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THE DEVELOPMENT AND VALIDATION OF THE ATTITUDES
TOWARDS INDIVIDUALS WHO SELL SEX INVENTORY (ATISS)

by

Madeline Stenersen

A Dissertation

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Abstract

Previous research regarding public and individual attitudes about individuals who sell sex (ISS) suggest these attitudes have a significant impact on how this population is treated in various facets of their life (e.g. mental and physical healthcare, occupational opportunities, and daily interactions with others). The manner in which researchers have measured attitudes about ISS has been historically inconsistent and does not encompass all ISS, often excluding subsections of the population such as men who sell sex. Therefore, the purpose of the current study is to develop and validate the Attitudes Towards Individuals Who Sell Sex Inventory (ATISS), an instrument designed to reliably and validly assess attitudes towards ISS. After constructing an initial item pool and revising based on expert feedback, Study 1 was launched involving an exploratory factor analysis of 31 items. Data from 240 participants revealed a four-factor structure across 21 items including social distance, human value, impact on society, and parenting. Results from Study 1 indicated a Cronbach's Alpha of .95 for the total scale and ranged from .87 to .94 for the subscales. Study 2 was then conducted to determine the convergent and divergent validity of the ATISS structure and test-retest reliability after one month. Results from 405 participants revealed sufficient divergent and convergent validity and adequate test-retest reliability across 37 on all subscales as well as the full ATISS scale scores ($r > .70$). Findings from the current study indicate that the ATISS is a multidimensional, psychometrically sound instrument to measure attitudes towards individuals who sell sex.

Introduction

Previous research regarding public and individual attitudes about individuals who sell sex (ISS) suggest these attitudes have a significant impact on how this population is treated in various facets of their life (e.g. mental and physical healthcare, occupational opportunities, and daily interactions with others; Kristin, Phillips, Benoit & Walby, 2017; Lazarus et al., 2012). Several research studies indicate that negative attitudes towards ISS may stem from misunderstanding and stigma regarding both the individuals selling sex and the practice itself (Lazarus et al., 2012; Sallamann, 2010; Silver, 2010). The manner in which researchers have measured attitudes about ISS has been historically inconsistent and does not encompass all ISS, often excluding subsections of the population such as men who sell sex. The present study aims to fill this need with the construction of a psychometrically sound instrument flexible enough to comprehensively measure attitudes towards all ISS. Ultimately, this instrument can be used to inform future research as well as to create practical interventions that may help address the stigma and accompanying negative effects felt by ISS every day.

Attitude Measurement and Theory

In their 1993 book, Eagly and Chaiken define an attitude as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (p.1). Attitudes, their formation, and their relation to behavior, has long been studied in the social sciences (Eagly & Chaiken, 2007; Greenwald, Smith, Sriram, Bar-Anan & Nosek, 2009; Jain, 2014). The ABC theory of attitude posits that attitudes are made up of three elements; affect (feelings towards a group or object), behavior (intention towards a group or object) and cognition (beliefs an individual has about a group or object; Eagly & Chaiken, 1998). Expanding on this

theory in 2007, Eagly and Chaiken explain that the formation of attitudes can be conceptualized using the *neopartite* analysis;

“when positive and negative experiences become attached to the attitude objects in people’s minds, they acquire mental associations that join the attitude object to relevant prior experience, which may have taken the form of cognitive, affective, or behavioral responding” (p. 595).

This theory has been the conceptualization behind several previous scales measuring attitudes towards organizations, groups, and individuals (De Meuse & Hostager, 2001; van den Berg, Manstead, van der Pligt & Wigboldus, 2006).

