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Creating an Expected Profile for Affinity 2.5 from a Sample of Non-pedophilic, Exclusively Heterosexual, College Age Males

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CREATING AN EXPECTED PROFILE FOR AFFINITY 2.5 FROM A SAMPLE OF NON-PEDOPHILIC, EXCLUSIVELY HETEROSEXUAL, COLLEGE-AGE MALES

by

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BRIGHAM YOUNG UNIVERSITY

GRADUATE COMMITTEE APPROVAL

of a dissertation submitted by
RD Boardman

This dissertation has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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As chair of the candidate's graduate committee, I have read the dissertation of RD Boardman in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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ABSTRACT

CREATING AN EXPECTED PROFILE FOR AFFINITY 2.5 FROM A SAMPLE OF NON-PEDOPHILIC, EXLCUSIVELY HETEROSEXUAL, COLLEGE-AGE MALES

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The Affinity 2.0 has been recently upgraded to the Affinity 2.5. Both instruments purport to measure sexual interest using viewing time as a form of measurement using non-pornographic images of people of varying ages and genders. The Affinity 2.5 increased the number of slides by 42.9%. This increase may have impacted the expected Chi square weights established for the Affinity 2.0 for non-pedophilic, exclusively heterosexual males. The purpose of this study was to create new expected Chi square weights for the Affinity 2.5 for non-pedophilic, exclusively heterosexual males. Additionally, this study re-examined the temporal stability of the Affinity 2.0 using a Chi-square procedure instead of traditional correlational procedures. The Affinity 2.5 was administered to 50 self-reported non-pedophilic, exclusively heterosexual males. The results of this study indicated that the expected Chi-square weights created for the Affinity 2.5 were extremely similar to the weights created for the Affinity 2.0. The re-examination of the temporal stability of the Affinity 2.0 using Chi-square procedures demonstrated that 76.6% of subjects were consistent in their responses from time-1 to time-2.

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I wouldn't be here without great parents who taught me to not give up and to pursue my dreams. I appreciate all their support and hope to make my mother, father, and brother proud.

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find a way to reciprocate the kindness he has shown me, in the days to come as we continue as friends and colleagues.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Introduction

Between 1998 and 1999, there were approximately 279,990 registered sex offenders in all 50 states and in the District of Colombia (Bureau of Justice Statistics, 2002). In 2006 alone, it was estimated that 1 out of every 1000 persons age 12 or over was a victim of sexual assault or rape (Bureau of Justice Statistics, 2006). Additionally, in a nationally representative sample of children and youth ages 2 to 17 years, it was found that 1 in 12 (82 per 1,000) had experienced sexual victimization (Finkelhor, Ormrod, Turner, & Hamby, 2005).

Many sexual offenses are perpetrated by individuals who have deviant sexual interests. Meta-analyses have shown that one of the strongest predictors of sexual offense recidivism is sexual deviancy such as prior sexual offenses and deviant sexual interests (Hanson & Bussiere, 1998; Hanson & Morton-Bourgon, 2005; Whitaker et al., 2008). According to Hanson and Bussiere (1998), "deviant sexual interests refer to enduring attractions to sexual acts that are illegal (e.g., sex with children, rape) or highly unusual (e.g., fetishism, autoerotic asphyxia)" (p. 2). Thus, sexual deviance can be conceptualized as sexual behavior that is determined to be illegal, as well as sexual interests that deviate from socially and legally acceptable norms.

Society's efforts to prevent sexual offenses and treat sexual deviance are enhanced by improving the assessment of sexual interests. Specifically, assessments measure the sexual interests of an individual and then assist the assessor to determine whether such interests deviate from legally and socially acceptable sexual interests. Assessment can assist in screening and diagnosing sexual interests, and evaluating the treatment of sexual deviance. Assessment can also be helpful within a judicial setting by

giving supportive evidence for or against a defendant accused of a sexual crime (Fischer & Smith, 1999).

Background

There are a number of methods currently used to assess sexual interests. These assessments include the penile plethysmograph (PPG), clinical interviews, analysis of records, self-report, and measures of sustained visual attention (Laws, 1989; Quinsey, Rice, Grant & Reid, 1993). Each of these assessments of sexual interest have potential problems of dissimulation, invasiveness, or the mere subjectivity of the measurement that give rise to questioning the validity and/or reliability of the assessment (Marshall, 1996; Quinsey, et al., 1993). Of the five aforementioned assessment methods however, sustained visual attention appears to be the least problematic in assessing sexual interest due to its less subjective, non-invasive, surreptitious measurement of an individual's sexual interests and potential deviance without using sexually explicit materials (Fischer, 2000).

Assessments using sustained visual attention as a measure of sexual interest are based on research that has shown that the amount of time an individual views a sexually primed photograph can be correlated with the viewer's sexual interests. Studies using sustained visual attention have been shown to successfully discriminate between groups of homosexual and heterosexual males and females, child molesters and non-offending males, high and low sex guilt groups, and sexually interested and uninterested patients (Harris, Rice, Quinsey & Chaplin, 1996; Love, Sloan & Schmidt, 1976; Quinsey, Ketsetzis, Earls & Karamanoukian, 1996; Quinsey, et al., 1993; Rosenzwieg, 1942; Wright & Adams, 1994). [While the term *homosexual* is currently viewed as a negative

label by the gay and lesbian community (Advert, 2009), the researcher will use it in discussing former research as it pertains to the researchers' constructs.]

There are currently two standardized instruments that use sustained visual attention as a measure of sexual interest. The Abel Assessment for Sexual Interest (AASI; Abel, Huffman, Warberg & Holland, 1998) is one of those instruments that claim sustained visual attention as a measure of sexual interest. Upon scrutinizing this instrument, questions arise concerning its psychometric properties. These include the instrument's data format, supposed normative interpretation, temporal stability, validity, reliability, arbitrary establishment of what is clinically significant without a normative baseline (Ewing, 2005; Fischer, 2000; Fischer & Smith 1999) and the possibility for subject dissimulation (Gray, 1999). Another important psychometric concern is the AASI's use of ipsative scores which negate the possibility of comparing an individual to a reference group. Further research and analysis of the AASI is restricted due to the inaccessibility of AASI's raw data (Fischer & Smith, 1999).

The second standardized instrument that measures sustained visual attention is the Affinity 2.0 (Glasgow, 2003). Similar to the AASI, this relatively new measurement of sexual interest is a computer-based instrument that covertly measures sustained visual attention using images of fully clothed individuals varying in age and gender. Again, similar to the AASI, the Affinity 2.0 does not require an intrusive method for gaining insight to the sexual interests of the participant. Both, in using a non-intrusive measurement, as well as using images that do not use nudes or suggestive material, the Affinity 2.0 is an instrument that can be ethically used with children, adolescents, and adults. Unlike the AASI, the Affinity 2.0 allows researchers and clinicians to have

complete access to the raw data. Researchers are thus able to do a complete psychometric analysis of the Affinity 2.0 and assist in furthering the research in measuring sexual interest.

Researchers have gathered and established reasonably temporally stable patterns of responses using the Affinity 2.0 with non-pedophilic, exclusively heterosexual males and females (Crosby, 2007; Harmon, 2006). Others have compared the Affinity 2.0 with the penile plethysmograph (PPG) and found reasonable concordance between the two instruments (Cloyd, 2007). Worling (2006) suggested that his study with known adolescent sex offenders provided evidence that the Affinity may be useful in identifying sexual interests of adolescent male offenders.

Standardized instruments of sexual arousal (PPG) and sustained visual attention (AASI and Affinity) create ipsative scores. Johnson, Wood, and Blinkhorn (1988) critiqued the use of ipsative scores in personality tests. Clemans (1966), Closs (1996), Cornwell and Dunlap (1994), Fischer (2004), Fisher and Smith (1999), Glasgow and Fischer (2006a), and Glasgow and Fischer, (2006b) echoed those concerns regarding the use of ipsative scores in the assessment of sexual interests. Due to the problems associated with using ipsative data in the assessment of sexual interest (Fischer, Byrne, & Glasgow, 2007; Fischer & Morgan, 2006), a Chi-square approach has been developed as an alternative scoring procedure that uses Chi-square logic to compare an observed pattern of ipsative scores to an expected pattern of scores. This logic requires reference group responses to a standardized instrument which become the expected Chi-square weights used for future comparisons. All of Fischer's analyses were based on Affinity 2.0.

Although the Affinity 2.0 is a promising measurement of sexual interests, the Affinity 2.0 has been upgraded to Affinity 2.5 (Glasgow, 2007). Affinity 2.5 includes a 42.9% increase in the number of photographic images. Davies, Lewing, and Simons (2008) conducted a study of the concordance between the AASI-2 and the Affinity 2.5. They found little differences between the two assessments and concluded that the Affinity is comparable to the AASI-2 in its ability to measure sexual interests. However, due to the significant increase in the number of images contained in the Affinity 2.5, new reference group data for non-pedophilic, exclusively heterosexual males must be established to create accurate Chi-square weights (proportion means) that reflect expected responses to Affinity 2.5 as was done with Affinity 2.0 (Crosby, 2007).

Furthermore, since the compilation of the original reference group data for non-pedophilic exclusively heterosexual males with Affinity 2.0, Fischer has developed a Chi-square approach that may assist in evaluating the temporal stability of the original reference group data collected using the Affinity 2.0. This analysis may clarify more specifically how reliable the Affinity 2.0 was at the time the data were collected and give indications of how reliable Affinity 2.5 may be.

Statement of Problem

There are two problems that need to be addressed:

1. Due to the upgrades made from Affinity 2.0 to Affinity 2.5, an expected reference group pattern and Chi-square weights of non-pedophilic, exclusively heterosexual males' responses must be established.
2. Since the original reference group data was collected for the Affinity 2.0, a deeper analysis of the test-rest reliability of non-pedophilic exclusively heterosexual

male responses to Affinity 2.0 that will offer further understanding to the potential temporal stability of the Affinity 2.5's normative data.

Statement of Purpose

The purpose of this study is two-fold:

1. Establish an accurate expected reference group pattern and the Chi-square weights for non-pedophilic, exclusively heterosexual males using Affinity 2.5.
2. Re-examine the temporal stability of the non-pedophilic exclusively heterosexual males' reference group data collected for Affinity 2.0 using a new Chi-square approach.

