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Amy Elizabeth Bauman

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**EXPLORATION OF FACTORS IN ESTABLISHED SCALES REGARDING
ATTITUDES TOWARD SEX OFFENDERS**

A Masters Thesis

Presented to

The Graduate College of

Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Psychology

By

Amy Bauman

July 2016

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EXPLORATION OF FACTORS IN ESTABLISHED SCALES REGARDING ATTITUDES TOWARD SEX OFFENDERS

Psychology

Missouri State University, July 2016

Master of Science

Amy Bauman

ABSTRACT

Attitudes toward sex offenders are generally negative, and many of us come into contact with these individuals within our communities and perhaps our occupations. Some of these opinions, however, are fueled by stereotypes whether accurate or erroneous. These opinions likely affect interactions with these individuals and punitive policies, which may impact the rehabilitation process of sex offenders. Measuring attitudes may offer insight into specific beliefs regarding this population and perhaps support the conveyance of accurate information surrounding sex offenders and their rehabilitation process. There are few existing measures utilized for measuring attitudes toward sex offenders, and those in use vary in their psychometric imperfections. The goal of this study was to pool items from these measures to create a new concise scale psychometrically superior to those already in existence. The results of EFA and CFA analyses demonstrated this goal was achieved, in that the derived 3-factor model (including: Beliefs about the Possibility of Rehabilitation, Beliefs about Deviance and Trustworthiness, and Beliefs about How to Punitively Manage Sex Offenders) demonstrated psychometric properties stronger than those of previous scales.

KEYWORDS: sex offenders, attitudes, measures, psychometric properties, treatment, beliefs, stereotypes

This abstract is approved as to form and content

Ann D. Rost, PhD
Chairperson, Advisory Committee
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TABLE OF CONTENTS

Introduction.....	1
Methods.....	10
Participants.....	10
Materials	11
Procedure	12
Results	13
Discussion.....	21
References.....	25
Appendices	27
Appendix A. Demographics.....	27
Appendix B. Community Attitudes Toward Sex Offenders Scale (CATSO)	28
Appendix C. Attitude Toward Sex Offenders Scale (ATS).....	30
Appendix D. Attitudes Toward the Treatment of Sex Offenders Scale (ATTSO)	32

LIST OF TABLES

Table 1. EFA Model Fit Indices with 90% Confidence Intervals in Brackets under RMSEA.....	17
Table 2. EFA Cronbach's Alpha Reliability Values with 95% Confidence Intervals in Brackets.....	17
Table 3. Summary of Exploratory Factor Analysis with Loadings Highlighted According to Factor	18
Table 4. Descriptive Statistics of Participant Responses on a 5-Point Likert Scale	19
Table 5. Summary of Confirmatory Factor Analysis.....	20

INTRODUCTION

Societal attitudes toward sex offenders are generally negative (Willis, Malinen, & Johnston, 2013). We are aware of these attitudes even without the use of measurement tools. Despite this common knowledge, there is utility in being able to quantitatively measure the views that communities, and particular populations, have toward these individuals, as many such offenders will likely live in our communities and perhaps share our workplaces. For social scientists, awareness of the strength and specificities of opinions regarding sex offenders may aid in the development of appropriate policy, training programs, educational materials for the community, and support for these individuals returning to the community.

As previously mentioned, some of us may encounter sex offenders in our occupations, so measuring views toward this population in the workplace may aid in predicting the nature of interactions between offenders and employees. In some circumstances, these exchanges may directly influence the recovery of these individuals. One such example of these interactions is correctional workers who encounter sex offenders within correctional facilities. Measuring their beliefs and attitudes may be valuable, as attitudes can affect behavior. In this case, attitudes may play a role in the behavior displayed by disciplinary personnel when interacting with sex offenders in the penal system, which may be different compared to their behavior when interacting with other non-sex offending inmates. In a study conducted by Conley, Hill, Church, Stoeckel, & Allen in 2011, the authors reported a sample of correctional workers largely perceived sex offenders as dangerous, but also acknowledged the possibility of rehabilitation. This

information, paired with their recognition that most of these offenders will be released into the community, offers insight into how these punitive employees viewed the sex offenders with whom they interacted. Their positive views about rehabilitation may have facilitated more positive interaction with sex offender inmates.

Another example for which these measures may be useful is in professions such as counseling, therapy, and social work. These scales would assist in determining the degree of stigma toward sex offenders present in treatment providers (Church, Wakeman, Miller, Clements, & Sun, 2008). Such data could be useful in developing and altering training programs to address potential therapy-interfering behaviors or attitudes. This data is especially relevant for beliefs about treatment effectiveness, given that treatment providers displaying pessimistic views of recovery for sex offenders will likely not implement a supportive therapeutic environment favorable for rehabilitation. In fact, the direct and confrontational approaches previously utilized for sex offenders are shown to increase resistance and opposition to change (Kear-Colwell & Pollack, 1997).

Therapeutic characteristics, such as respect, support, confidence, emotional responsiveness, self-disclosure, open-ended questioning, flexibility, positive reinforcement and the use of humor, however, have shown to improve group participation, perspective-taking, coping skills, taking responsibility and accepting future risk (Fernandez, 1999). A study conducted by Beech and Hamilton-Giachritsis (2005) supported these findings by demonstrating that increased leader support facilitates cohesion and expressiveness, improving the group therapy process for sex offenders and increasing the effectiveness of treatment.