Further, attitudes scales have historically focused on elements of attitude most relevant for the group or object towards which attitudes are being assessed. For instance, the concept of Social Distance, originally developed by Bogardus (1959), has been used repeatedly in instruments measuring attitudes towards stigmatized groups (Ouellette-Kuntz, Burge, Brown & Arsenault, 2010). This concept assesses the “relative willingness of an individual to take part in relationships of varying degrees of intimacy with a person who has a stigmatized identity” (Ouellette-Kuntz et al., 2010, p. 133) as a measurement of prejudice held towards a group (Baumann, 2007; Lauber, Nordt, Falcato & Rossler, 2004; Van Dorn, Swanson, Elbogen & Schwartz, 2005).

Relatedly, dehumanization, that is, the act of depriving a person or group of human qualities, has historically been a beginning step in stigmatizing and/or discrimination towards individuals and groups different than oneself in society (Haslam, 2006). Holding the belief that an individual is not deserving of human rights, like those enjoyed by oneself, has been used in a variety of historical contexts (e.g. slavery, LGBT rights) in order to deprive others of those rights

through exclusion and division (Haslam, 2006; Schoonover, 2015; Wilkins, Whiting, Watson, Russon & Moncrief, 2013). Attitudes leading to discriminatory behavior have also been linked to fear, and beliefs about what impact an individual or a group of individuals will have on any given society and its current norms. Specific to ISS, previous literature has often pointed to the view that ISS are immoral, and/or have the capacity and will to ruin the norms of current society regarding relationships, sex, and marriage (Sloan & Wahab, 2000).

Attitudes Towards Individuals Who Sell Sex

Researcher has repeatedly recognized that an attitude exerts a dynamic rather than passive influence on behavior (Glasman & Albarracín, 2006; Jain, 2014; Kraus, 1990). These dynamic influences on people's behavior towards ISS have been shown to affect the ability of an individual who sells sex to obtain protection and respect from law enforcement (Urban Justice Center, 2003, 2005; Weitzer, 2017), to maintain custody and supervision over their children (Dalla, 2000; McClelland & Newell, 2016; Sloss & Harper, 2004), to receive fair and unbiased treatment in the court and criminal justice system (Human Rights Watch, 2012; PROS Network and Sex Workers Project, 2012), and to adequately access and receive necessary healthcare services (Cohan et al., 2006; Hardman, 1997; Kurtz et al., 2005; Lazarus et al., 2012; Scrambler & Paoli, 2008; Zweig, Schlichter & Burt, 2002). More specifically, previous literature has found that identifying oneself as a "sex worker" may result in receiving inadequate healthcare as providers assume ISS are criminals (Zweig et al., 2002) or assume they will compromise treatment programs by continuing to sell sexual services (Hood-Brown, 1998; Sloan & Wahab, 2000; Weiner, 1996).

These negative attitudes are not unknown to ISS. Tomura (2009) found that among their sample of individuals who sell sex, participants expressed an awareness of engaging in what the

public thinks is bad, experiences of negative labeling by people who discovered they were selling sex, and purposefully hiding and lying about their identity as someone who sold sex. Despite this, ISS have also exhibited a significant amount of resiliency and resistance in combating stigma (Dalla, Xia & Kennedy, 2003), often using supportive relationships with other ISS in their community to cope (Dalla et al., 2003; Weitzer, 2017).

Previous Attitudes Measures

The two previous measures of attitudes towards ISS are the Attitudes Towards Prostitution Scale (ATPS; Sawyer & Metz, 2009) and the Attitudes towards Prostitutes and Prostitution Scale (APPS; Levin & Peled, 2011). Although both scales have their merits, especially considering their utility for which they were developed, both scales also display several shared limitations. First, both scales exhibit item wording that overtly assumes an individual that is selling sex (prostitute) is female and that their customer is male. This limitation is troubling, especially given the growing evidence that individuals who sell sex are represented by all gender identities (Scott et al., 2005; Martinez & Kelle, 2014). Second, development and norming samples of the ATPS and the APPS suffer from unique criticisms. The ATPS was most recently updated by Sawyer and Metz (2009) who created three major subscales within the instrument (Social/Legal Support of Prostitution, Beliefs about Prostitutes, Family Values Related to Prostitution) for the specific use of measuring attitudes towards prostitutes among men who have purchased sex. Though subsequent studies have similarly utilized this scale to assess the attitudes of other populations (Kennedy, Klein, Gorzalka, & Yuille, 2004; Silver, Karakurt & Boyson, 2015), the reliability, validity, and factor structure of the ATPS outside of its norming sample has not been adequately studied in the academic literature. The APPS norming sample was predominantly Jewish undergraduate students at an Israeli university. Given

this, the use of the APPS on participants not resembling this group would be limited. Finally, neither of these scales utilized an established theory of attitude development or measurement in their item or structure development.