Literature Review

In this review, I will first discuss the pervasiveness of sexual offense in the United States. Then the assessment of sexual interest will be introduced as a viable option for assisting in prevention and treatment of sexual offenses. Next will be a review of the differing assessments of sexual interest currently being used in the field of mental health, as well as their various limitations. Following the descriptions of the various assessments, the research regarding viewing time as a measure of sexual interest will be reviewed. The two current instruments used to assess sexual interest using viewing time, the Abel Assessment of Sexual Interest (AASI; Abel et al., 1998), and the Affinity, Versions 2.0 (Glasgow, 2003) and 2.5 (Glasgow, 2007), will be described in more detail. Finally, there will be a brief discussion of the use of ipsative scoring in viewing time instruments and how it has impacted the instruments' scoring and interpretation.

Sexual offenses are quite prevalent throughout the United States, with victims ranging from infants to adults. Between 1998 and 1999, there were approximately 279,990 registered sex offenders in all 50 states and in the District of Colombia (BJS, 2002).

A number of meta-analyses have shown that sexual deviance is a strong predictor of sexual offense recidivism. Hanson, Steffy, and Gauthier (1992) concluded that a common risk factor in sexual offense recidivism was an enduring sexual preference for children. Hanson and Bussiere (1998) meta-analyzed 61 studies that included data from 28,972 sexual offenders. The average sex offense recidivism rate was 13.4%. The recidivism rate for rapists was higher at 18.9% and the recidivism rate was lower for child molesters at 12.7%. The average follow-up period was between 4 and 5 years.

Their meta-analysis showed that "the strongest predictors of sexual offense recidivism were measures of sexual deviancy" (p. 351). Hanson and Morton-Bourgon (2005) similarly concluded that "the strongest predictors of sexual recidivism were those related to sexual deviancy." (p. 1155). Whitaker et al. (2008) found that when comparing sex offenders against children to non-sex offenders with regard to their sexual interest in children, the average Cohen's *d* was .70, which is considered a strong effect. They also found that when comparing sex offenders against children to non-offenders, the average Cohen's *d* was .61 which is considered a medium effect. Clearly, sexual offending is highly related to deviant sexual interest.

Methods of Assessing Sexual Interest

Prevention of sexual offenses and the reduction of the number of victims of sexual crimes may be enhanced by accurate assessment of sexual interest. There are a number of methods currently used to assess sexual interest. These assessments include the penile plethysmograph (PPG), clinical interviews, analysis of records, self-report, and sustained visual attention (Laws, 1989; Marshall, 1996; Quinsey, Rice, Grant & Reid, 1993).

Self-report is one of the ways to assess sexual interest. While self-report is the most efficient, least invasive and most complete way of obtaining information concerning one's sexual interests, self-report can never be accepted solely upon its own merits. This is due to the subjective nature of the responses that could have possibly been reported dishonestly, especially since the response to such questions may have weighty consequences such as supporting a conviction of a sex crime. Without corroboration

from another source of empirically derived information, using self-report appears to be the least valid and reliable form of assessing sexual interest.

A clinical interview by a trained mental health professional is another way of assessing sexual interest. Unfortunately, much like a subject's self report, the responses in a clinical interview can be manipulated which throws into question the responses of the subject. However, the interviewer can use clinical judgment in assessing the integrity of the responses. While clinical judgment is subjective in nature, it does offer an additional perspective from a professional lens.

Another form of assessment of sexual interest is the analysis of past records. This methodology of assessment relies on the assumption that past observed behavior will inform the assessor as to the current sexual interests of a particular individual. This form of assessment does not rely upon the subjective responses of an individual, but more objective data, which cannot be manipulated. However, two limitations arise if such an assessment is solely used to measure sexual interest. The first limitation is that one cannot make the assumption that past sexual interests equate to an individual's current sexual interests. Another limitation is that there are many individuals who have little or no records concerning their sexual interests, or have not been caught and/or convicted of engaging in deviant sexual activity. Therefore, while this form of assessment gives insight into past sexual interests in a more objective manner, it leaves the assessor questioning the current interests of the individual and limits the knowledge to known past sexual interests which may or may not reflect the individual's current sexual interests.

Another assessment of sexual interest is the penile plethysmograph (PPG). The PPG is one of the most invasive ways to measure sexual interest. This instrument

measures penile tumescence while the subject is exposed to different audio/visual sexual scenarios involving victims of varying ages and genders. This measurement, while measuring a biological response which is difficult to dissimulate, requires the subject to be exposed to pornographic material while his genitalia are connected to a strain gauge that measures his erectile response. Though the PPG may be approved for adults, its use with adolescents is questionable due to the invasive nature of the instrument. Additionally, this instrument transforms the subject's raw scores into ipsative scores which deny the possibility of inter-individual comparison of the subject's responses.

Finally, sustained visual attention has been used as a measure of sexual interest. This type of assessment surreptitiously measures the amount of time an individual looks at fully clothed photographs of individuals varying in age and gender. Due to the covert measurement of the subject's sustained visual attention, it is difficult for the subject to manipulate one's responses. Additionally, this assessment can be used with all age groups due to the non-pornographic nature of the photographs. While viewing time instruments appear to have fewer limitations than the other aforementioned forms of assessing sexual interests, viewing time assessment needs ongoing examination. It is necessary to further assess the validity and reliability of viewing time in the context of its stated purpose to estimate the sexual interests of an individual.

The History of Sustained Visual Attention as a Measure of Sexual Interest

Rosenzweig (1942) first studied the theory of sustained visual attention as a measure of sexual interest. He compared the viewing time of 10 patients who were interested in sexual behavior to 10 patients who were not interested in sexual behavior. Both groups were shown sexual and non-sexual photographs. It was an exploratory

comparative study and though it used an in-patient schizophrenic population and a small sample size, it showed that there was a significant difference in the sustained visual attention between the two groups. Those patients who were interested in sexual behavior looked longer at the sexual photographs than those patients who were not interested in sexual behavior.

Then in 1956, Zamansky showed male, female, and neutral photographs to 20 homosexual and 20 heterosexual paranoid schizophrenic males and measured the amount of viewing time of the photographs that they desired to look upon. Zamansky concluded that he was able to significantly distinguish between the two groups of males using viewing time. Zamansky used a population similar to that of Rosenzweig (1942) with a little larger sample size. What makes this study useful is that due to the amount of time that each sample viewed the photographs, Zamansky was able to differentiate between the homosexual and heterosexual samples. His results suggest that there is a possible correlation between sexual orientation and the sustained visual attention in those professing varying sexual interests.

In 1972, Ware, Brown, Amoroso, Pilkey, and Pruesse used sexually explicit photographs that ranged in their explicitness and the type of activity portrayed with college students and found that there was a significant positive correlation between the amount of viewing time of the student and the sexual explicitness of the photographs as well as the explicitness of the activities portrayed. Unlike Rosenzweig (1942) and Zamansky (1956), Ware et al. used a non-comparative study with a college population. They were looking to see how the explicitness of the image affected the sustained visual attention. The assumption underpinning Ware et al. (1972) is that more sexually explicit

images are more sexually interesting. Again, this study suggests that sexual interest can be measured by sustained viewing time.

Then in 1993, Quinsey, Rice, Harris and Reed measured the sustained visual attention of heterosexual males and females who viewed slides of nude females and non-aroused semi-nude males differing in ages and genders. The researchers found little variation between the amounts of viewing time between the subjects expressed preferred sexual interests and their non-preferred gender. Quinsey, Rice, Harris and Reed (1993) concluded that viewing time should not be used in lieu of other sexual interest assessments, though with further research, viewing time might be used more effectively to unobtrusively measure an individual's sexual interests.

Similar to Zamansky's (1956) study, Wright and Adams (1994) measured the visual attention of heterosexual males and females, and homosexual males and females who were shown photographs from Playboy and Playgirl, as well as neutral photos, and found significant differences among the groups in terms of their sustained visual attention to the various types of images. This study further supports the relationship between sexual interests and sustained visual attention to a sexually primed photograph. This study adds to the literature by using heterosexual and homosexual females which expands the knowledge about sexual interests and sustained visual attention.

In 1996, Harris et al. compared the sustained visual attention of 26 child molesters and 25 non-offending heterosexual males who were shown slides of nudes varying in age and gender, and concluded that there was a significant difference between the two groups' viewing times of the photographs. Harris et al. (1996) built upon previous research by using a comparative study of two different populations and went on to

compare a non-offending heterosexual sample of sexually deviant males. This further strengthens the theory that using sustained visual attention as a measure of sexual interest is possible.

Also in 1996, Quinsey et al. showed slides of nudes of various categories of age and gender to 24 heterosexual females and 24 heterosexual males. They found that each group looked significantly longer at images that were consistent with their sexual interests and looked significantly less at the images in which they had no sexual interest. In the same study, Quinsey et al. measured the 24 heterosexual males' viewing time, penile tumescence, and subjective ratings of the attractiveness of the slides and found a strong concordance between all three measurements. This study is pivotal to further supporting sustained visual attention for multiple reasons. Concluding that there was prolonged viewing time on each gender's sexual interests as well as diminished viewing time on slides that were not sexually interesting strengthens the tie that according to one's sexual interests, one will view what is sexually appealing for significantly longer periods of time. Another reason that this study is extremely important to sustained visual attention is that the authors used both subjective and biological measurement of sexual interest and found that they supported the convergent validity of sustained visual attention as a measure of sexual interest.

Strength and Limitations of Sustained Visual Attention

There were several limitations in these studies (Rosenweig, 1942; Zamansky, 1956; Ware, et al., 1972; Quinsey, Rice, Grant, & Reed, 1993; Wright, & Adams, 1994; Harris, et al., 1996; Quinsey, et al., 1996) on sustained visual attention as a measure of sexual interest that are worth exploring. One of the most critical limitations is that of

sample size. Most sample sizes did not exceed 30 participants. The significance found between the groups could be due to lack of a sufficient *N*. The significance could also be due to selection bias. Another limitation is that most studies did not use other measures of sexual interest to verify the validity of sustained visual attention as a measure of sexual interest. Except for Harris et al. (1996), known sex offenders who have identified victims were not participants of the studies. This would have greatly supported the criterion validity of sustained visual attention as a measure of sexual interest for the fact that one could find whether the images viewed for the longest amount of time correlated with their known victims. There was the study from 1993 (Quinsey, Rice, Harris et al.) which suggested at that point in time, viewing time should not be used in place of current measurements of sexual interest such as the Penile Plethysmograph. However, Quinsey's research in 1996 (Harris, et al.; Quinsey et al.) appears to have made the adjustments necessary to their methodology to more effectively use viewing time as a measure of sexual interest due to their results which support viewing time as a measure of sexual preference.