As emphasized by Church, et.al. (2008), public policy is an area heavily influenced by public attitudes toward sex offenders. Knowledge of the strength of these views may be useful in determining how they affect regulation and policy. Strong opinions from the community place significant pressure on public figures to devise increasingly stricter mandates on sex offenders, which limits their freedom in the community. Measuring attitudes may be particularly useful in determining specific stereotypes the public ascribes to sex offenders, which may aid in developing educational materials and programs to inform the public of more realistic data regarding sex offenders. Considering there is little evidence supporting the utility of many of the strict policies dictated to sex offenders (Wright, 2015), this information could also be used to advocate for more evidence-based methods of increasing community safety. Many of the policies in place for sex offenders, in fact, cause the opposite of the intended effect by leading to the neglect of their basic treatment needs. These policies tend to shame many sex offenders into leading anonymous, uninvolved lives (Ragusa-Salerno, Ostermann, & Thomas, 2013), causing isolation and a lack of healthy social support. Social support is an essential aspect of recovery for sex offenders and significantly decreases the likelihood of recidivism (Lawson, 2007).

The previous examples briefly demonstrate why it would be beneficial to possess a tool to efficiently and accurately assess community attitudes toward sex offenders. Unfortunately, there are few empirically supported methods available for that task. Additionally, among the small number of scales in existence, the psychometric properties of each vary creating inconsistency. This study examines some of the existing scales now utilized for measuring attitudes toward sex offenders and explores whether select items

from these measures can be combined into a single concise, comprehensive scale with psychometric properties superior to what is already in existence.

The Community Attitudes Toward Sex Offenders Scale (CATSO) is one such scale being analyzed. Developed by Church, Wakeman, Miller, Clements, and Sun in 2008, it is an 18-item self-report survey measuring attitudes, perceptions, and stereotypes regarding sex offenders. The survey was developed through pilot studies completed with undergraduate students. The final scale is based upon a sample of 347 undergraduate students enrolled in several Introduction to Psychology classes at a major southern university. The mean age of the students was 19.4 years with a range of 17 to 47 years. The majority of the participants were freshmen (63%), female (70%), and Caucasian (79%). Responses are given on a six-point Likert scale with answers ranging from 1: strongly disagree, to 6: strongly agree. Since first developed, the measure has been widely used. In fact, this measure appears to be the most popular simply based on the number of studies conducted in which it was used. Several studies, however, were conducted to confirm or disconfirm the original factor structure of the scale. Results of this research have supported two, three, and four-factor models based upon the same items (Wevodau, Cramer, Gemberling, & Clark, 2016).

Along with Wevodau et al. (2016), Conley, Hill, Church, Stoeckel, and Allen (2011) identified a two-factor model of the CATSO based upon data completed by criminal justice professionals. The factors 'social isolation' and 'capacity to change' each consisted of four items. There was, however, a weak relationship between the factors suggesting this scale may require modification if it is to be used to assess this group of professionals. Three-factor models were identified by Tewksbury, Mustaine, and Payne

(2012) and Chui, Cheng, and Ong (2014). Tewksbury and colleagues (2012) utilized a sample of community correctional workers. Of their three factors, only one was found to be theoretically meaningful. The remaining two were psychometrically weak with a lack of conceptually meaningful loadings. From this, the researchers concluded the CATSO, in its original form and in their newly developed form, is not well equipped for measuring attitudes in criminal justice professionals. Chui and colleagues (2014) utilized a Chinese sample and identified three factors, two of which were similar to those in the original structure. They retained the factors 'social isolation' and 'deviancy' and suggested a unique third factor, 'punitive attitude.' Unfortunately, the model proposed here may not be generalizable to samples in the United States as there is no data at this time. Similarly, Shackley, Weiner, Day, & Willis (2014) utilized an Australian sample and identified a four-factor structure including proposed social tendencies, treatment and punishment, crime characteristics, and sexual behavior. Much like the previous adaptation by Chui et al. (2014), this model was supported for use in the population in which it was established, but it cannot be appropriately applied to samples in the United States without pilot testing and establishing psychometric properties. A study conducted by Tewksbury and Mustaine (2013) is the only one reported by Wevodau et al. (2016) supporting the original factor structure of the CATSO. Although the majority of the previous studies suggest this scale cannot appropriately measure attitudes of criminal justice professionals, the researchers suggest the CATSO may be suitable to assess law enforcement supervisors.

The original CATSO scale utilizes a four-factor model including 'Social Isolation', 'Capacity to Change', 'Severity', and 'Deviancy'. The structure of this model

demonstrates only moderate strength in overall internal consistency ($\alpha = 0.74$) and exceptionally poor internal consistency in the 'Deviancy' factor ($\alpha = 0.43$). The subpar strength of the overall alpha value limits the scale to large groups rather than individual use or clinical assessment (Church, et al., 2008), and the very low alpha value for the fourth factor casts doubt on the model structure. Finally, the predictive validity of the CATSO has not been established. These shortcomings support the need for exploration of various model structures in unique samples and populations to determine if modification can improve the model. Although results of the studies described above that provide conflicting support for the factor structure of the CATSO may be due to differing samples rather than a weak original model, there is still value in exploring the structure of the items in a more generalizable sample rather than undergraduate students or other specific groups.