Present Study

Given the limitations of previous scales, there is an increasing need for a reliable instrument which assesses attitudes towards ISS. Therefore, the purpose of the current study is to develop the Attitudes Towards Individuals who Sell Sex Inventory (ATISS), an instrument designed to reliably and validly assess attitudes towards ISS. The creation of the ATISS subscale and items was informed by the ABC theory of attitude and created with the intention of measuring attitudes that reflect the unique experiences of ISS in everyday settings and those of both clinical and research value. Ultimately, information gleaned from the responses to this scale could inform not only future research, but also interventions aiming to address the societal and individual inequality faced by ISS.

Research Questions

The following research questions and hypotheses were addressed during the current study:

- RQ1: What is the factor structure of the ATISS suggested by the development sample?
- RQ2: Do ATISS scores exhibit reliability?
 - Do the ATISS scores exhibit adequate internal consistency?
 - Do the ATISS scores exhibit adequate test-retest reliability?
- RQ3: Do ATISS scores demonstrate validity?
 - Do the ATISS scores exhibit adequate discriminant validity?
 - Do the ATISS scores exhibit adequate convergent validity?

Methods

Study 1

The purpose of Study 1 was to develop an initial item pool for the ATISS and determine factor structure. The following research question was addressed in this study:

RQ1: What is the factor structure of the ATISS suggested by the development sample?

Method

Item Pool Generation and Construction. An initial pool of items was constructed for the pilot version of the ATISS informed by Eagly and Chaiken's ABC theory of attitude (1998) and extant attitudes scales towards marginalized groups (Kanamori, Cornelius-White, Pegors, Daniel & Hulgus, 2015; Worthington & Becker-Schutte, 2005). Informed by previous literature, aspects such as attitudes regarding social distance, impact on society, and human value, ones often impacting individuals who sell sex, were also considered targets in developing initial items. Specifically, five subscales were created in order to assess both behavioral (Social Distance) and cognitive (Human Value, Impact on Society, Health, Parenting) aspects of attitude (Eagly & Chaiken, 1998). A sample item for social distance would be "I would feel comfortable having someone live in my neighborhood who I knew sold sex." Initial ATISS items were also created in a way that does not assume the gender, or other characteristics of the individual selling sex. The items also were generated using wording to allow future users to utilize the scale with a vignette, or other lead, to obtain information about the diverse range of individuals who sell sex along the continuum of agency (e.g. replacing ISS with sex trafficking victim/survivor or sex worker). Finally, items were generated by the authors and focused on resulting information that may be particularly useful for future research and organizations working closely with populations of individuals who sell sex.

Following construction, the pilot ATISS consisted of 49 items, each measured on a 7-point Likert scale. The pool of items was then sent to ten subject matter experts (SMEs), of whom six contributed feedback to the item list. SMEs were selected based on their previous clinical and scholarly experiences, specifically the content of their published works, and documented work in the field. Ultimately, the current study's SMEs represented experts in the areas of sex work, sex trafficking, sex trade, and scale development. These SMEs were used to establish sufficient content validity measured by the scale content validity index (S-CVI; Polit & Beck, 2006; Polit, Beck, & Owen, 2007) using the process outlined in Polit et al. (2007). To establish the S-CVI, SMEs were given operational definitions of ATISS's key constructs (e.g. ISS, social distance etc.) as well as a form asking them to rate the relevancy of each item on a 1 (not relevant) to 4 (highly relevant) scale. The S-CVI was calculated using the average of the items' item content validity index (I-CVI, the number of SMEs rating an item 3 or 4 over the number of SMEs). For the current study, this meant that the item must have received a rating of 3 or 4 by at least 4 of the 6 experts to be considered for further inclusion in the scale. SMEs were also asked to provide qualitative feedback on items. This led to the revising of 3 items which were then sent back to experts, who agreed sufficiently for their inclusion in the final scale. Following all feedback from SMEs, 17 items from the initial pool of items were eliminated and the ATISS achieved a S-CVI of .80, considered an acceptable amount of agreement as outlined in Polit et al. (2006).