There are several items that were found within the studies which help garner support for sustained visual attention as a measure of sexual interest. While the sample sizes were small, each study found significant differences between the groups used when viewing nude or sexually explicit photographs. This tends to create a foundation for sustained visual attention to be further researched and analyzed. The most recent study cited (Quinsey et al., 1996) found convergent validity with commonly accepted measures of sexual preference. This further supports sustained visual attention as a potential measure. Though practically none of these studies used known sexual offenders, they did

use populations of individuals whose sexual preferences were self reported; specifically heterosexual male and female, gay and lesbian populations. By significantly distinguishing between these populations, it seems that sustained visual attention can help identify those whose sexual preferences differ from another group.

Sustained Visual Attention Instruments

Currently there are two instruments that purport to measure sexual interest based upon the previous research (Rosenweig, 1942; Zamansky, 1956; Ware, et al., 1972; Quinsey, Rice, Grant, & Reed, 1993; Wright, & Adams, 1994; Harris, et al., 1996; Quinsey, et al., 1996) of sustained visual attention: the Abel Assessment of Sexual Interest and the Affinity.

Abel Assessment of Sexual Interest. The Abel Assessment of Sexual Interest (AASI; Abel et al., 1998) claims that it is a covert, non-intrusive measure of sexual interest using sustained visual attention. This assessment tool is a computer-based assessment that consists of 160 slides of fully clothed photos of people of varying ages and genders. Despite the studies published regarding the AASI (Abel, 1996; Abel, 1997), and though it is currently being used in 2 countries, 36 states, and around 300 therapists (Abel et al., 1998), as well as within the justice system, questions concerning its validity and reliability to estimate sexual interests have been raised (Fischer & Smith, 1999; Smith & Fischer, 1999; Ewing, 2005).

According to Fischer and Smith (1999), the AASI is based upon ipsative scoring which can only show intra-individual variation. Thus in the absence of a reference group from which one can compare a subject's score, the scores of one individual cannot be compared to another individual. One cannot come to the conclusion of what is sexually

deviant. Abel tries to fix this by clarifying that one is sexually deviant according to a rule of thirds (Fischer & Smith, 1999). Fischer and Smith (1999) found that this rule was arbitrarily created and had no empirical support to justify it.

Another reason for concern about the reliability of the AASI is the inaccessibility of the raw data (Fischer & Smith, 1999). Without access to raw data and scores, one is unable to replicate or analyze the AASI for the benefit of further research, and thus limits the possibility of creating a more validated instrument to assist in identifying sexual deviance.

Affinity 2.0 and Affinity 2.5. The Affinity 2.0 (Glasgow, 2003) was recently created in 2003. This relatively new measurement of sexual interest is a computer-based instrument that covertly measures the sustained visual attention using slides of fully clothed photographs of people varying in age and gender. The categories of ages and genders are as follows: adult male (ADM), adult female (ADF), adolescent male (JUM), adolescent female (JUF), preadolescent male (PJF), preadolescent female (PJF), small child male (SCM) and small child female (SCF). By using slides that do not use nudes or suggestive material, the Affinity 2.0 is similar to the AASI and is a potential assessment tool that can be ethically used with adolescents, as well as adults. Glasgow first developed this instrument to be used with adult male offenders with mental retardation (Glasgow, 2003). It has since been expanded to be used for research purposes with non-pedophilic, exclusively heterosexual male and female populations. A major advantage to the Affinity 2.0 is the direct accessibility to the raw data and scores. Due to this accessibility, researchers who have gathered and established significant, temporally

stable, patterns of reference group data using the Affinity 2.0 with non-pedophilic, exclusively heterosexual males and females (Crosby, 2007; Harmon, 2006).

Crosby (2007) administered the Affinity 2.0 to 77 non-pedophilic exclusively heterosexual males at two different times within a two week span. He found that there was a stable reference group pattern for non-pedophilic exclusively heterosexual males using the proportion means for each of the eight categories of age and gender (Figure 1).

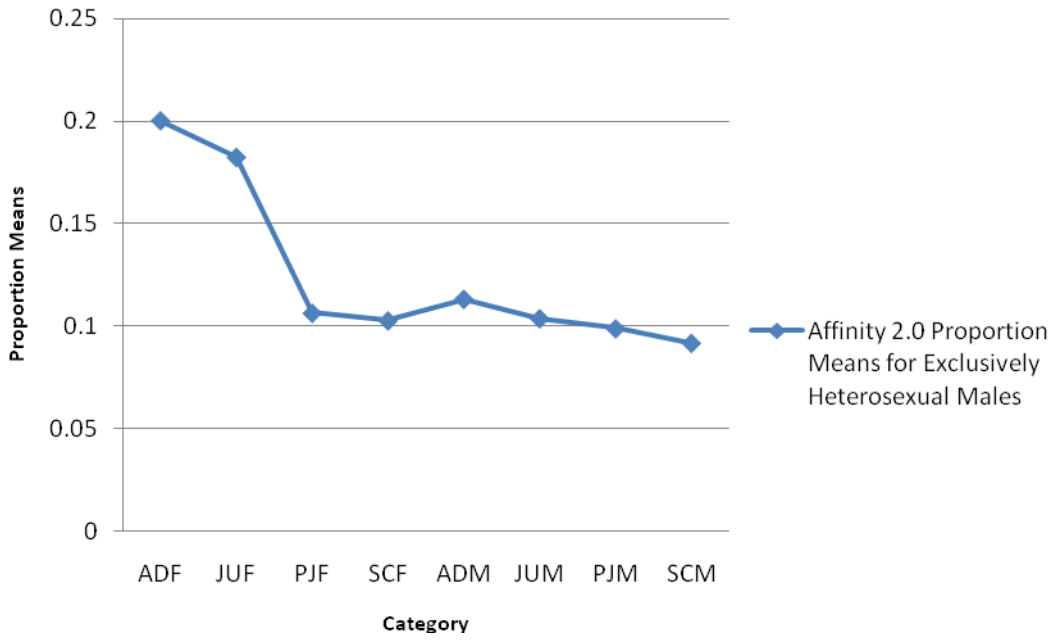

Figure 1. Affinity 2.0 proportion means for exclusively heterosexual males (Crosby, 2007).

It can be observed that on average, exclusively heterosexual, non-pedophilic males took more time viewing adult female and juvenile female photographs than the other six categories that vary in age and gender. Additionally, Crosby (2007) examined the test-retest reliability of the Affinity 2.0 using a correlational analysis and found that the means of each of the categories were statistically stable across time.

Harmon (2006) found similar findings in her study of 117 non-pedophilic, exclusively heterosexual females using the Affinity 2.0. Her analysis found a stable reference pattern using the proportion means for each of the eight categories (See Figure 2).

It can be observed that on average, exclusively heterosexual, non-pedophilic females took more time viewing adult male and juvenile male photographs than the other six categories that vary in age and gender. Harmon (2006) also examined the test-retest reliability of the Affinity 2.0 over the span of two weeks and found that found that the means of each of the categories were statistically stable across time.

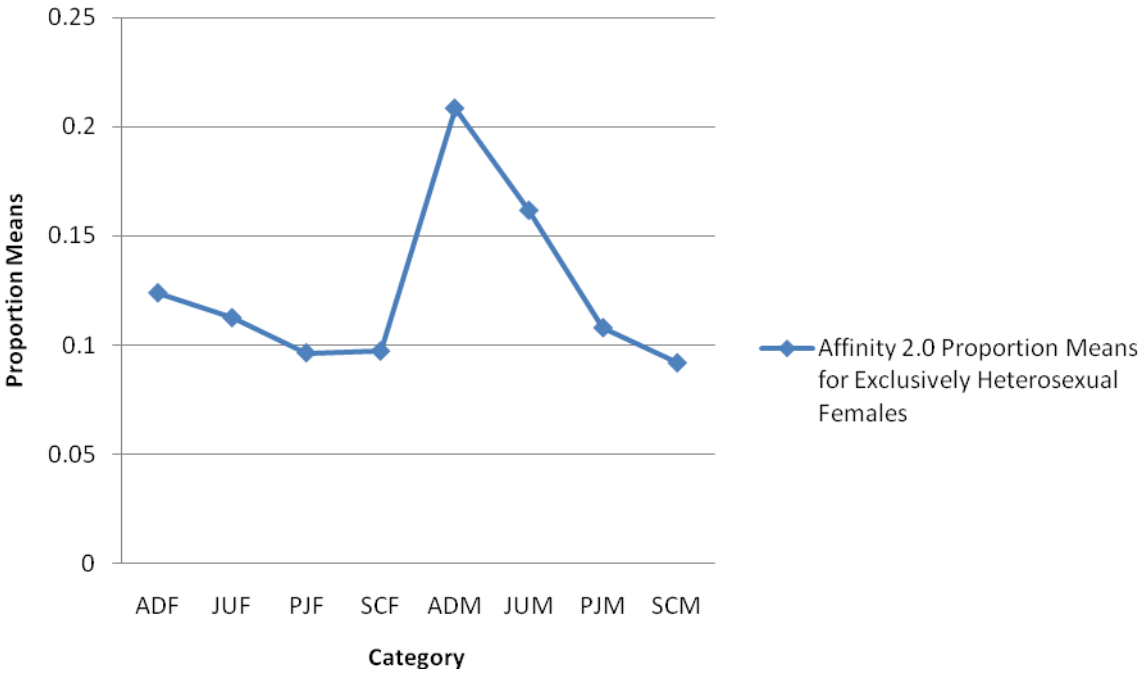

Figure 2. Affinity 2.0 proportion means for exclusively heterosexual females (Harmon, 2006).

With a stable reference pattern established for both non-pedophilic exclusively heterosexual males and females, Figure 3 juxtaposes Crosby's (2007) and Harmon's

(2006) reference group patterns. Figure 3 illustrates a visual representation of empirically derived patterns of sustained visual attention for those that describe their sexual interests to be exclusively heterosexual. From this figure, it can be observed that the two patterns diverge where one would assume a non-pedophilic heterosexual of a particular gender might vary from one another. It is important to note, however, that each of these patterns, while assumed in the past to vary as seen in Figure 3, had little empirical research to support such assumptions until these studies were completed.