Another established scale used to measure individual opinion of this population is the Attitudes Toward Sex Offenders Scale (ATS), a 36-item self-report survey. This measure was adapted from the Attitude Toward Prisoners Scale (ATP) (Melvin Gramling, & Gardner, 1985) by Hogue (1993) by replacing the word "prisoner" with "sex offender." Responses are given on a five-point Likert scale with answers ranging from 1: strongly disagree, to 5: strongly agree. The ATS has demonstrated a good level of reliability, with a Cronbach's alpha of 0.92 (Nelson, Herlihy, & Oescher, 2002) in one sample, and a test-retest reliability after two weeks of $r = 0.82$ (Ferguson & Ireland, 2006). Additionally, the construct validity of the ATS was established by Hogue (1993). Though this measure appears to have acceptable parameters, as internal consistency values range from 0.88-0.93 depending on the sample, the 36 items in this scale

correlated with only one general factor, indicating it measures a single construct. Given this information, it has been suggested that the length of this scale could be drastically reduced without sacrificing the strong psychometric properties (Kjelsberg, Skoglund, & Rustad, 2007). Hogue has since developed a 21-item version of this scale based on a three-factor model including 'Trust', 'Intent', and 'Social Distance'. The internal consistency of this scale has demonstrated strong psychometric properties as well, with an internal consistency coefficient of 0.91. The three factors also demonstrated acceptable alpha values of 0.83, 0.84, and 0.79 respectively. The study validating this scale, however, has not yet been published, so further investigation of factor structure is warranted.

Finally, the Attitudes Toward the Treatment of Sex Offenders Scale (ATTSO) is a 35-item self-report survey (Wnuk, Chapman, & Jeglic, 2006). Responses are given on a five-point Likert scale ranging from 1: disagree strongly, to 5: agree strongly. This measure has demonstrated good internal consistency ($\alpha = 0.86$) as well as strong alpha coefficients for its three factors 'Incapacitation' (0.88), 'Treatment Ineffectiveness' (0.81), and 'Mandated Treatment' (0.78). Of the three factors derived in this model, however, only the first two are correlated while the third factor is unrelated to the other two constructs. This is not inherently a problem, but it is unusual. Therefore, further exploration of these properties are warranted. Additionally, 16 items were removed from the original 35 to better fit the three factor model (Wnuk, Chapman, & Jeglic, 2006). Given that this scale measures a slightly different general construct than the previously mentioned scales, including the deleted items in the current analysis may provide support for factors present in the other measures.

Each of these scales present with its own assets and shortcomings. This study aims to develop a novel factor structure from the combined scales to provide a stronger model fit. It is hypothesized that this process will result in a collection of items that effectively and efficiently measure constructs representing attitudes toward this population in a single scale. Not only would this unique tool facilitate a more expeditious data collection process, it also aims to provide a more comprehensive description of attitudes toward sex offenders than other established measures. If accurate information regarding public attitudes toward this population is more easily obtained, perhaps this data will be sought out more frequently in a wider range of settings. Further, acquiring this information may conceivably prompt community education and training to counter negative views and provide support for these individuals, which may reduce sex offender recidivism and improve community safety.

The purpose of this study is to determine whether pooling items from these measures will result in a strong model for measuring attitudes toward sex offenders that is concise and psychometrically superior to those already in existence. Items from each measure (including the eliminated 16 items from the ATTSO) will be pooled into an Exploratory Factor Analysis (EFA), and general factors will be identified. It is hypothesized this new model will maximize the amount of variance explained in a more comprehensive and conservative measure. A subsequent Confirmatory Factor Analysis (CFA) will be calculated to confirm evidence supporting identified factors and item fit. Despite imperfections in the current scales, their corresponding items will be utilized in these analyses given that these measures have shown to be appropriate in some samples and studies. Additionally, these scales are not so flawed that they negate valuable

information gathered from results. The purpose of this study is not to prove these measures invalid, but rather examine whether a stronger model is possible using items from these scales. Although Harper and Hogue (2015) argue the CATSO and ATS measure different overall constructs (social stereotypes versus attitudes, respectively), the current study attempts to explore whether these, and the third construct introduced by the ATTSO (attitudes toward treatment), contain overlapping factors which can coexist in a single scale rather than separate measures.

METHODS

Participants

Participants included 400 adults living in the United States recruited through Amazon's Mechanical Turk (MTurk) website. This data collection process aimed to ensure that the sample had heterogeneous demographic qualities (e.g., age, race, socioeconomic status). Amazon's MTurk website is an online marketplace where individuals choose to complete tasks in exchange for monetary compensation. It is a venue that provides useful, quality data, from a substantially more diverse sample than those pulled from introductory psychology classes and will be valuable given the community sample desired (Buhrmester, Kwang, & Gosling, 2011).

Participants were 47.3% female ($n = 189$) with ages ranging from 19 to 76 (M age = 35.20, $SD = 10.45$). Seventy-eight percent ($n = 311$) of the sample endorsed a White/Non-Hispanic ethnicity, 7% ($n = 27$) endorsed an Asian ethnicity, 6% ($n = 25$) endorsed a Black/African American ethnicity, 6% ($n = 24$) endorsed a Hispanic/Latino ethnicity, and less than 3% ($n = 12$) reported a Biracial or other ethnicity. Only one participant chose not to answer the question. Regarding education, 0.3 % ($n = 1$) did not complete high school, 10.8% ($n = 43$) had a high school diploma/GED, 38% ($n = 152$) completed some college or had an associate's degree, 39 % ($n = 156$) had a bachelor's degree, and 11.8 % ($n = 47$) had a master's degree or higher.