Pilot Study. Following expert review, the pilot ATISS was sent out to 10 individuals not involved in academia for feedback on clarity and wording. The items received positive feedback from all participants and ultimately no wording changes were made following the pilot study.

Participants and Procedure. Following the expert review and pilot study, participants were recruited for Study 1 for exploratory factor analysis. Study 1 participants included any individual over the age of 18 currently residing in the United States and participated using Amazon Mechanical Turk (MTurk). Several studies investigating the quality of MTurk samples have found that recruitment for social science research using MTurk was found to have comparable or greater reliability than traditional in-person, college, and internet recruitment procedures (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosling, 2011). Regarding demographics, previous literature has shown that samples collected using MTurk are relatively representative of the general population of the United States (Berinsky et al., 2012; Ipeirotis, 2010). Specifically, racial and geographic distribution of individuals who use MTurk is similar to that of the general population of internet users in the United States (Ipeirotis, 2010). Participants completed the instruments in Study 1 by utilizing the online survey system Qualtrics.

Instrumentation

Demographic Questionnaire. Study 1 utilized the recommended demographic questions outlined by the American Psychological Association (APA, 2010). Participants were asked to indicate their age, sex, gender identity, ethnicity, education, income and if they lived in an urban or rural setting. Participants were also asked if they were born in the United States or not, if they had previously purchased sex, and if they were currently or had previously sold sex.

Pilot Attitudes Towards Individuals Who Sell Sex Inventory (ATISS). The pilot ATISS was developed to assess the attitudes towards individuals who sell sex. Following expert review, 31 items were retained for the pilot ATISS and were distributed to participants in Study 1. All items were presented on a 7-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree) format. Twenty of those items are reverse coded for scoring purposes. Informed by

previous research on relevant elements of attitudes, preliminary subscales of the pilot ATISS included Social Distance, Human Value, Impact on Society, Parenting, and Health.

Attention Check Items. As recommended by Meade and Craig (2012), several attention check items were included in the Study 1 survey to determine the attentiveness of participants and delete responders who were inattentive. Items to assess attention included two items in which participants were asked to select a specific response. Participants who were determined to have answered inattentively were excluded from statistical analysis ($n = 18$).

Results

Study 1 results contained no missing data. No univariate outliers were detected as evidenced by an absence of scores in which $|z| > 3$. No multivariate outliers were detected as determined by a Mahalanobis distance threshold of $p < .001$. A total of 240 individuals participated in Study 1 and ranged in age from 19 to 75 years old. Approximately 95% ($n = 229$) of our participants reported being born in the United States and of those born outside of the United States, only 3 reported residing in the United States for less than 10 years, and 1 reported residing in the United States for less than 1 year. Regarding residential environment, approximately 21.7% ($n = 52$) of our participants reported living in rural areas, representing a slightly larger sample of rural residents when compared to the most recent census data indicating that approximately 19.3% of individuals in the United States currently live in rural communities. Full demographic characteristics are presented in Table 1. [insert Table 1]

Table 1

Study Participant Characteristics

Variable	Study 1		Study 2a		Study 2b	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%

Gender Identity

Man	105	43.8	170	42	6	17.6
Woman	132	55	220	54.3	25	73.5
Transgender Man	1	.4	2	.5	0	0
Transgender Woman	1	.4	4	1	1	2.9
None of the Above	1	.4	9	2.2	2	5.9