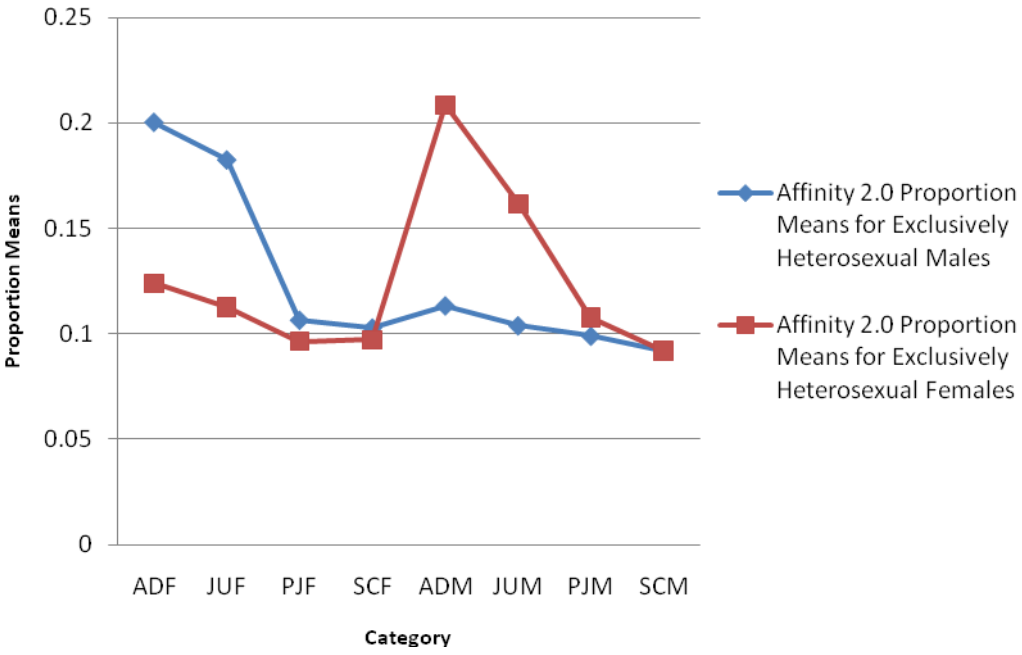

Figure 3. Affinity 2.0 comparison of proportion means (Crosby, 2007; Harmon, 2006).

Cloyd (2007) ran a concordant study by administering the Affinity 2.0 and the penile plethysmograph (PPG) to 96 known male sex offenders and found that the results from each of the assessments significantly correlated with one another. Such results garnered further support that the Affinity 2.0 may have the ability to measure sexual

interest. The Affinity has also been involved in a study involving known sex offending adolescent males and found that it was effective in identifying the sexual interests of most of the participants (Worling, 2006).

While the Affinity 2.5 (Glasgow, 2007) is quite similar to Affinity 2.0, there are some significant differences that warrant further scrutiny. The most significant addition to the program is the use of three additional photographs in each of the eight categories of sexual preference, creating a total of 80 slides, as opposed to the 56 slides originally used in Affinity 2.0. Since the creation of the Affinity 2.5, Davies, Lewing, and Simons (2008) administered the Affinity 2.5 and the AASI-2 (Abel et al., 1998) to male sex offenders. They found that the two instruments produced comparable results.

Although data seems to be accumulating that supports the Affinity measures as valid predictors of sexual interest, it cannot be assumed that a 42.9% increase of additional photographs in Affinity 2.5 will not impact the expected reference pattern previously garnered for Affinity 2.0. It is thus necessary to collect reference group data for male and female non-pedophilic, exclusively heterosexual individuals using the Affinity 2.5.

Ipsative Scoring

Most objective measures of sexual interest rely on ipsative scoring. Ipsative scores always sum to a constant. They support intra-personal comparison, as opposed to interpersonal comparisons. Several authors have critiqued the psychometric properties of ipsative scores (Clemans, 1966; Closs, 1996; Cornwell & Dunlap, 1994; Fischer, 2004; Fischer & Smith 1999; Glasgow & Fischer, 2006a; Glasgow & Fischer, 2006b; Wood & Blinkhorn, 1988). Fischer and Morgan (2006) have identified four major concerns with

the use of ipsative scores in the assessment of sexual interest. These include distortion of raw scores during ipsatization (Brown, 2005; Madsen, 2008), loss of diagnostic outliers, problems of scale, and misinterpretation of ipsative scores as norm referenced scores.

Due to the problems associated with using ipsative data in the assessment of sexual interest, (Fischer et al., 2007; Fischer & Morgan, 2006) a Chi-square approach has been developed that uses the overall pattern of ipsative scores and compares that observed pattern to an expected pattern of ipsative scores. This Chi-square approach creates a proportion mean of the total viewing time in each of the eight Affinity 2.5 categories of age and gender. This statistical approach minimizes the distortion of the subject's scores. It preserves diagnostic outliers. It establishes an interpretable scale based on the Chi-square distribution. It avoids misinterpretation of ipsative scores by providing a norm reference group. This Chi-square approach depends on establishing the expected pattern for a wide variety of reference groups.

Since the collection of the Affinity 2.0 reference group data for non-pedophilic, exclusively heterosexual males, Fischer developed a Chi-square approach to analyze the temporal stability of ipsative patterns. Harmon (2006) and Crosby (2008) estimated temporal stability of Affinity 2.0 scores using traditional correlational procedures on a scale by scale basis. It is unclear whether Fischer's Chi-square approach to temporal stability will give a different estimate than Crosby and Harmon's results. Furthermore, re-analysis of Crosby's male responses to Affinity 2.0 may shed light on the likely temporal stability of Affinity 2.5.

Method

Participants

The participants consisted of male psychology and career development students attending Brigham Young University. These students were recruited within their departments and courses by either the primary researcher or research assistants. Each student who participated in the study was given extra credit in their course, as it was allowed by their professor. For this particular study, the researcher was seeking non-pedophilic, exclusively heterosexual males. However, participation in the study was not allocated for those who solely fit this specific population. Participation and extra credit was afforded to each male student who chose to complete the study.

Number of Participants

In determining the number of non-pedophilic, exclusively heterosexual males needed for this study, the previous stability of the Affinity 2.0 reference data for non-pedophilic, exclusively heterosexual males was examined. According to the central limit theorem, as the sample size increases, the sample mean will more accurately estimate the true mean of the population. Similarly, as the sample sizes increase, the variance of the sampling distribution will decrease (Howell, 2002). It was unclear how many participants would be needed to reasonably establish a stable mean pattern. Therefore a preliminary analysis of Crosby's (2007) Affinity 2.0 results was conducted. Sampling distributions of increasing sample size (10, 20, 30, 40, 50, 60) were generated from the Crosby's (2007) existing Affinity 2.0 data. Mean response curves across the eight categories of images were obtained and graphed for each sampling distribution. Mean variances across the eight categories of images were obtained and graphed as well.

Ten random samplings of 10 participants from the 120 total participants in Crosby's (2007) study were selected. The sampling means and standard deviations for each of the eight categories were then calculated. This process was then repeated for 10 samples each of sample sizes 20, 30, 40, 50 and 60. In theory, the sampling means and standard deviations would stabilize as sample size increased. When it became apparent by visual inspection that there was low variance and little change from one sample size to the next, the appropriate sample size was chosen for the current study. Figure 4 represents the sampling distribution means for the samples size of 10, 20, 30, 40, 50, and 60. It appears that despite the increase in sample size, the means for each of the eight categories remained quite stable.

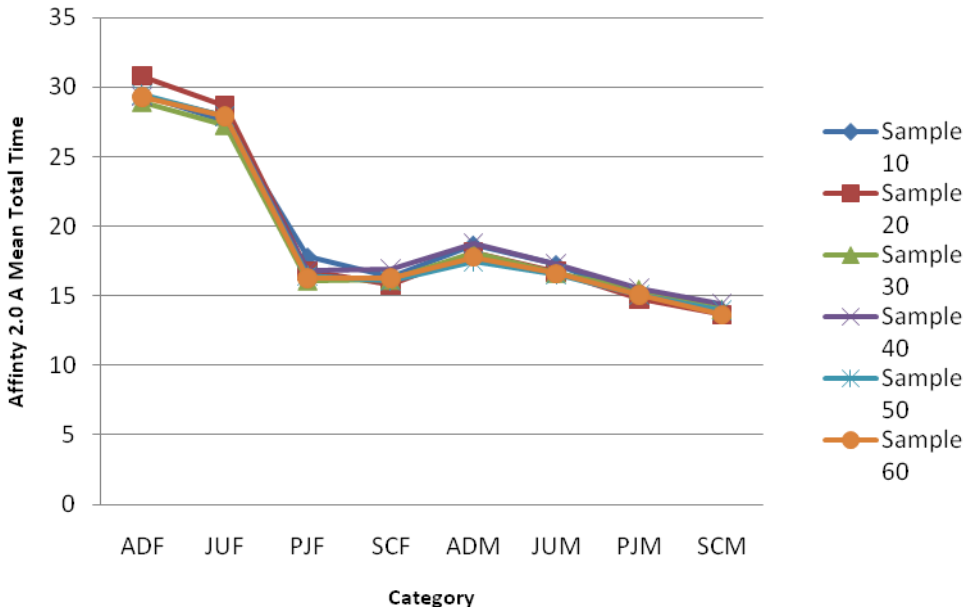

Figure 4. Means of sample means.

In the next preliminary analysis, the researcher graphed the standard deviations for each of the six sampling distributions (Figure 5). This analysis allowed the researcher to visualize the point at which the standard deviations began to decrease in their

variability and began to stabilize. This perspective assisted the researcher significantly due to the obvious reduction in the variability of the means for each of the categories as the sample size increased by 10. The researcher observed that the around 40 participants, the varying responses began to stabilize across each category. This initial stabilization visibly contrasts with the samples of 10 to 30 participants where the standard deviations between the eight categories fluctuate greatly. Around 50 participants, the variability of the means appear to remain stable across all eight categories, with 60 participants yielding but a minimal increase in stability.