Materials

Demographics: A short demographic questionnaire was administered to gain information about our participant pool (See Appendix A).

Community Attitudes Toward Sex Offenders Scale: The CATSO survey instrument (Church, et al. 2008) consists of 18 items intended to measure attitudes, perceptions and stereotypes concerning sex offenders. Each item is rated on a 6-point scale ranging from Strongly Disagree (1) to Strongly Agree (6). Church et al. (2008) determined the questionnaire to be reliable and valid based on a two phase administration of the questionnaire with undergraduate psychology students at a major southern university. The coefficient alpha reflecting internal consistency was reported as 0.74 (See Appendix B).

Attitudes Toward Sexual Offenders Scale: The ATS is a 36-item self-report survey measuring an individual's attitudes towards sex offenders. This measure was adapted from the Attitude Toward Prisoners Scale (ATP) (Melvin Gramling, & Gardner, 1985) by Hogue (Hogue, 1993) whereby the word "prisoner" was changed to "sex offender." Responses are given on a five-point Likert scale with answers ranging from Completely Disagree (1) to Completely Agree (5). The ATS has demonstrated a good level of reliability, with a Cronbach's alpha of 0.92 (Nelson, Herlihy, & Oescher, 2002) and a test-retest reliability after two weeks of $r = 0.82$ (Ferguson & Ireland, 2006). The construct validity of the ATS was established by Hogue (1993) (See Appendix C).

Attitudes Toward the Treatment of Sex Offenders Scale: The ATTSO is a 35-item self-report survey designed to measure an individual's attitudes towards the treatment of sex offenders. Responses are recorded on a five-point Likert scale with answers ranging

from Disagree Strongly (1) to Agree Strongly (5). The scale was developed on a sample of undergraduate students. Internal consistency was calculated using Cronbach's coefficient, and results indicated adequate to strong internal consistency ($\alpha = 0.81$) (Wnuk, Chapman, & Jeglic, 2006) (See Appendix D).

Procedure

This study was approved by the Missouri State University Institutional Review Board before any data were collected (February 29, 2016: approval #16-0319). Participants signed up for the study through MTurk. They were presented with a link that redirected to Qualtrics. Participants were then asked to respond to the informed consent which outlines their rights as a participant, the general nature of the study, including a brief description of procedures, an explanation of risks/benefits, and contact information should they have any additional questions. If they chose to participate in the study, they were directed to choose "Yes" when responding to the statement, "I have read and agree to the terms above".

Upon agreeing to participate in the study, subjects were presented with all items from the three questionnaires, the Community Attitudes Toward Sex Offenders Scale, the Attitudes Toward Sex Offenders Scale, and the Attitudes Toward Treatment of Sex Offenders Scale, in a randomized order. Upon completion, participants were asked demographic information. The entire process including consent, data collection, and demographics required less than 30 minutes. Each participant was compensated \$1.00.

RESULTS

An exploratory factor analysis (EFA) was used to analyze the underlying factors present in the items combined from the Community Attitudes Toward Sex Offenders (CATSO), the Attitudes Toward Sex Offenders (ATS), and the Attitudes Toward the Treatment of Sex Offenders (ATTSO) questionnaires using *psych* package in *R*. Data were screened in SPSS for multivariate assumptions (normality, linearity, homogeneity, and homoscedasticity), and all assumptions were met. Forty-three multivariate outliers were detected using Mahalanobis distance ($\chi^2(89) = 135.96$) and were removed. Participants with non-random missing data spanning more than 5% of the variables were also removed. The remaining random missing data were replaced using Linear Trend at Point. The following EFA analyses were conducted on data from 200 of the 400 participants using guidelines outlined in Preacher and MacCallum (2003).

A parallel analysis examination suggested five overall factors, the Kaiser Criterion suggested six overall factors, and the scree plot examination suggested three overall factors. Initially, an EFA was calculated using a 3-factor model based on analysis of the scree plot. Maximum likelihood estimation was used with direct oblimin rotation because of expected factor correlation.

After testing all 89 questions, 17 items split across several factors (5, 12, 24, 33, 34, 38, 40, 42, 43, 44, 45, 48, 51, 57, 59, 75, 83), and three items did not load on any factors (66, 71, 72) using the criterion that loadings must be greater than .300. These items were eliminated from further analyses. In the second round, five items split across several factors (30, 32, 47, 49, 53), and one item did not load on any factors (89). In the

third round, two items split across several factors (27, 37). In the fourth round, one item did not load on any factors (81). In the fifth round, the model achieved simple structure with each item loading on one and only one factor. An additional 3-factor model was tested in which 18 items with factor loadings below 0.500 were eliminated (2, 4, 6, 15, 16, 19, 22, 25, 26, 36, 39, 52, 76, 77, 78, 85, 86, 88). With these items removed, simple structure was compromised and two items split across several factors (41, 54). In the seventh round, two items split across several factors (13, 20). In the eighth round, one item split across several factors (9). In the ninth round, the model achieved simple structure again with each item loading on one and only one factor. Overall, 52 items were removed leaving 37 items across three factors. Though this model was generally adequate, not all the fit statistics were strong or even acceptable in some instances (See RMSEA and TLI in Table 1. Model 1), and the reliability values of the second and third factors were not as strong as desired (See Table 2. Model 1).