Sexual Orientation

Heterosexual/Straight	205	85.4	304	75.1	23	65.7
Lesbian	5	2.1	14	3.5	1	2.9
Gay	3	1.3	11	2.7	2	5.7
Bisexual	24	10	68	16.8	7	20
MSM	1	.4	0	0	0	0
WSW	2	.8	1.	.2	0	0
None of the Above	0	0	7	1.7	1	2.9

Race

Caucasian/White	186	77.5	331	81.7	31	91.1
African American/Black	26	10.8	39	9.6	1	2.9
Asian American/Asian	17	7.1	15	3.7	1	2.9
American Indian/Alaskan Native	4	1.7	3	.7	0	0
Biracial	2	.8	8	2.0	0	0
Multiracial	3	1.3	5	1.2	1	2.9
None of the Above	2	.8	4	1	0	0

Hispanic

Yes	40	16.7	49	12.1	2	5.7
No	200	83.3	356	87.9	32	91.4

Education

Some High School	1	.4	2	.5	0	0
High School Diploma/GED	30	12.5	28	6.9	0	0
Some College/Technical School	57	23.8	63	15.6	8	22.9
2-year College Degree	30	12.5	41	10.1	3	8.6
4-year College Degree	85	35.4	154	38.0	7	20
Some Graduate School	9	3.8	23	5.7	5	14.3
Graduate School/Professional Degree	28	11.7	94	23.2	11	31.4

Income

Under \$60,000	126	52.5	223	55	16	45.7
\$60,000 - \$100,000	74	30.8	102	25.2	9	25.7
\$100,000 or more	40	16.7	80	19.8	9	25.7

Previously Purchased**Sexual Services**

Yes	47	19.6	59	14.6	0	0
No	193	80.4	346	85.4	34	97.1

**Previously Sold Sexual
Services**

Yes – Currently	22	9.2	28	6.9	0	0
Yes – Previously	17	7.1	33	8.1	1	2.9
No	201	83.8	355	84.9	33	94.3

Note: MSM = men who have sex with men, WSW = women who have sex with women

An EFA was conducted to determine the distribution of factors in pilot ATISS items and their loadings. Direct Oblimin rotation was utilized because of the oblique nature of the latent factors. The KMO measuring of sampling adequacy was in the “marvelous” range at .948 (Kaiser, 1974) and the Bartlett’s Test of Sphericity was significant ($p < .001$) indicating a variable suitable for factor detection.

Several methods were used to determine continued inclusion of each item including the eigenvalue-greater-than-1.0 Kaiser criterion, a scree plot, and parallel analysis. These methods combined with a factor loading cut-off of .32 (at least 10% of variance accounted for; Tabachnick & Fidell, 2013) all indicated a four-factor structure. Ten items were removed from further analysis due to low factor loadings ($<.32$) on all factors or loadings on more than one factor. After removal of these items, the four factors accounted for 70.81% of variance. Four of the five original subscales were maintained, eliminating one subscale as items included in this subscale fit best within the remaining four subscales. The resulting Social Distance subscale measured an individual’s preference for maintaining social distance from individuals who sell sex. Human Value examines attitudes towards the human value of an individual who sells sex. Impact on Society assesses attitudes regarding the impact an individual selling sex has on society and its structure. Finally, the Parenting subscale measures attitudes towards the ability for an individual selling sex to be a good parent and maintain custody of their children. Results

indicated a Cronbach’s Alpha of .95 for the total scale and ranged from .87 to .94 for the subscales. Factor loadings for the retained items are shown in Table 2.