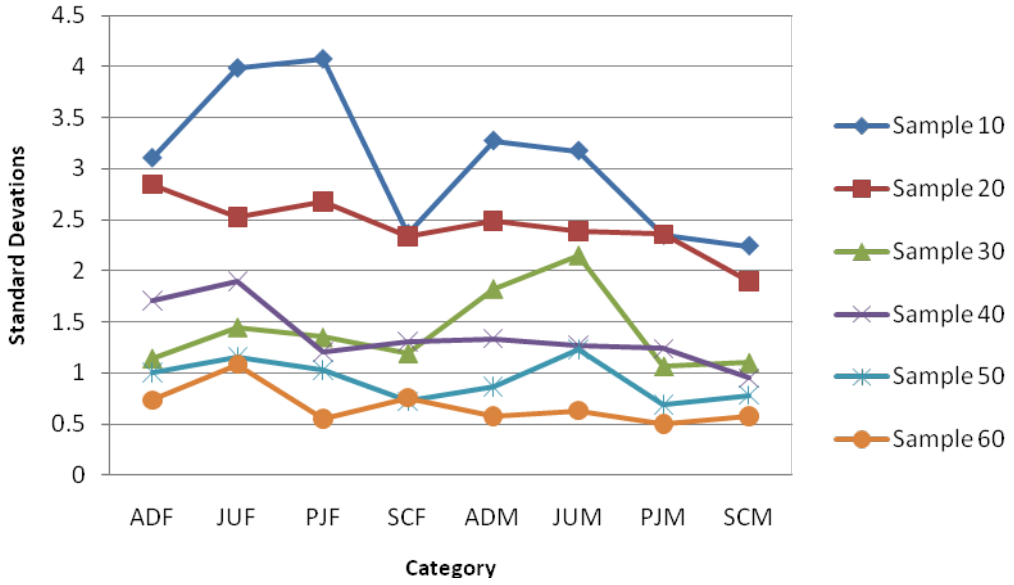

Figure 5. Standard deviations of sample means.

Finally, the standard deviations of the sample standard deviations were graphed for each of the six samples (Figure 6). This analysis confirmed many of the same conclusions made when looking solely at the standard deviations for each of the samples. From Figure 5, it appears that it is around 50 and 60 participants that the standard deviations of the standard deviations stabilize and show minimal variability.

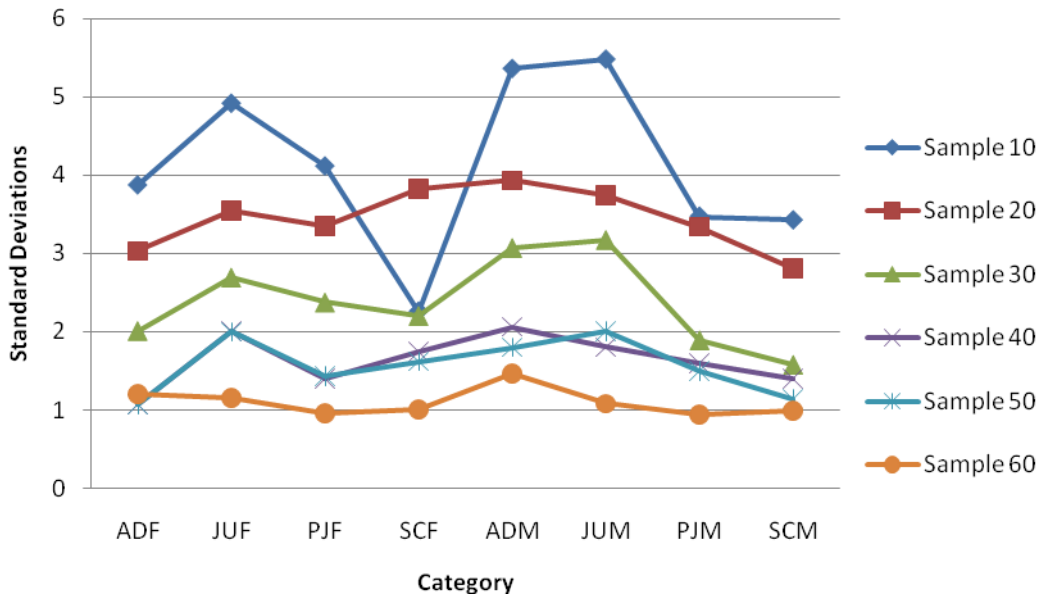

Figure 6. Standard deviations of the sample standard deviations.

This type of analysis helped the researcher determine that both the stabilization and the decrease of the variability within the patterns occurred when the around sample size 40. After 50 participants, it appears that while some additional stabilization was gained, it was a minimal increase. Therefore, given the data above reflects Affinity 2.0 responses of non-pedophilic exclusively heterosexual males, the researcher decided that a sample size of 50 participants would be suitable for this similar study of Affinity 2.5 responses of non-pedophilic exclusively heterosexual males.

Informed Consent

Every potential participant was asked to sign an informed consent document (Appendix A). This document provided a brief description of the study, a disclosure of what the participant would be asked to do in the study, and that their identity would be kept confidential. The informed consent document stated that a willingness to participate in the study would result in receiving extra credit as their professor allowed. In regards

to confidentiality, the participants will be told that their results on the Affinity 2.5 (Glasgow, 2007) will not have any connection to any of their identifying information. Each participant was made aware of their right to withdraw at anytime for any reason. The researcher also informed the participant that the study revolved around sexuality and their sexual interests, thus they might feel uncomfortable or embarrassed. Otherwise it was stated that there were minimal risks in participating in this study. No individual was allowed to participate in the study without first signing the informed consent document. Each participant received a copy of the informed consent so that they might contact the primary researcher if he had any further questions or concerns. The informed consent documents were then collected and stored in a secure box in a locked room within the research lab.

Risks to Participants. As mentioned above, because the content of the study involves disclosing sexual preferences and self-identifying one's sexual orientation, it was made known to the participant there may be some feelings of embarrassment, hesitancy, or worry. Due to the research site being at a private religious university, there may have been an added feeling of shame or guilt if the participant felt that he may not fit the standards expressed by the university. However, each participant was reassured concerning their confidentiality and that no personal identifying information would be attached to the data collected, and that results of their data would not be shared with their ecclesiastical leaders or individuals who represented the University. Despite the potential feelings of embarrassment, there were minimal risks to those the participants who willingly engaged in this study.

Benefits to Participants. *W*hile there was no direct benefit to the individuals who participated of the study, they were eligible to receive extra credit in their course as deemed appropriate by their professor. Upon completion of their participation in the study, each individual received a certificate that documented their involvement in the study. They were then able to share the documentation with the appropriate professor to garner their extra credit for their course.

Assessments

After they signed the consent form, the instrument they were administered for this study was the Affinity 2.5 (Glasgow, 2007). The Affinity 2.5 consists of many parts:

(a) The main screen is where the professional can identify him/herself in order to gain access to administer and review the data collected from the instrument;

(b) The stimulus management screen permits the user to choose which items will be used as practice items, as well as the order of those items;

(c) The 'clicker' screen evaluates the basic mouse-pointer skills of the individual to ensure the individual's motor skills are sufficient (as poor motor skills are likely to thwart viewing time measures);

(d) The new assessment screen is where the participants secured information, which is a number associated with the participants results, is entered.

(e) The ranking screen portrays a series of simple line drawings of individuals of varying ages and genders from which the participant is able to rank as more or less attractive to him (through pointing and clicking on the figures with the mouse). From this data the assessment automatically develops a rank order of the individual's expressed sexual preferences.

(f) The rating screen is where photographs of fully clothed males and females of varying ages appear that correspond with the categories represented by the line drawings in part five (adult, adolescent, preadolescent, and small child). Participants are asked to rate each image on a 15-point scale according to how sexually attractive/unattractive it appears to him. As participants view and rate each image two separate measures of viewing time are recorded unbeknownst to the participant.

(g) The results screen presents the raw data results, providing the option to view data individually in graphical or tabular format.

(h) The raw data chart screen allows the assessment results to be viewed in the form of a bar chart or table. For further analysis of a particular result, the researcher may click on any bar in the chart which will then display the corresponding image of that result.

(i) The mean ranks screen shows the results on a shared axis (which have been converted to ordinal data).

(j) The data management screen allows for further statistical analysis by exporting data for any number of assessments (Crosby 2007; Glasgow, 2003).

The Marlow-Crowne 2(10) [M-C 2(10)] designed by Strahan and Gebrasi (1972) was administered after the participants completed the Affinity 2.5. The M-C 2(10) measures whether the participants are trying to perform in a way that would be socially acceptable and thus skew the data to be less likely a valid response to the Affinity 2.5 and the Kinsey Scale (Kinsey, Pomeroy, & Martin, 1998). This scale was particularly important due to the religious community from which the participants were sampled.

There may have been additional pressure to answer in a certain way in order to have others perceive the participants were adhering to the standards and expectations of the university.

Finally, the participants were administered the Kinsey scale (Kinsey et al., 1998) in which the participant was asked to mark their self described sexual preference. This scale is a seven item scale ranging from exclusively heterosexual to exclusively homosexual.

Procedure

When the participants presented themselves to participate in the study, either the researcher or the research assistant escorted the participant to a private office. Each participant was in one of three identical offices. Each office has a table and two chairs, the table being in the middle, with the chairs on opposite sides of the table. The participant was asked to sit in the chair facing the door. Then the participant was offered the informed consent document that each potential participant must read and sign informing the participant as to the purpose of the study and expectations. Also included is a section that discusses the confidentiality of the identity of the potential participants. While the participant read the consent form, the researcher set up the laptop so that it might be ready to use pending the consent of the participant. After the consent form was signed, the laptop was positioned toward the participant so that the researcher was purposely unable to see the screen. The researcher then asked the participant to turn off their cell phone so as to not impact the study.

It was then explained to the participant that this study was interested in who the participant found sexually attractive. For further clarification, the participants were told

that despite pressure they may feel from society, family, or the university to state that they were sexually attracted to certain kinds of individuals, the researchers wanted to know who they found most sexually attractive. After the participant was primed to think of what he found sexually attractive, the participants began the assessment by viewing and ranking several prototype images. These initial images are simple line drawings that depict an individual from each of the following eight categories with their abbreviations: adult male (ADM), adult female (ADF), juvenile male (JUM), juvenile female (JUF), pre-juvenile male (PJM), pre-juvenile female (PJF), small child male (SCM) and small child female (SCF). The participants began by ranking the line drawings according to their level of sexual attractiveness to the participant. When the participants reached a point where the remaining line figures are no longer attractive to them, they then began to rank the remaining figures according to how sexually unattractive they found them. The purpose of this preliminary ranking procedure is to predict the order of each category when these are ranked either by viewing times or the ratings of attractiveness pertaining to the individual images present in the subsequent rating procedure. Ultimately, this initial ranking procedure was designed to serve to assess the honesty of the participants' self-reports (Glasgow, 2003).

Following the rating of the line drawings, the participants were then shown several practice images and then 80 randomized test images in the eight categories. Each of the eight categories represented in the ranking procedure is made up of ten images. The participants were then asked to view each photograph and then rate each image's sexual attractiveness by using a continuous sliding scale that ranges from "attractive" to "unattractive". As the participants were undertaking the rating procedure, two measures

of viewing time are being surreptitiously recorded. The first measure of recorded viewing time is On Task Latency (OTL) which is the time from the first presentation of the image to the time the participant rates the same image. The second viewing time recorded is the Post Task Latency (PTL) which is from the time when the participant rates the image to the time the participant chooses to view the next image. All viewing time measurements are reported in raw score form in milliseconds (Glasgow, 2003).

