS may be necessary. However, Burt's (1980) research has raised the possibility of using indirect measures to determine the likelihood that an individual subscribes to distorted beliefs. He illustrated that an individual's tendency to hold rigid sex role stereotypes, adversarial sexual beliefs, to be sexually conservative, and to accept interpersonal violence gives an indication of whether they will subscribe to cognitive distortions about rape. An alternative approach like this may need to be developed for use with child molesters because the direct assessment approach may simply be too crude to measure the constructs we are interested in.

The Applicability of the ABCS and Modified ABCS

The ABCS and Modified ABCS may be appropriate for evaluating cognitive distortions in sex offenders who admit to deviancy. Prior to beginning treatment, these measures can be used to help discern the offenders beliefs about adult-child sexuality. Of course, the information that the clinician receives from the completed inventory should not be assumed to be truthful. It is possible for the offender to have motivation to both deny actual beliefs or admit to more distorted beliefs for purposes of impression management. The latter situation could occur if an offender believed that he was going to be evaluated pre- and post-treatment and the goal was to demonstrate improvement.

The ABCS could be used to promote discussion and disclosure of cognitive distortions in sex offender treatment groups. In a study of brief group treatment for the modification of denial in child sexual abusers, O'Donohue and Letourneau (1993) reported that the ABCS was useful in helping their group focus on the distorted beliefs commonly found in child abusers. The identification of these beliefs can then be followed by a discussion of why these beliefs are irrational.

There are a number of situations where the use of the ABCS or Modified ABCS would be inappropriate. First, because of the face valid nature of the questionnaires, they should only be used as a measure of change in treatment with caution. As well, research conducted using the ABCS has been unable to show a strong differences between groups of offenders, suggesting that the test would be inappropriate to use in an attempt to determine if a given individual is a sexual offender. In its original and modified form, the ABCS does not have sufficient discriminatory power to allow for such a use.

Recommendations for Future Measures of Cognitive Distortions

In the clinical literature, the treatment goal of modifying cognitive distortions is discussed frequently. There is also a consensus that assessment tools are needed in order to effectively evaluate whether this goal has been achieved. Yet, there is little research to this end. Cognitive distortions have not been effectively assessed; however, clinicians frequently resort to instruments such as the ABCS that have very little validation. In this regard, the Modified ABCS has not improved on many of the shortcomings of the original ABCS.

It is clear that a need exists for a reliable and valid measure of cognitive distortions for sex offenders in general and IDSOs in particular. However, research thus far has been unable to provide such an instrument. Assessment instruments like the ABCS and Modified ABCS need to be refined further. Suggestions for future modifications include the following:

- 1) The direction of some items should be reversed to counter acquiescent or nay-saying response styles.
- 2) All known categories of distortion should be represented, including excuses, justifications, and items such as, "How my sexual behaviour affects others really doesn't bother me."

To conclude, the Modified ABCS appears to be an improvement when compared to the original. The increased readability of the Modified ABCS suggests that it is more appropriate for use with offenders such as IDSOs who have been identified as having poor reading abilities (Clare, 1993). As well, the psychometric comparability of the

original and Modified ABCS suggests that the two scales measure the same construct.

However, the validity of the Modified ABCS in this regard should be established

empirically.

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Appendix A

Abel-Becker Cognition Scale

Read each of the statements below carefully, and then circle the number that indicates your agreement with it.

1. Strongly Agree
2. Agree
3. Neutral (neither agree or disagree)
4. Disagree
5. Strongly Disagree

- | | |
|---|-----------|
| 1. If a young child stares at my genitals it means the child likes what she (he) sees and is enjoying watching my genitals. | 1 2 3 4 5 |
| 2. A man (or woman) is justified in having sex with his (her) children or step-children, if his (her) wife (husband) doesn't like sex. | 1 2 3 4 5 |
| 3. A child 13 or younger can make her (his) own decision as to whether she (he) wants to have sex with an adult or not. | 1 2 3 4 5 |
| 4. A child who doesn't physically resist an adult's sexual advances, really wants to have sex with the adult. | 1 2 3 4 5 |
| 5. If a 13 year old (or younger) child flirts with an adult, it means he (she) wants to have sex with the adult. | 1 2 3 4 5 |
| 6. Sex between a 13 year old (or younger child) and an adult causes the child no emotional problems. | 1 2 3 4 5 |
| 7. Having sex with a child is a good way for an adult to teach the child about sex. | 1 2 3 4 5 |
| 8. If I tell my young child (step-child or close relative) what to do sexually and they do it, that means they will always do it because they really want to. | 1 2 3 4 5 |
| 9. When a young child has sex with an adult, it helps the child learn how to relate to adults in the future. | 1 2 3 4 5 |