Since there was no theory driving the number of factors appropriate for this model, a 4-factor model was examined to determine if it would provide a better fit. After testing all 89 items, 23 items split across several factors (1, 2, 3, 12, 13, 14, 16, 20, 23, 28, 33, 35, 40, 41, 42, 45, 48, 52, 62, 65, 69, 70, 75), and seven items did not load on any factors (22, 26, 39, 66, 71, 72, 74) using the criterion that loadings must be greater than .300. These items were eliminated from further analyses. In the second round, two items split across several factors (59, 68), and two items did not load on any factors (25, 78). In the third round, one item split across several factors (61). In the fourth round, one item split across several factors (49). Simple structure was achieved in the fifth round with each item loading on one and only one factor. An additional 4-factor model was tested in

which 16 items with factor loadings below 0.500 were eliminated (4, 5, 6, 9, 10, 36, 46, 51, 53, 57, 81, 84, 85, 86, 88, 89). With these items removed, simple structure was maintained in the sixth round. Overall, 52 items were removed leaving 37 items across four factors. The fit statistics were good (See Table 1. Model 2), and the reliability alpha values were strong for the overall model and each factor excluding the final factor (See Table 2. Model 2).

When analyzing the questions associated with each factor, there did not appear to be decipherable cohesion between the questions in the fourth factor, and it could not be appropriately named. Consequently, an additional EFA was calculated for a three factor model including only items from the first three factors to determine whether the fit and reliability statistics of the model would persist if the five items from the fourth factor were removed from the analyses. With the additional exclusion of item 7 for loading across multiple factors, the strength of the fit indices improved (See Table 1. Model 3), and the reliability values remained strong (See Table 2. Model 3), supporting the removal of the fourth factor from the analyses. Therefore, the corresponding items were removed, and the model was reduced to 31 items across three factors. Factor 1 appeared to assess one's beliefs about the possibility of rehabilitation for sex offenders. Factor 2 appeared to assess one's beliefs about the deviancy and trustworthiness of sex offenders. Factor 3 appeared to assess one's beliefs about how sex offenders should be punitively managed. Factor loadings are presented in Table 3, and the original scales can be viewed in Appendices B, C, and D. The descriptive statistics for participant responses can be viewed in Table 4, which shows attitudes in this sample were generally neutral.

A Confirmatory Factor Analysis (CFA) was used to determine if the presented model appropriately fit the data using data from the remaining 200 participants. Results of this analysis indicated the data are a good fit to the model with strong fit statistics ($X^2(431) = 715.948, p < .001$; RMSEA = 0.057, 90% CI [0.050, 0.065]; SRMR = 0.056; CFI = 0.927; TLI = 0.921), and all items loaded appropriately onto designated factors. Factor loadings are presented in Table 5. There was, however, an unusually strong correlation between the first and third factors ($r = 0.86$), labeled “Beliefs about the Possibility of Rehabilitation in Sex Offenders” and “Beliefs about How to Punitively Manage Sex Offenders” respectively. Although these factors are highly related, there would be a considerable loss of valuable information if they were to be collapsed into a single factor. For example, one’s beliefs about whether sex offenders can be rehabilitated may not necessarily predict their beliefs about how sex offenders should be managed. An individual may believe rehabilitation is possible, but may still support severe punishment for these offenders. In contrast, an individual may not believe rehabilitation is possible but may still believe less severe punishments are fair based on the crime. Whether one believes a sex offender can be successfully treated may differ drastically from whether they believe these offenders should be severely punished or released. By allowing these factors to remain separate, this model may detect these unique differences and provide more information as a result.

Table 1. EFA Model Fit Indices with 90% Confidence Intervals in Brackets under RMSEA

	TLI	CFI	RMSEA	RMSR
Model 1 (3-Factor Model)	0.883	0.903	0.067 [0.055, 0.068]	0.050
Model 2 (4-Factor Model)	0.967	0.974	0.039 [0.021, 0.041]	0.040
Model 3 (3-Factor Model Reduced from 4 Factors)	0.982	0.986	0.034 [0.010, 0.038]	0.030

Table 2. EFA Cronbach's Alpha Reliability Values with 95% Confidence Intervals in Brackets

	Overall	Factor 1	Factor 2	Factor 3	Factor 4
Model 1 (3-Factor Model)	0.95 [0.93, 0.96]	0.97 [0.95, 0.98]	0.79 [0.72, 0.86]	0.77 [0.69, 0.85]	
Model 2 (4-Factor Model)	0.95 [0.93, 0.96]	0.94 [0.91, 0.97]	0.90 [0.86, 0.93]	0.93 [0.88, 0.97]	0.75 [0.65, 0.84]
Model 3 (3-Factor Model Reduced from 4 Factors)	0.96 [0.94, 0.97]	0.94 [0.91, 0.97]	0.90 [0.86, 0.93]	0.93 [0.88, 0.97]	

Table 3. Summary of Exploratory Factor Analysis with Loadings Highlighted According to Factor