After the administration of Affinity 2.5, the participants were asked to fill out a brief questionnaire (Appendix B). This questionnaire had three sections. The first asked for demographic information. The second section was a social desirability scale, the M-C 2(10) (Strahan & Gebrasi, (1972). The third section of the questionnaire was the Kinsey scale (Kinsey et al., 1998). When the participants completed the questionnaire, they gave the questionnaire to the researcher who immediately filed it into the locked cabinet and exchanged it for a certificate of participation in the study.

Data Analysis

For this study, a reference group of exclusively heterosexual non-pedophilic males' scores on the Affinity 2.5 was needed to create the expected pattern. The expected pattern was established by creating means from the participants' raw scores for each of the eight categories. These sample means for each of the eight categories were then divided by the sample mean of the total time taken on the Affinity 2.5. This created a proportion mean or weight for each of the categories that will be used to compare future observed Affinity 2.5 responses.

The second analysis completed was comparing the test-retest scores of Crosby's (2007) Affinity 2.0 sample using a Chi-square approach. This was accomplished by

using the Time 1 Affinity 2.0 responses as the expected score with the Time 2 responses as the observed score.

Results

There were a total of 54 male participants to who took part in the study at Brigham Young University, a religious university composed of a predominantly Christian student body. Of those 54 individuals who participated in the study, four indicated that they were not exclusively heterosexual on the Kinsey Scale. Therefore, their responses were not included in the data analysis. Only those who self identified as exclusively heterosexual were included in first portion of the data analysis. The ages of the participants ranged from 18 to 47. The mean age of the participants was 23.9. Concerning the ethnicity of the 50 participants, 42 (84%) self identified as Caucasian, 2 (4%) self identified as Japanese, 1 (2%) self identified as Chinese, 1 (2%) self identified as Samoan, 1 (2%) self identified as Pacific Islander, 1 (2%) self identified as Hispanic, 1 (2%) self identified as Caucasian/Asian and 1 (2%) self identified as Caucasian/Armenian. The ethnicity percentages accurately reflect the general population of Brigham Young University, having a predominantly Caucasian student body with a smaller population of other ethnic and racial groups. There were 11 (22%) freshman, 8 (16%) sophomores, 15 (30%) juniors, 6 (12%) seniors, 9 (18%) graduate students, and 1(2%) individual who did not specify his academic class. Finally, in terms of marital status, 14 (28%) of the participants were married, while 36 (72%) were single. While the marital status of *divorce* and *widowed* were also possible choices, none of them were endorsed by any of the participants.

Strahan and Gebrasi's (1972) social desirability scale, the M-C 2(10), was examined for the sample. The average score on the M-C 2(10) of the 50 participants was 3.88 (SD = 2.25). These two results were compared with the normative data established

for the M-C 2(10) that matched our population. The average from the normative data is 4.6 (*SD* = 2.1). With the study's mean sample of the M-C 2(10) being lower than the established norm, it can be said with confidence that on average, the participants in this study did not distort their responses in a socially desirable manner.

For the first data analysis, the amount of time each participant took viewing each of the 80 photographs was divided into their eight respective categories. Those eight categories are adult female (ADF), juvenile female (JUF), pre-juvenile female (PJF), small child female (SCF), adult male (ADM), juvenile male (JUM), pre-juvenile male (PJM), and small child male (SCM). Each category total was divided by the total time spent across all categories. This resulted in eight proportions, one proportion for each category. The average category proportion was calculated across all 50 participants. The average Affinity 2.5 proportions for each of the eight categories are seen in Table 1.

Table 1

Affinity 2.5 Means

	ADF[a]	JUF[b]	PJF[c]	SCF[d]	ADM[e]	JUM[f]	PJM[g]	SCM[h]
Affinity 2.5 Prop. Mean	0.205	0.179	0.115	0.109	0.104	0.105	0.093	0.089

Note. [a]ADF = Adult Female. [b]JUF = Juvenile Female. [c]PJF = Pre-Juvenile Female. [d]SCF = Small Child Female. [e]ADM = Adult Male. [f]JUM = Juvenile Male. [g]PJM = Pre-Juvenile Male. [h]SCM = Small Child Male.

The participants spent most of their available viewing time on images of adult females and juvenile females (20%, 17%). The other six categories were notably lower in their viewing time and very similar to one another (8% to 11%). The Affinity 2.5 proportion means are graphically represented in Figure 7.

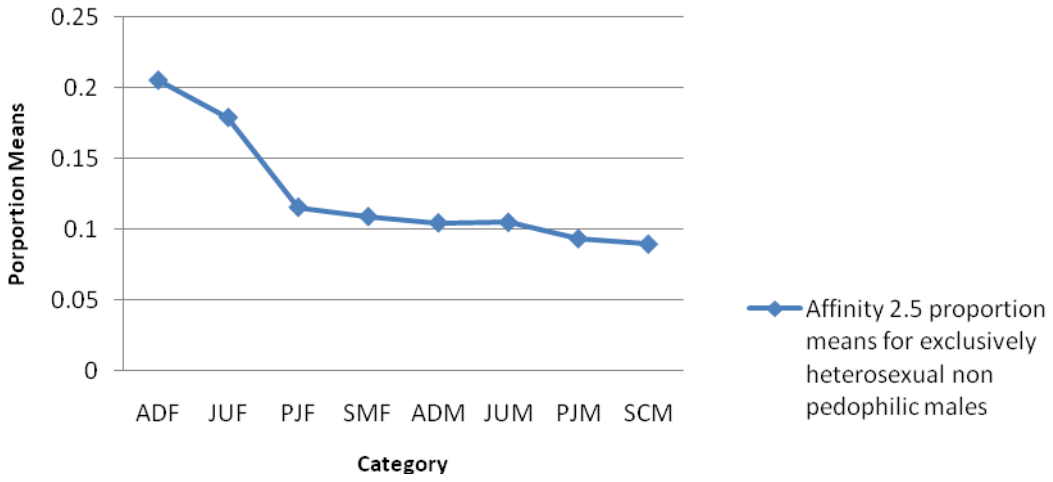

Figure 7. Affinity 2.5 proportion means

The Affinity 2.5 proportion means of the 50 exclusively heterosexual non-pedophilic males were then compared to the previously gathered Affinity 2.0 proportion means for 77 exclusively heterosexual non-pedophilic males (Crosby, 2007). The Affinity 2.0 proportion means were established by averaging the test-retest proportion means (see Table 2).

Table 2

Comparison of Affinity 2.5 and Affinity 2.0 Proportion Means

	ADF[a]	JUF[b]	PJF[c]	SCF[d]	ADM[e]	JUM[f]	PJM[g]	SCM[h]
Affinity 2.5	0.205	0.179	0.115	0.109	0.104	0.105	0.093	0.089
Affinity 2.0	0.200	0.182	0.107	0.103	0.113	0.104	0.099	0.092

Note. [a]ADF = Adult Female. [b]JUF = Juvenile Female. [c]PJF = Pre-Juvenile Female. [d]SCF = Small Child Female. [e]ADM = Adult Male. [f]JUM = Juvenile Male. [g]PJM = Pre-Juvenile Male. [h]SCM = Small Child Male.

In Table 2, the Affinity 2.0 and 2.5 proportion means can be seen to only vary from one another by one one-hundredths or one one-thousandths. To better illustrate how similar the Affinity 2.0 and 2.5 proportion means are to one another, Figure 8 represents these two patterns graphically.

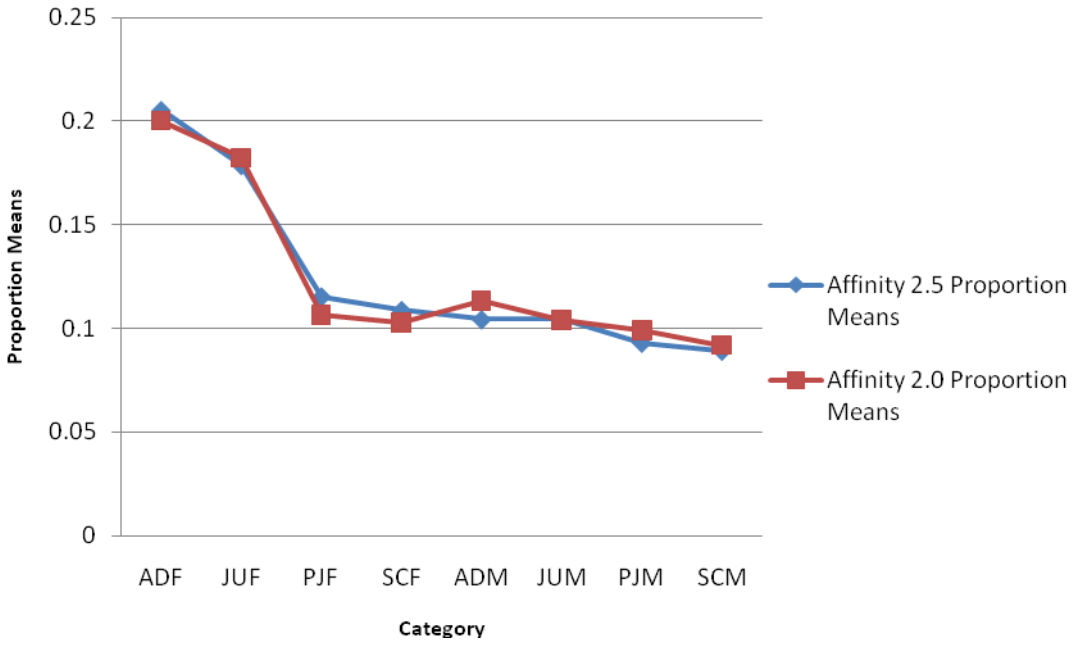

Figure 8. Comparison of Affinity 2.5 and Affinity 2.0

The second analysis was to examine the test-retest reliability of the Affinity 2.0 comparing the first time the participant took the Affinity with their second time taking the Affinity using the Crosby (2008) data. This comparison was conducted using a Chi-square goodness-of-fit approach. This was completed by using the following Chi-square formula:

$$\chi^2 = n_{\bullet} \sum_{j=1}^{J} \frac{(P_j - \pi_j)^2}{\pi_j}$$

The reason for the conversion of the data into proportion form was to allow a fair comparison across all subjects because it have discovered that subjects that complete the assessment rapidly tend to generate spuriously low Chi-square values. Conversely, subjects that complete the assessment slowly, tend to generate spuriously high Chi-square values. In order to standardize the Chi-square values, the mean total time spent (148 seconds) was chosen as the constant factor which should provide fair values across all subjects.