1. Strongly Agree
2. Agree
3. Neutral (neither agree or disagree)
4. Disagree
5. Strongly Disagree

- | | |
|---|-----------|
| 10. Most children 13 (or younger) would enjoy having sex with an adult, and it wouldn't harm the child in the future. | 1 2 3 4 5 |
| 11. Children don't tell others about having sex with a parent (or other adult) because they really like it and want it to continue. | 1 2 3 4 5 |
| 12. Sometimes in the future, our society will realize that sex between a child and an adult is all right. | 1 2 3 4 5 |
| 13. An adult can tell if having sex with a young child will emotionally damage the child in the future. | 1 2 3 4 5 |
| 14. An adult just feeling a child's body all over without touching her (his) genitals is not really being sexual with the child. | 1 2 3 4 5 |
| 15. I show my love and affection to a child by having sex with her (him). | 1 2 3 4 5 |
| 16. It's better to have sex with your child (or someone else's child) than to have an affair. | 1 2 3 4 5 |
| 17. An adult fondling a young child or having the child fondle the adult will not cause the child any harm. | 1 2 3 4 5 |
| 18. A child will never have sex with an adult unless the child really wants to. | 1 2 3 4 5 |
| 19. My daughter (son) or other young child knows that I will still love her (him) even if she (he) refuses to be sexual with me. | 1 2 3 4 5 |
| 20. When a young child asks an adult about sex, it means she (he) wants to see the adult's sex organs or have sex with the adult. | 1 2 3 4 5 |

1. Strongly Agree
2. Agree
3. Neutral (neither agree or disagree)
4. Disagree
5. Strongly Disagree

- | | |
|---|-----------|
| 21. If an adult has sex with a young child it prevents the child from having sexual hang-ups in the future. | 1 2 3 4 5 |
| 22. When a young child walks in front of me with no or only a few clothes on, she (he) is trying to arouse me. | 1 2 3 4 5 |
| 23. My relationship with daughter (son) or other child is strengthened by the fact that we have sex together. | 1 2 3 4 5 |
| 24. If a child has sex with an adult, the child will look back at the experience as an adult and see it as a positive experience. | 1 2 3 4 5 |
| 25. The only way I could do harm to a child when having sex with her (him) would be to use physical force to get her (him) to have sex with me. | 1 2 3 4 5 |
| 26. When children watch an adult masturbate, it helps the child learn about sex. | 1 2 3 4 5 |
| 27. An adult can know just how much sex between him (her) and a child will hurt the child later on. | 1 2 3 4 5 |
| 28. If a person is attracted to sex with children, he (she) should solve that problem themselves and not talk to professionals. | 1 2 3 4 5 |
| 29. There is no effective treatment for child molestation. | 1 2 3 4 5 |

Appendix B

Modified Abel-Becker Cognition Scale

Read each of the statements below. Then circle the number that matches how you think about it.

1. Strongly Agree
2. Agree
3. Neutral (don't really agree or disagree)
4. Disagree
5. Strongly Disagree

- | | |
|---|-----------|
| 1. If a child looks at my crotch it means they know and like what they are doing. | 1 2 3 4 5 |
| 2. It is O.K. for a man to have sex with his child if his wife or girlfriend does not like sex. | 1 2 3 4 5 |
| 3. Children can make up their own minds if they want to have sex with an adult. | 1 2 3 4 5 |
| 4. If a child does not fight off an adult it means they want to have sex. | 1 2 3 4 5 |
| 5. If a child flirts with an adult it means they want to have sex. | 1 2 3 4 5 |
| 6. When an adult has sex with a child it does not hurt the child's feelings. | 1 2 3 4 5 |
| 7. Having sex with a child is a good way for the child to learn about sex. | 1 2 3 4 5 |
| 8. If a child does what I want them to do sexually once, it means they will always want to. | 1 2 3 4 5 |