Scale and Questions		Oblimin Rotated Factor Loadings		
		Factor 1	Factor 2	Factor 3
CATSO 11	Q11	0.77	-0.02	0.15
ATS 3	Q21	0.55	0.24	0.09
ATS 13	Q31	0.75	-0.01	0.15
ATS 32	Q50	-0.60	-0.21	-0.05
ATTSO 1	Q55	-0.84	0.05	-0.08
ATTSO 2	Q56	-0.70	-0.11	0.06
ATTSO 4	Q58	0.66	0.16	-0.09
ATTSO 6	Q60	0.76	-0.01	-0.05
ATTSO 9	Q63	0.68	0.03	0.06
ATTSO 10	Q64	-0.76	0.05	-0.08
ATTSO 13	Q67	0.75	-0.02	0.04
CATSO 8	Q8	0.23	0.42	-0.25
ATS 1	Q19	0.04	0.55	-0.04
ATS 6	Q24	0.00	0.78	0.04
ATS 9	Q27	0.27	0.61	-0.12
ATS 12	Q30	0.18	0.59	0.01
ATS 14	Q32	0.09	0.75	-0.05
ATS 16	Q34	-0.10	0.74	0.17
ATS 19	Q37	0.16	0.57	0.02
ATS 20	Q38	0.16	-0.60	-0.20
ATS 25	Q43	0.12	0.50	0.18
ATS 26	Q44	0.01	-0.55	-0.13
ATS 29	Q47	0.08	0.60	0.18
ATTSO 22	Q76	0.00	0.43	-0.10
CATSO 18	Q18	0.03	0.05	0.87
ATS 11	Q29	-0.19	-0.12	-0.50
ATS 36	Q54	0.02	-0.22	-0.61
ATTSO 19	Q73	0.21	0.10	0.57
ATTSO 25	Q79	0.22	-0.05	0.57
ATTSO 26	Q80	0.08	-0.02	0.90
ATTSO 33	Q87	0.04	0.06	0.77

Table 4. Descriptive Statistics of Participant Responses on a 5-Point Likert Scale

	Mean	Standard Deviation
Factor 1	2.69	0.72
Factor 2	3.44	0.67
Factor 3	2.67	0.86

Table 5. Summary of Confirmatory Factor Analysis

Scale and Questions		Oblimin Rotated Factor Loadings		
		Factor 1	Factor 2	Factor 3
CATSO 11	Q11	0.83		
ATS 3	Q21	0.78		
ATS 13	Q31	0.78		
ATS 32	Q50	-0.65		
ATTSO 1	Q55	-0.83		
ATTSO 2	Q56	-0.64		
ATTSO 4	Q58	0.73		
ATTSO 6	Q60	0.70		
ATTSO 9	Q63	0.74		
ATTSO 10	Q64	-0.77		
ATTSO 13	Q67	0.66		
CATSO 8	Q8		0.40	
ATS 1	Q19		0.62	
ATS 6	Q24		0.76	
ATS 9	Q27		0.69	
ATS 12	Q30		0.71	
ATS 14	Q32		0.65	
ATS 16	Q34		0.79	
ATS 19	Q37		0.65	
ATS 20	Q38		-0.71	
ATS 25	Q43		0.67	
ATS 26	Q44		-0.70	
ATS 29	Q47		0.77	
ATTSO 22	Q76		0.45	
CATSO 18	Q18			0.90
ATS 11	Q29			-0.59
ATS 36	Q54			-0.70
ATTSO 19	Q73			0.87
ATTSO 25	Q79			0.67
ATTSO 26	Q80			0.90
ATTSO 33	Q87			0.84

DISCUSSION

The goal of this study was to use items pooled from the CATSO, ATS, and ATTSO to create a single concise, comprehensive scale to measure attitudes toward sex offenders that is superior to currently available assessment tools. This goal was achieved, in that the model suggested from these analyses did provide better fit statistics and stronger reliability than those in the established scales. By combining existing measures with varying strengths, we were able to create a stronger model to assess attitudes toward sex offenders. The results suggest this model may be useful in effectively assessing attitudes in similar samples, which may also stimulate further research using dissimilar samples.

The ability to examine attitudes toward sex offenders may offer insight into biased or erroneous beliefs regarding this population, which may facilitate the transmission of factual information based on prevalent stereotypes of the individuals being addressed. It is expected that providing accurate information about sex offenders, if delivered effectively, will encourage evidence-based methods of treatment, pro-social interaction, and discourage stringent policies that have no empirical basis. The underlying hope is that this study contributes to the much needed exploration of these attitudes.

The current scale, despite improvements, remains limited in its comprehensiveness. The factors suggested in the model include ‘beliefs about the possibility of rehabilitation’, ‘beliefs about trustworthiness and deviancy’, and ‘beliefs about punitive management’. Although these are useful constructs in assessing attitudes toward sex offenders, these constructs are broad and may not capture as much specific information about beliefs as would the individual measures from which this model was

derived. Additionally, neither the current measure nor this study provide insight into behavioral prediction of the sample assessed. There is a lack of information regarding how results from this scale predict behavior toward sex offenders.

Regarding limitations, lack of racial diversity in the sample is a possible shortcoming. The majority of the sample was white (78%) with little more than six percent of any other race or ethnicity being represented. Therefore, attempting to apply these results to more diverse communities may result in a weaker fit to the model. Repeating these analyses in communities of varying diversities may provide more information about appropriate model structure and unique attitudes in various subcultures of the United States.