With the data in proportion form, the sums of the differences between the observed proportions and the expected proportions are multiplied by a constant *n* to appropriately scale the resulting Chi-square coefficient. The constant chosen was the average total viewing time for Time 1 of the test-retest which was 148 seconds.

This Chi-square goodness-of-fit approach was performed for each participant. Because there are 8 categories, the degrees of freedom are 7 for this analysis. With the degrees of freedom being 7, the critical value would be 14.067 at the .05 level. It was found that out of 77 participants, 59 had insignificant Chi-square scores while 18 had significant Chi-square scores. This can be understood as 76.6% of the participants, according to this Chi-square approach, showed evidence of temporal stability of their Affinity 2.0 scores while 23.3% did not achieve stability. The Chi-square for each subject is reported in Appendix C.

Discussion

In this section, the researcher will discuss the interpretation of the results of the establishment of the proportion means for Affinity 2.5 and the temporal stability of the Affinity 2.0, strengths and limitations of the study, as well as the future research stemming from this work.

Proportion Means for Affinity 2.5

For the first analysis, it was found that the proportion means established using the Affinity 2.5 were very similar to the proportion means established with the Affinity 2.0. Despite the 42.9% increase in slides for each of the eight categories, it appears that the established Affinity 2.5 proportion means did not greatly differ from those garnered from Crosby's (2007) Affinity 2.0 proportion means. The stability observed in each of the categories produced a stable pattern across the eight categories that can be seen in Figure 1. This pattern, which is a composite of the eight categories, can now be characterized as what a typical exclusively heterosexual non-pedophilic male would score responding to Affinity 2.5. In Figure 5, the proportion means from Affinity 2.0 and Affinity 2.5 were then compared. The similarities between both versions of the Affinity are visually apparent. While there is slight variation when comparing the exclusively heterosexual non-pedophilic male patterns with that of Affinity 2.0 and Affinity 2.5 (see Figure 5), it can be said with confidence that the 42.9% increase of photographs did not significantly change the expected non-pedophilic exclusively heterosexual response pattern.

Some may argue that it would more helpful and effective to create a sexually deviant pattern using the Affinity 2.5 instead of the establishment of an exclusively heterosexual non-pedophilic male pattern of responses. If such a pattern existed, one

would suppose that it would be simple to screen and diagnose those with sexually deviant preferences if their own responses matched a pre-established sexually deviant pattern. Using Affinity 2.0 responses of known sex offenders, Figure 9 shows their individual patterns across the eight categories.

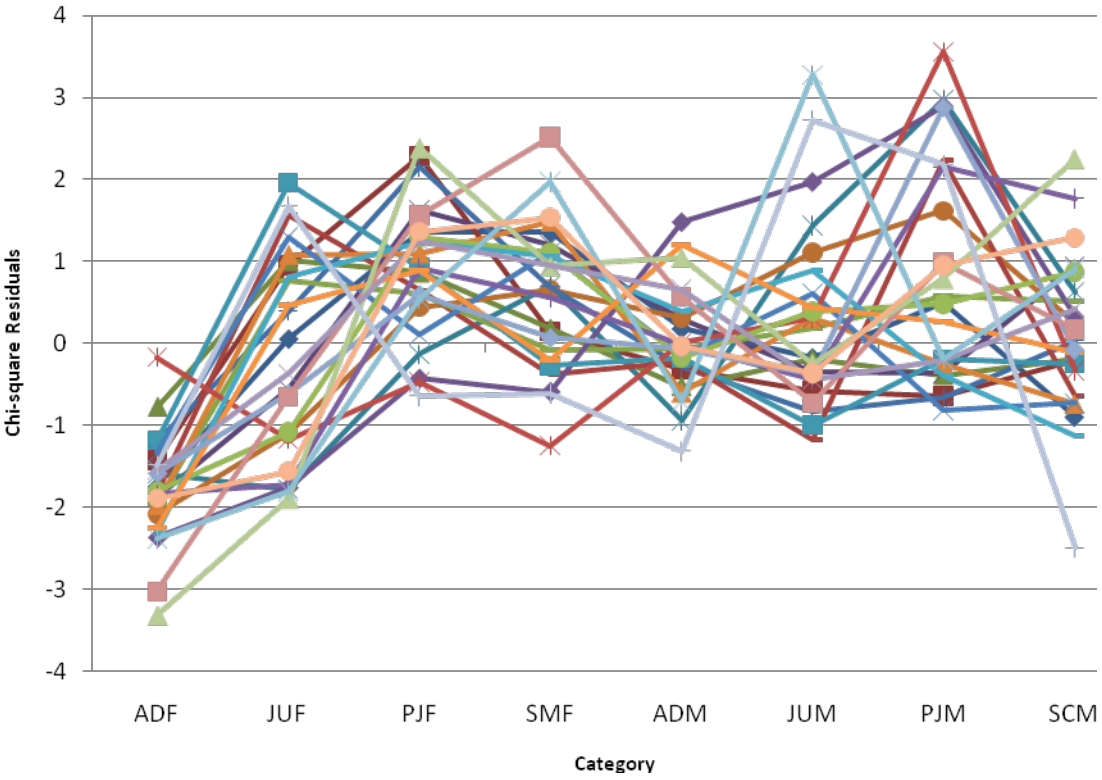

Figure 9. Chi-square residuals for male sex offenders

As Figure 9 suggests, there is no identifiable deviant pattern of responses to the Affinity 2.0 that could be confidently used to screen and diagnose sexual deviance. The only similarity that can be somewhat concluded is that there is a relatively low viewing time response to the Adult Female (ADF) category. The rest of the seven categories have visibly varying responses. If a sexually deviant pattern of responses cannot be reliably established, it is then logical to establish an expected non-deviant pattern with which one can compare future individual responses. Figure 9 suggests that deviance may occur in

myriad ways which can be identified by using Chi-square standardized residuals. Rather than search for the typical sex offender expected pattern which varies broadly, it is more effective to establish an expected pattern for non-offenders. Thus, it was hypothesized that perhaps there is a pattern for exclusively heterosexual non-pedophilic male and female responses to Affinity 2.0. This led to the Crosby (2007) and Harmon (2006) studies which in fact established an evidence-based reference group pattern of exclusively heterosexual non-pedophilic responses with which to compare future individual responses. The establishment of the Affinity 2.5 reference group pattern of exclusively heterosexual non-pedophilic males is the essential next step in the process of establishing evidence-based reference patterns that will be then used immediately for further research, and ideally for future clinical and judicial settings.

Temporal Stability for Affinity 2.0

In the second analysis, the temporal stability of the Affinity 2.0 responses was re-analyzed using a Chi-square approach. Seventy-six percent of the respondents were shown to have a stability of response across Time 1 and Time 2. There are a number of similar analyses that may more accurately clarify the temporal stability of the Affinity 2.0. This analysis was needed to assist in gauging whether there might be a need to test the temporal stability of the Affinity 2.5. It can be argued that only a test-retest study of the Affinity 2.5, which was similarly accomplished with the Affinity 2.0, must be completed to definitively state whether there was temporal stability. However, the Chi-square analysis of the Affinity 2.0's temporal stability allowed the researcher to anticipate how stable the Affinity 2.5 may turn out to be. Given the very close similarities in the mean patterns, and the addition of 42.9% more items, it is expected that the

temporal stability of the Affinity 2.5 will be notably better than Affinity 2.0. However, because only 76% of the responses of the participants in this re-analysis of temporal stability were found to be stable, the researcher would suggest that perhaps the temporal stability of future participants must be done on a case by case basis.

Strengths and Limitations

As can be said with any study, there are inherent flaws and challenges that follow any line of research. From the outset of the study, there was a general worry that the student population being predominantly religious with generally conservative perspectives may have a difficult time discussing sexuality. Specifically, the researcher questioned whether participants in the study would be willing to disclose personal sexual information concerning both sexual attraction and sexual preferences, knowing the study was endorsed by the university. This was one of the reasons why the M-C 2(10) was implemented to measure social desirability. Social desirability was found to be below the mean of the norm reference group on the M-C 2(10). Due to the average results on the M-C 2(10), it can be said that the participants in the sample responded honestly and with little distortion in their responses. This information has helped bolster the researcher's confidence that the responses can be seen as valid and honest participation within the study's expressed objectives. Some may argue that many individuals may not participate in the study from the outset due to the study being described as a study of sexual interest. The researcher agrees that the subject of sexuality may have deterred some individuals from participation, especially those who may self identify as not exclusively heterosexual. However, there were four individuals who did participate in the study who later were removed from the data due to reporting that they self identified as not

exclusively heterosexuals. It might be then hypothesized that those who do not identify as exclusively heterosexual felt comfortable with participating in the study. It can then at least be said that those four males who chose to participate in the study were not feeling external pressure to falsify or manipulate their responses.

Future Research

Obtaining the Affinity 2.5 (Glasgow, 2007) proportion means for non-pedophilic exclusively heterosexual males is an essential step for the research to progress in the area of screening and diagnosing sexual deviance using viewing time. Up until this current study, there had been no empirically supported response pattern created for exclusively heterosexual, non-pedophilic males besides Crosby's (2007) study for the Affinity 2.0. With the completion of this study concerning the re-establishment of exclusively heterosexual, non-pedophilic male response pattern using the new Affinity 2.5, other populations of individuals can now be researched concerning their pattern of responses.

Some have shared their concern that perhaps this study, because of its focus on those who have heterosexual preferences, will be used to determine that other sexual preferences are necessarily deviant. However, this is not the case. In fact, one of the next studies that needs to be completed is to find whether there is a non-pedophilic exclusively gay male response pattern using the Affinity 2.5. As mentioned in the literature review, the studies involving those self identified as gay showed evidence of viewing time being a measurement of their expressed sexual interest as well. Therefore, it is our hope to establish a non-pedophilic exclusively gay male response pattern with its own proportion means. The hope of the researcher is that there will be multiple studies completed concerning the establishment of reference group proportion means for the

Affinity 2.5, especially those who do not identify as exclusively heterosexual. These norm referenced patterns, once established, will allow researchers and clinicians in the near future to compare any individual's score with their proper reference group that can be based on sexual preference, gender and/or ethnicity.