Table 2

Factor Loadings for Post-EFA ATISS Items

Item	Factor 1	Factor 2	Factor 3	Factor 4
1. If I knew someone who sold sex, I would tend to avoid that person (R)	.807	.038	-.078	-.075
2. If a person who sold sex asked to live with me or my family I would decline (R)	.565	-.292	-.198	-.065
3. If I had a friend who told me they sold sex, I would tend to avoid that person (R)	.863	.058	.077	-.060
4. I would be upset if someone I’d known for a long time revealed that they sold sex (R)	.809	.012	.029	-.056
5. I avoid individuals who sell sex as much as possible (R)	.907	.021	-.036	.031
6. If I can help it, I won’t associate with individuals who sell sex (R)	.908	-.057	-.079	-.002
7. I would not feel comfortable working with someone I knew had previously sold sex (R)	.739	.148	.086	-.056
8. An individual who sells sex should have the same access to healthcare as any other person	-.004	.813	.006	-.071
9. An individual who sells sex is a human being with their own struggles just like the rest of us	.051	.785	.017	.027

10. An individual who sells sex is a valuable human being	-.062	.673	.081	-.141
11. An individual who sells sex should have the same workplace rights as any other person	.026	.612	.290	-.084
12. Job discrimination against an individual who sells sex is wrong	.140	.522	.296	.075
13. Individuals who sell sex break down society's values of marriage (R)	-.088	-.120	.779	.114
14. Individuals who sell sex damage society's morals (R)	-.129	-.141	.741	.015
15. Individuals who sell sex have a negative impact on society (R)	-.235	.016	.690	-.089
16. An individual who sells sex probably has a disease (R)	.022	.091	.789	-.079
17. An individual who sells sex spreads STIs (R)	.073	.074	.855	-.169
18. An individual who sells sex is sexually perverted (R)	-.119	-.167	.681	.163
19. An individual who sells sex can parent just as effectively as those who don't sell sex	.103	.092	-.008	.784
20. An individual who sells sex should have custody of their children just like everyone else	.50	.049	-.187	.767
21. An individual who sells sex can be a good parent	.046	.260	-.045	.733

Note: Factor loadings > .32 are boldface. Factor 1 = Social Distance, Factor 2 = Human Value, Factor 3 = Impact on Society, Factor 4 = Parenting. (R) = Reverse Coded.

Discussion

Though it was originally predicted that the items in the ATISS would represent five factors, results indicate that a four-factor structure is a better fit. Specifically, the fifth factor

including items examining the perceptions of the health of ISS was subsumed by other factors, ultimately leaving a four-factor structure. Items that resulted in a factor loading below .32 on any factor were removed resulting in the final 21-item ATISS. The final structure of the ATISS is made up of four subscales including Social Distance (seven items), Human Value (five items), Impact on Society (six items), and Parenting (three items).

Though the final item structure of the ATISS exhibited adequate fit and loadings, the use of all positively-worded items within the scale should be noted. Historically, mixing negatively and positively worded items within scales was used to reduce acquiescent bias (i.e. participants assuming an “autopilot” response pattern in which they select all answers at one end of the response choices without intentionality; Couch & Keniston, 1960). However, recent studies have also presented the mixing of positively and negatively worded items as inducing possible confusion in participants by switching the direction of the scale multiple times during administration (Weijters, Baumgartner, & Schillewaet, 2013). This has been known to cause a method factor error in which all of the negatively worded items a scale cluster into one factor solely because of their wording (Qasem & Gul, 2014; Salazar, 2015).

The ATISS, by contrast, utilizes words that instead hold all positive wording, but both negative and positive notation. For example, the item “an individual who sells sex probably has a negative impact on society” is a positively worded item with a negative notation. This approach attempts to gather information in a way that reduces repetitiveness and boredom in participants while also avoiding the confusion and method effect often caused by simply reversing/negating positively worded items.

Finally, it should be noted that both statistical and theoretical relevance resulted in factors that are either all reverse coded (negative notation) or all non-reverse coded (positive notation).

Therefore, it is recommended that future users of the ATISS randomly distribute items to participants in random order to mix together items from different subscales in order to reduce repetitiveness.