1. Strongly Agree
2. Agree
3. Neutral (neither agree or disagree)
4. Disagree
5. Strongly Disagree

- | | |
|---|-----------|
| 9. When a child has sex with an adult, it helps the child get along with adults in the future. | 1 2 3 4 5 |
| 10. Most children would like to have sex with an adult, and it won't hurt them in the future. | 1 2 3 4 5 |
| 11. Children do not tell about having sex because they like it and want it more. | 1 2 3 4 5 |
| 12. In the future, people will think that sex between a child and an adult is O.K. | 1 2 3 4 5 |
| 13. An adult can tell if having sex with a child is going to hurt the child in the future. | 1 2 3 4 5 |
| 14. When you feel a child's body it is not being sexual unless you touch the child's sex parts. | 1 2 3 4 5 |
| 15. I show my love to children by having sex with them. | 1 2 3 4 5 |
| 16. It is better to have sex with a child than to have an affair. | 1 2 3 4 5 |
| 17. Just touching a child's sex parts or having them touch you won't hurt the child. | 1 2 3 4 5 |
| 18. A child won't have sex with an adult unless the child wants to. | 1 2 3 4 5 |
| 19. Children know that I still love them even if they don't want to have sex with me. | 1 2 3 4 5 |
| 20. When children ask adults about sex it means they want to have sex with them. | 1 2 3 4 5 |

1. Strongly Agree
2. Agree
3. Neutral (neither agree or disagree)
4. Disagree
5. Strongly Disagree

- | | |
|---|-----------|
| 21. When children have sex with an adult it stops them from being scared of sex in the future. | 1 2 3 4 5 |
| 22. If a child walks around with no clothes on it means they are trying to turn me on. | 1 2 3 4 5 |
| 23. When I have sex with a child it makes my relationship with them better. | 1 2 3 4 5 |
| 24. If a child has sex with an adult they will grow up and think back on it as a good experience. | 1 2 3 4 5 |
| 25. The only way to hurt a child while having sex with them is by using force. | 1 2 3 4 5 |
| 26. When children watch adults play with themselves it helps the child learn about sex. | 1 2 3 4 5 |
| 27. Adults know just how much sex will hurt the child later on. | 1 2 3 4 5 |
| 28. Adults who like sex with children should solve that problem on their own and not talk to others about it. | 1 2 3 4 5 |
| 29. There is no good treatment for child molesters. | 1 2 3 4 5 |

- ___ 18. I have sometimes doubted my ability as a lover.
- ___ 19. It's all right with me if some people happen to dislike me.
- ___ 20. I don't always know the reason why I do the things I do.
- ___ 21. I sometimes tell lies if I have to.
- ___ 22. I never cover up my mistakes.
- ___ 23. There have been occasions when I have taken advantage of someone.
- ___ 24. I never swear.
- ___ 25. I sometimes try to get even rather than forgive and forget.
- ___ 26. I always obey laws, even if I'm unlikely to ever get caught.
- ___ 27. I have said something bad about a friend behind his or her back.
- ___ 28. When I hear people talking privately, I avoid listening.
- ___ 29. I have received too much change from a salesperson without telling him or her.
- ___ 30. I always declare everything at customs.
- ___ 31. When I was young sometimes I stole things.
- ___ 32. I have never dropped litter on the street.
- ___ 33. I sometimes drive faster than the speed limit.
- ___ 34. I never read sexy books or magazines.
- ___ 35. I have done things that I don't tell other people about.
- ___ 36. I never take things that don't belong to me.
- ___ 37. I have taken sick-leave from work or school even though I wasn't really sick.
- ___ 38. I have never damaged a library book or store merchandise without reporting it.
- ___ 39. I have some pretty awful habits.
- ___ 40. I don't gossip about other people's business.

Appendix D

Participant Information

1. How old are you? _____ years.
2. How much education have you had? Highest education _____
3. What is your current offence(s)? _____
4. If your conviction was for sexually assaulting a minor:
 - were you related to the child(ren) or serving the role of father?
 - _____ yes
 - _____ no
 - what was the gender of the child(ren)?
 - _____ male
 - _____ female
 - _____ both
 - of what age was the child(ren)?
 - _____ 0-5
 - _____ 6-10
 - _____ 11-15
 - _____ 16-18
5. For what sexual offense(s) have you been previously convicted?
 - _____ I have not been previously convicted
 - _____ sexually assaulting a minor
 - _____ raping an adult woman
 - _____ exposing yourself in public
 - _____ obscene phone calls
 - _____ other (specify) _____
6. Are you presently in a treatment program for sexual offenders?
 - _____ yes - if yes, for how long? _____ months.
 - _____ no
7. Have you been in a treatment program for sexual offenders on a previous occasion?
 - _____ yes
 - _____ no
 - if yes, what is the total amount of time that you have been in treatment programs?