Another limitation is the lack of information regarding the participants' experience with sex offenders, as there was no such question in the demographic survey. Similarly, there was no data gathered regarding whether participants had ever themselves been convicted of a sex crime. Being a member of the target population could alter one's responses. Given that experience with sex offenders and the rate of conviction of sex crimes in the sample is unknown, the current model may not be applicable to these groups. Additionally, random selection may have been compromised due to a self-selecting phenomenon, as participants may have been drawn to the title advertising Attitudes Toward Sex Offenders for unknown reasons. Therefore, we cannot conclude our sample is representative of the general community. Future research should consider adding such questions to better understand the characteristics of the survey completers.

One of the limitations of the data analysis is the differing number of points on the scales utilized with two being measured on a 5-point scale and one on a 6-point scale

with no midpoint. The differing anchors may have been confusing for participants and possibly affected their answers. For example, the absence of a midpoint for the CATSO scale may have forced these items to fit into factors they would not have matched with if a midpoint option had been given. To support the fit and reliability of the suggested model, these items should be re-administered to a similar sample with the CATSO response options altered to fit 5-points. Additionally, the wording of the anchors should be altered to be identical for each item. It is possible these analyses would suggest a different model based on the alteration of the response options.

Future directions of this research involve testing this model in diverse samples to examine external validity across cultures and subcultures. Results from other studies examining the factor structure of the CATSO scale in samples outside the U.S. are unable to generalize their findings to U.S. populations, and the same assumptions should be made regarding subcultures within the United States. The current model may require alteration depending on the targeted population, so it may be beneficial to explore appropriate factor structure for individual subgroups within the population. Such exploration may also warrant the generation of new items to better explain attitudes of these groups.

Additionally, future research may examine attitudes of various samples with differing amounts of contact with sex offenders. Results from studies conducted using the CATSO with criminal justice professionals suggested the original factor structure for the scale is not appropriate for those populations. It cannot be assumed this model is appropriate for those populations either, given that we are unaware of the occupations and amount of contact our participants have with sex offenders on a daily basis. Some of

the justification for having a strong measure to assess attitudes toward sex offenders is based in using the scale with individuals like correctional workers and mental health providers who may come into contact with sex offenders more frequently than the general population. Therefore, attitudes of individuals in these occupations may be examined.

Finally, because there is no theory driving the factor structure of this model, future research may explore alternative structures with different numbers of factors. This study examined only three and four factor models, but other criterion suggested from five to six factors. Given the original goal of determining specificity of attitudes, examining a larger number of factors may provide a model with more detailed and precise factors.

In sum, the public holds a generally pessimistic attitude toward the possibility of rehabilitation for sex offenders. Although this is regarded as common knowledge, the current measure can provide information about particular beliefs regarding the possibility of rehabilitation, deviancy and trustworthiness, and what punitive action should be taken against such offenders. This information could be useful in developing evidence-based material that may be presented to individuals who may come into contact with sex offenders and possibly affect their recovery process, such as correctional workers, mental health providers, or even the general community. Obtaining this data regarding attitudes and introducing credible material based on those attitudes may aid in altering training programs, public policy, and perhaps general attitudes to reflect that of research-based evidence of sex offender rehabilitation rather than those based in fear and shame.

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APPENDICES

Appendix A.

Demographics

- 1) Age _____
- 2) Highest level of education you have completed
 - Less than High School
 - High School / GED
 - Some College
 - 2-Year College Degree
 - 4-Year College Degree
 - Master's Degree
 - Doctoral Degree
 - Professional Degree (JD, MD)
- 3) Race/Ethnicity you most closely identify with
 - Asian
 - African American
 - Hispanic/Latino
 - White
 - Biracial
 - Other
- 4) Gender
 - Female
 - Male

Appendix B.

Community Attitudes Toward Sex Offenders Scale (CATSO)

Items and Scoring

Below are 18 statements about sex offenders and sex offenses. Please select the corresponding number from the rating scale given below for the answer that best describes the way you feel or what you believe. Most of the statements below are difficult to prove or verify in an absolute sense, and many are specifically about your opinion based on what you may have heard, read, or learned; thus, we are less interested in the “right” or “wrong” answers, and more interested in your beliefs and opinions regarding sex offenders. Even if you have no general knowledge about the issue, please provide an answer to each question.

Strongly Disagree	Disagree	Probably Disagree	Probably Agree	Agree	Strongly Agree
1	2	3	4	5	6

1. With support and therapy, someone who committed a sexual offense can learn to change their behavior.
2. People who commit sex offenses should lose their civil rights (e.g. voting and privacy).
3. People who commit sex offenses want to have sex more often than the average person.
4. A lot of sex offenders use their victims to create pornography.
5. Sexual fondling (inappropriate unwarranted touch) is not as bad as rape.
6. Sex offenders prefer to stay home alone rather than be around lots of people.
7. Most sex offenders do not have close friends.
8. Sex offenders have difficulty making friends even if they try real hard.
9. The prison sentences sex offenders receive are much too long when compared to the sentence lengths for other crimes.
10. Sex offenders have high rates of sexual activity.
11. Trying to rehabilitate a sex offender is a waste of time.
12. Sex offenders should wear tracking devices so their location can be pinpointed at any time.
13. Only a few sex offenders are dangerous.
14. Most sex offenders are unmarried men.
15. Someone who uses emotional control when committing a sex offense is not as bad as someone who uses physical control when committing a sex offense.
16. Most sex offenders keep to themselves.