Study 2a

The purpose of Study 2a and 2b was to establish the reliability and validity of the ATISS. Specifically, Study 2a utilized multiple methods to establish both convergent and discriminant validity of the ATISS. Study 2b assessed the ATISS' test-retest reliability after a one-month interval. Studies 2a and 2b address the following research questions:

- RQ2: Do ATISS scores exhibit reliability?
 - Do the ATISS scores exhibit adequate internal consistency?
- RQ3: Do ATISS scores demonstrate validity?
 - Do the ATISS scores exhibit adequate discriminant validity?
 - Do the ATISS scores exhibit adequate convergent validity?

Method

Participants and Procedures. Similar to Study 1, Study 2a also utilized Amazon MTurk to recruit potential participants, specifically excluding those participants who had already participated in Study 1. Additionally, Study 2a utilized a snowball and convenience sampling method in recruiting participants through social media methods (e.g. Facebook, Reddit, Instagram). In total, Study 2a included 405 adults currently residing in the United States. Participants were given the ATISS, the Attitudes Toward Prostitution Scale (ATPS), the Attitudes Towards Prostitutes and Prostitution Scale (APPS), the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1989), the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) and demographics questionnaires, administered online using the Qualtrics survey

system. Both the ATPS and APPS were utilized to establish convergent validity compared to the ATISS, and therefore were expected to correlate positive with scores on the ATISS. Conversely, the RSE and SWLS were used to assess divergent validity and therefore it was expected their scores would correlate negatively to the ATISS. Following completion of the demographics questionnaire, participants were asked if they would be willing to be contacted in one month to participate in the test-retest portion of the study. If interested, participants were directed to a separate survey where they may enter an email at which they could be contacted.

Instrumentation

In Study 2a, participants were asked to complete items from the ATISS following Study 1's EFA analysis, attention check items, and demographic questions identical to Study 1. Participants were also given the following scales to establish validity and reliability of the ATISS.

Attitudes Towards Individuals Who Sell Sex ATISS). The finalized version of the ATISS included 21 items from the pilot ATISS following factor analysis performed in Study 1.

Attitudes Towards Prostitution Scale (ATPS). The ATPS (Sawyer & Metz, 2008) was originally developed to assess the attitudes towards sex trade among individuals who had been arrested for soliciting sex. The ATPS will be utilized to assess convergent validity with the ATISS as both are hypothetically measuring the same construct of attitudes among similar populations. The ATPS consists of 15 items measured on a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree).

The ATPS was normed on a sample of 1,001 men who had been arrested for soliciting an undercover police officer and were subsequently referred to a psychoeducational program. It assesses attitudes using three subscales; Social/Legal Support of Prostitution, Beliefs about

Prostitution, and Family Values Related to Prostitution. Higher scores on the Social/Legal Support of Prostitution subscale suggest endorsements of items supporting the social integration and legalization of prostitution. The Beliefs about Prostitution scale gauges the participants' agreement or disagreement with myths and stereotypes associated with prostitution. An elevated score on this subscale indicates the participant tends to believe that individuals who sell sex are choosing to do so and are satisfied with their work. Finally, the Family Values Related to Prostitution subscale reflects the participants' viewpoint on prostitution and family involvement. Elevated scores on this subscale indicate that a participant may support his daughter becoming a prostitute or have family values in favor of prostitution. Total attitude scores are computed as an overall measure of cognitions regarding prostitution. These are totaled by summing the *T* scores from each of the three subscales and then converting that total to an overall *T* score. In this way all scales contribute equally to the total score. Overall, a high score on the ATPS indicates the participants' agreement with the legalization of prostitution as well as the acceptance of prostitution in social and family areas of life.

Original ATPS internal consistency was measured using Cronbach's alpha coefficient using a subsample of 74 men within the total sample and resulted in sufficient psychometric properties for each of the factors (Social/Legal Support of Prostitution $\alpha = .80$, Beliefs About Prostitution $\alpha = .74$, and Family Values Related to Prostitution $\alpha = .61$). All items on the ATPS exhibited a factor loading of .30 or higher in relation to their appropriate factor. Factor loadings for items in each of the three factors ranged from .33 (Most men go to prostitutes once in a while) to .87 (Prostitution should be legalized). No other validity or reliability statistics were provided. The Cronbach's alpha for the ATPS in the current study was .95.