Another essential facet of this research is the use of convicted sex offenders to test the psychometric validity of the Affinity 2.5 in various decision-making contexts. While we can almost never be certain that each individual who is convicted of a sex crime is actually guilty of such a conviction, it may be said that the conviction comes through the process of a fair trial. Thus if an individual is convicted of a sexually deviant crime, then one may have more confidence that their Affinity 2.5 response pattern would likely reflect such deviance. It will then be necessary to use Affinity 2.5 data collected from recently convicted sex offenders before they enter prison. Collecting the data before the convicted offender enters prison is to minimize the possibility of their sexual interests being potentially impacted by the prison environment. It will be necessary then to collect Affinity 2.5 responses of recently convicted sex offenders and compare them to the established proportion means of the appropriate reference groups. It would be the hope of the researcher that the Affinity 2.5 would be able to accurately screen and diagnose those convicted of sexual crimes. It will also be extremely informative if the pattern of the sex offender's sexual interests matches with the age and gender of his or her victim(s). Such findings would have a huge impact on how the Affinity 2.5 may be used in both judicial and clinical settings.

As this current study is focusing on non-pedophilic exclusively heterosexual males, there is currently a mirror study for establishing non-pedophilic exclusively

heterosexual female proportion means for Affinity 2.5. The same normative reference data must be established for lesbian females as well in order to compare with confidence the Affinity 2.5 responses of a female who may have sexual interests that deviate from various established response patterns. The same prison study must also be accomplished with female sex offenders to find whether the Affinity 2.5 can accurately screen and diagnose known female sex offenders.

Also needed are studies of sexual interest and viewing time with adolescent populations. With the increase of sexual crimes committed by adolescents, it would be of great interest to both the judicial system and clinical settings to have an assessment that might screen and diagnose adolescent sexual deviance. This instrument would be ideal for adolescents due to its non-intrusive and non-pornographic nature in measuring sexual interest. However, before the Affinity 2.5 could be used with confidence with such a population, much research must be accomplished. One would first need to find if there was a stable group reference pattern for different adolescent sexual preferences, for both male and female. This may be difficult due to the possibility that sexual attraction and development may still be changing and fluctuating. It will also likely be difficult to find a large enough sample due to the population being considered a vulnerable one, as well as obtaining permission from a parent or guardian for their adolescent to participate in a study regarding sexuality. The difficulty to obtain non-exclusively heterosexual populations would likely be exponentially difficult to obtain as well. If such normative reference data is successfully obtained and is found stable, it would then need to be tested with those adolescents who have been recently convicted of a sexual crime for the reasons mentioned earlier for the adults.

The Affinity 2.5 is a useful instrument in that it surreptitiously measures the viewing time unbeknownst to the participant. However, it will only be a matter of time when there will be information publicly made available concerning the true mechanisms of the Affinity 2.5. Therefore, it would be important to research whether an individual's response pattern can be fabricated knowing the true function of the instrument. This will assist future researchers in finding creative ways to buffer against such fabrications if they are possible.

Implications

The current study is just one of the many essential steps in developing reference group assessment procedures with sex offenders. If the Affinity is supported by empirical evidence as being both reliable and evidence of validity as an instrument capable of screening and diagnosing sexual deviance, the Affinity 2.5 will then be ready for clinical use. It may also be reasonable to suggest that eventually the Affinity 2.5 may be used in judicial, clinical and occupational settings.

Within the judicial system, there is a need for instruments to provide empirical support when a defendant is on trial for a sexual crime. As mentioned in the literature review concerning the AASI (Abel et al., 1998), there are few non-intrusive, surreptitious measures of sexual interest that can be used with confidence. The Affinity 2.5 would be a transparent instrument that could be easily used and interpreted. No instrument, including the Affinity 2.5 should be seen or used as a "silver bullet" for screening and diagnosing sexual deviance in a judicial setting. However, it may eventually be used appropriately as an evidence-based measurement to support arguments for and against a defendant accused of a sexual crime.

The Affinity 2.5 could be a useful treatment instrument when working with individuals who are currently struggling with sexual deviance or who have been convicted of sexual crime. This instrument could inform the therapist of the type of struggles a client may be facing, as well as measure progress in the client's ability to shift focus from ages and genders the individual could possibly victimize. It could also be used as an instrument to assist the therapist to see if there is congruence between the clients' professed sexual interests and those measured surreptitiously.

Finally, the Affinity 2.5 may be possibly used to help screen individuals who would like to work with vulnerable populations. A word of caution must be said with this possible application of the instrument. The Affinity should never be used as the sole screening agent for such occupational decisions. However, it would give more information to those that are in a position to make a decision concerning an individual's appropriateness for working with a given vulnerable population. Some of the populations which the researcher considers vulnerable are children that might be found at daycare, scouting programs, adolescents found in residential treatment centers, foster care, and educational settings, elderly persons found in rest-homes or assisted living programs, and the handicapped found in a variety of educational and assisted living programs. It is the hope of the researcher that such initial screening by employers of potential employees might prevent future victimization. Additionally if such screening was made known to those individuals with sexually deviant interests, it would likely deter those whose purpose it was to seek out victims in applying for such employment possibilities. Once again, it would need to be used with caution and not be used to screen out others who may have differing sexual preferences than the employer. In the end, it is the hope of the

researcher that the Affinity 2.5 might be used to as an effective and efficient tool for the prevention of future sexual crimes.

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Appendix A

Consent to be a Research Subject

Introduction
This research study is being conducted by Lane Fischer at Brigham Young University to determine the typical pattern of responses to Affinity 2.5 by adult males and females. You were selected to participate because you are over age 18 and have no history of pedophilia.

Procedures
You will be asked to complete the Affinity 2.5 in a private room in the CPSE research lab (350 MCKB). Affinity 2.5 is a computer administered measure of sexual interest. You will be asked to rank order some line drawings of types of people according to their sexual attractiveness and unattractiveness to you. You will then be asked to rate a series of images of clothed models in everyday activities according to how sexually attractive or unattractive they are to you. No pornographic images are used in Affinity 2.5. Following completion of the Affinity 2.5, you will be asked to fill out a brief questionnaire regarding some simple demographics, personal attitudes and sexual preference.

Risks/Discomforts
There are minimal risks for participation in this study. However, you may feel some discomfort about disclosing sexual interests or rating images of people.

Benefits
There are no direct benefits to you. However, it is hoped that through your participation researchers will learn more about how people respond to such rating tasks and help us understand human sexuality better.

Confidentiality
All information provided will remain confidential. Your responses will be assigned a subject number that will be disconnected from your name. Your responses will be downloaded from Affinity 2.5 to Excel and another statistical program and then erased from the Affinity program files. The questionnaire will also be coded only by a subject number, transcribed into Excel and SPSS and separated from your name. After the research is completed, the questionnaires will be destroyed. Although the questionnaire will ask about your sexual preference, no information will be available to the university or the Honor Code Office.

Compensation
Participants may receive extra credit or clinical hours in their classes that offer such compensation.

Participation
Participation in this research study is voluntary. You have the right to withdraw at anytime or refuse to participate entirely without jeopardy to your class status, grade or standing with the university.

Questions about the Research
If you have questions regarding this study, you may contact Dr. Lane Fischer at 422-4200, lane_fischer@ byu.edu

Questions about your Rights as Research Participants
If you have questions you do not feel comfortable asking the researcher, you may contact Dr. Christopher Dromey, IRB Chair, 422-6461, 133 TLRB, dromey@byu.edu.

I have read, understood, and received a copy of the above consent and desire of my own free will to participate in this study.

Signature:_____ Date:_____

Appendix B

Demographics, Attitudes, and Sexual Interest Questionnaire

Demographics

1. Age: ____

2. Ethnicity: _____

3. Year in School (mark the one that applies)

___Freshman ___Sophomore
___Junior ___Senior
___Graduate Student

4. Marital Status

___Single ___Married
___Divorced ___Widowed

Personal Attitudes

5. Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to your personality.

___ I never hesitate to go out of my way to help someone in trouble.

___ I have never intensely disliked someone.

___ There have been times when I was quite jealous of the good fortune of other

___ I would never think of letting someone else be punished for my wrongdoings.

___ I sometimes feel resentful when I don't get my way.

___ There have been times when I felt like rebelling against people in authority even though I knew they were right.

___ I am always courteous, even to people who are disagreeable.

___ When I don't know something, I don't at all mind admitting it.

___ I can remember "playing sick" to get out of something.

___ I am sometimes irritated by people who ask favors of me.

Sexual Interest

6. I would describe my sexual preference as (please mark only one):

___ Exclusively heterosexual with no homosexual interest
___ Predominantly heterosexual with incidentally homosexual interest
___ Predominantly heterosexual with more than incidentally homosexual interest
___ Equally heterosexual and homosexual interest
___ Predominantly homosexual with more than incidentally heterosexual interest
___ Predominantly homosexual with only incidentally heterosexual interest
___ Exclusively homosexual with no heterosexual interest

Appendix C

Chi-square Results for Test of Temporal Stability for Affinity 2.0

Subject Number	Chi-square	Subject Number	Chi-square
3001	2.545041	3045	12.92495
3002	6.306525	3046	5.145072
3003	1.887816	3047	1.083231
3004	5.479969	3048	10.68015
3005	9.541965	3050	4.628957
3006	6.868688	3052	6.617388
3007	6.137778	3053	55.58924*
3008	19.94743*	3054	41.38444*
3009	3.64024	3055	91.03123*
3011	24.52297*	3056	7.284975
3012	29.55559*	3057	7.366315
3013	28.8291*	3058	14.55256*
3014	27.59281*	3059	3.63205
3015	12.48309	3060	9.569889
3016	2.192562	3061	33.38191*
3017	4.61902	3062	37.68446*
3018	12.22293	3063	10.47739
3019	2.773619	3065	22.90504*
3020	30.32529*	3066	3.864137
3021	1.457855	3073	8.684506
3022	3.572777	3075	19.00079*
3023	12.2202	3076	16.88042
3024	4.253288	3077	11.95067
3025	3.49106	3078	13.47807
3026	6.222493	3081	15.12154*
3027	4.687387	3082	7.276964
3028	5.791146	3083	24.95402*
3029	12.46212	3084	11.65775
3030	7.672202	3090	7.446329
3032	4.208902	3091	2.692316
3033	19.84796*	3092	1.574613
3034	7.380884	3093	0.731404
3036	7.858497	3096	5.88146
3037	5.27423	3097	2.898037
3038	4.595408	3102	1.228628
3041	5.161638	3104	6.156863
3042	8.129311	3106	8.607491
3043	11.30327	3109	19.16301*
3044	4.016801	3109	19.16301*

* >.05 significant critical value