_____ less than 1 month	_____ 4-8 months
_____ 1-4 months	_____ 8-12 months
_____ over 12 months	

Appendix E

Information for Study Participants

I would like to invite you to participate in a study investigating your thoughts about sexual relations. This study is part of my masters thesis in clinical psychology at Simon Fraser University. The study is being conducted by David Kolton and is supervised by Dr. David Cox of Simon Fraser University. Your Involvement will be greatly appreciated but you are under no obligation to participate.

EXPLANATION OF PROCEDURES: If you decide to participate in this study, you will be asked to complete four short questionnaires. Your answers are anonymous and confidential. You should not put your name on the questionnaires. There are questions designed to measure honesty, so be as honest as possible. After you have finished you can put your questionnaires in an envelope and seal it. Nobody at this institution will see your answers - not even the person giving you the questionnaires. These will be sent to me. Your answers will only be used for research purposes.

POTENTIAL RISKS AND DISCOMFORTS: There are no risks associated with participating. This research project is separate from the day-to-day operations of this institution, the information we obtain about you will not be made available to anyone in the criminal justice system.

POTENTIAL BENEFITS: There are no direct benefits to you from this research other than knowledge that you may help us learn more about how to measure beliefs, and make treatment programs better. Your decision to participate in the study--or not to participate in the study--will have no effect on your stay at this institution. By filling out the questionnaires you will have an opportunity to explore your beliefs about sexual relations. By so doing, and perhaps later discussing them in your treatment group, you will have a chance to think about how such beliefs effect your behaviour. This will hopefully help in your treatment.

CONFIDENTIALITY OF DATA: Any information that is obtained during the study will remain confidential. You will not be writing your name or any other identifying information on the research material.

WITHDRAWAL FROM THE STUDY: Participation is voluntary. Your decision whether or not to participate will not affect your current or future relationship with this institution or with any other branch of the criminal justice or mental health system.

OFFER TO ANSWER QUESTIONS: If you have any questions, please feel free to ask the interviewer. If you have any questions later you may call the investigator listed on the next page. Thank you for your time and interest.

Sincerely,

David Kolton B.A.(Hons.)
Simon Fraser University

Appendix F

Informed Consent by Study Participants

The university and researcher conducting this study subscribe to the ethical conduct of research and to the protection at all times of the interests, comfort, and safety of participants. This form and the preceding information sheet are given to you for your benefit and full understanding of the procedures involved. Your signature on this form will ensure that you have received all information necessary to give an informed consent to your participation. Any complaints may be brought to the attention of the principle researcher, the project supervisor, or the Chair of the Psychology Department, Dr. Christopher D. Webster, at (604) 291-3354.

Copies of the results of this study, upon completion, may be obtained by contacting David Kolton at (604) 291-3354.

"Having been asked by David Kolton of Simon Fraser University to participate in a research project, I have been informed of the procedures of the study by the researcher, and by reading the first page of this informed consent form. I understand that I may withdraw at anytime, and that all information will be anonymous and confidential. I agree to participate by completing the questionnaires required for this study."

Name (please print): _____

Signature: _____

Date: _____

Appendix G

Correlations between Social Desirability (BIDR) and the Original and Modified ABCS Items.

Item #	Original ABCS ^a		Modified ABCS ^b	
	Self-Deception	Impression Management	Self-Deception	Impression Management
1	.42	.36	.22	.22
2	.12	.14	.10	.07
3	.18	.18	.11	.04
4	.21	.17	.16	.08
5	.24	.18	.21	.11
6	.41	.15	.10	.21
7	.08	.23	.16	.18
8	-.02	.17	.17	.26
9	.14	.16	.15	.19
10	.25	.13	.14	.16
11	.17	.18	.18	.19
12	.02	.12	.18	.07
13	-.13	-.48	-.02	-.12
14	.25	.19	.01	.02
15	.30	.21	.15	.10
16	.04	.20	.08	.14
17	.11	.20	.20	.21
18	.16	.16	.19	.20
19	-.04	0.0	-.10	-.06
20	.03	.10	.10	.11
21	-.00	-.05	.04	.19
22	.17	.21	.18	.22
23	-.10	.04	.16	.22
24	.41	.12	.04	.18
25	.15	.18	-.11	-.04
26	.26	.25	.05	.11
27	-.30	-.28	-.03	-.15
28	.28	.17	.07	.04
29	-.38	-.22	.06	.07

Note. ^a $N=21$; All correlations above .47 are significant ($p < .05$). ^b $N=89$; All correlations above .21 are significant ($p < .05$). All correlations are non-significant when corrected for column-wise error rate using the Bonferroni procedure ($p < .05$).