17. A sex offense committed against someone the perpetrator knows is less serious than a sex offense committed against a stranger.
18. Convicted sex offenders should never be released from prison.

Appendix C.

Attitude Toward Sex Offenders Scale (ATS)

Items and Scoring

Below are 36 statements about sex offenders. Please select the corresponding number from the rating scale given below for the answer that best describes the way you feel or what you believe. Most of the statements below are difficult to prove or verify in an absolute sense, and many are specifically about your opinion based on what you may have heard, read, or learned; thus, we are less interested in the “right” or “wrong” answers, and more interested in your beliefs and opinions regarding prisoners. Even if you have no general knowledge about the issue, please provide an answer to each question.

Completely Disagree	Disagree	Uncertain	Agree	Completely Agree
1	2	3	4	5

1. Sex offenders are different from most people.
2. Only a few sex offenders are really dangerous.
3. Sex offenders never change.
4. Most sex offenders are themselves victims and deserve to be helped.
5. Sex offenders have feelings like everyone else.
6. It is not wise to trust a sex offender too much.
7. I do like many sex offenders.
8. Poor conditions in prison only make the sex offender even more bitter.
9. Give a sex offender a little finger and he takes the whole arm/hand.
10. Most sex offenders are stupid.
11. Sex offenders need love and encouragement just like everyone else.
12. You should not expect too much from a sex offender.
13. To try to rehabilitate sex offenders is a waste of time and money.
14. You never know when a sex offender is telling the truth.
15. Sex offenders are neither better nor worse than other people.
16. You constantly have to be on guard with a sex offender.
17. Sex offenders generally think and act alike.
18. If you show a sex offender respect, he shows respect back.
19. Sex offenders only think about themselves.
20. There are some sex offenders I could place my life in the hands of.

21. Sex offenders do listen to reason.
22. Most sex offenders are too lazy to hold an honest job.
23. I would not have anything against being neighbors with a previous sex offender.
24. Sex offenders are quite simply evil.
25. Sex offenders are always trying to exploit others.
26. Most sex offenders have about the same values as the rest of us.
27. I would never allow one of my children go out with a previous sex offender.
28. Most sex offenders have the ability to love.
29. Sex offenders are quite simply immoral.
30. Sex offenders should be kept under strict and tough discipline.
31. Sex offenders are basically bad people.
32. Most sex offenders can be rehabilitated.
33. Some sex offenders are pretty nice people.
34. I would like to spend time with some sex offenders.
35. Sex offenders only respect raw strength.
36. If a sex offender behaves well in prison he should be released on parole.

Appendix D.

Attitudes Toward the Treatment of Sex Offenders Scale (ATTSO)

The statements listed below describe different attitudes toward the treatment of sex offenders in the United States. There are no right or wrong answers, only opinions. You are asked to express your feelings about each statement by indicating whether you (1) Disagree strongly, (2) Disagree, (3) Undecided, (4) Agree, or (5) Agree strongly. Indicate your opinion by writing the number that best describes your personal attitude in the left-hand margin. Please answer every item.

Disagree Strongly	Disagree	Undecided	Agree	Agree Strongly
1	2	3	4	5

1. I believe that sex offenders can be treated.
2. Treatment programs for sex offenders are effective.
3. It is better to treat sex offenders because most of them will be released.
4. Most sex offenders will not respond to treatment.
5. People who want to work with sex offenders are crazy.
6. Psychotherapy will not work with sex offenders.
7. I believe that all sex offenders should be chemically castrated.
8. Regardless of treatment, all sex offenders will eventually reoffend.
9. Treating sex offenders is a futile endeavor.
10. Sex offenders can be helped using the proper techniques.
11. Treatment doesn't work, sex offenders should be incarcerated for life.
12. Only certain types of sex offenders will respond to treatment.
13. Right now, there are no treatments that work for sex offenders.
14. It is important that that all sex offenders being released receive treatment.
15. We need to urge our politicians to make sex offender treatment mandatory.
16. All sex offenders should go for treatment even if they don't want to.
17. Sex offenders who deny their crime will not benefit from treatment.
18. Treatment only works if the sex offender wants to be there.
19. Sex offenders don't deserve another chance.
20. Tax money should not be used to treat sex offenders.
21. Sex offenders don't need treatment since they chose to commit the crime(s).

22. A sex offender whose crime is rape offends because he is violent.
23. Treatment is only necessary for offenders whose victims are children.
24. Treatment funding should be focused on the victims, not on the offenders.
25. Sex offenders should be executed.
26. Sex offenders should never be released.
27. Most sex offenders serve over 10 years in prison for their crime.
28. The prison sentence sex offenders serve is enough, treatment is not necessary.
29. Treatment is not necessary because everyone in the community knows who the sex offenders are.
30. Civilly committing sex offenders to treatment facilities is a violation of their rights.
31. Treatment should be conducted during incarceration.
32. Sex offenders are the worst kind of offenders.
33. Sex offenders should not be released back into the community.
34. A sex offender is like any other offender, no special treatment is necessary.
35. Treatment of sex offenders should be completed within a year.