Attitudes Towards Prostitutes and Prostitution Scale (APPS). The APPS (Levin & Peled, 2011) was developed in Israel and normed on a sample of 338 primarily Jewish undergraduate students at Tel-Aviv University. Scale development was based on an author-constructed theoretical model of attitudes towards prostitutes and prostitution comprised of two spectra and a total of four distinct factors (prostitutes as deviant or normal, prostitutes as choosing or victims, prostitution as deviant or normal, prostitution as choice or victimization). The instrument measures attitudes towards prostitution and prostitutes using these four factors. The current study utilized only the deviant and normative axis to determine convergent validity as they examine participants attitudes towards ISS on a negative/positive spectrum similar to that of the ATISS.

The total APPS consists of 28 items on a 5-point Likert scale ranging from 1 (fully disagree) to 5 (fully agree). The entire scale exhibits a Cronbach's alpha level of .81. Regarding validity, the two dimensions of the scale (attitudes towards prostitutes and attitudes towards prostitution) together accounted for 36.9% of the variance in participant responses. Factor loadings for the 2-factor (i.e., attitudes towards prostitutes and attitudes towards prostitution) ranged from .40 to .84 for items to their respective factors. Additionally, within-scale correlations were found to be low to moderate, ranging from $r = .06$ (between Prostitutes-as-choosing/victimized and Prostitution-by-choice/victimization) to $r = .62$ (between Prostitutes-as-normative/deviant and Prostitution-as-normativeness/deviance). Sufficient convergent validity was found using the APPS compared to the Illinois Rape Myth Acceptance Scale-Short Form (IRMA-SF) and the Self-Perceptions of Social Tolerance Scale (SPST). Levin and Peled (2011) mentioned no statistics regarding discriminant validity estimates or testing.

Scores on the APPS can be measured as a total sum or separately for each subscale. Higher total scores indicate an individual attitude is more closely aligned with the thought that prostitutes are normative and choosing and that prostitution is a non-deviant profession one chooses by choice. The Cronbach's alpha for the APPS normative/deviant axis used in the current study was .91.

Rosenberg Self-Esteem Scale. The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1989) is a global measure of self-esteem consisting of 10 items on a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). The RSES is one of the most widely used measures of self-esteem (Blascovich & Tomaka, 1991; Gray-Little, Williams, & Hancock, 1997). A high score on the RSES indicates a higher level of self-esteem. The RSES scores have exhibited a high Cronbach's alpha average (.81) among its initial development sample of high school students and have demonstrated sufficient validity across multiple studies. Test-retest after 2 weeks reveals correlations ranging from .85 to .88. In their 1997 study, Gray-Little, Williams, and Hancock found that a factor analysis resulted in one major factor (i.e., self-esteem) and sufficient factor loadings for all items on the RSES. Scoring the RSES requires reverse scoring the negatively worded items and summing all the 4-point items.

The RSES was utilized in the current study to establish a sufficient level of discriminant validity. As the author was unable to locate any current literature demonstrating a relationship between attitudes towards individuals and/or groups of people and self-efficacy, it is expected that the RSES will correlate weakly or non-significantly with ATISS due to the difference in constructs measured. The Cronbach's alpha for the RSE in the current study was .89.

Satisfaction with Life Scale. The Satisfaction with Life Scale (SWLS; Diener et al., 1985) is a 5-item measure utilizing a 7-point Likert scale (ranging from 1 = strongly disagree to

7 = strongly agree) used to assess an individual's current global life satisfaction. Higher scores on the SWLS indicate higher global life satisfaction. The SWLS was originally normed on two different samples of undergraduate students and a sample of elderly persons and resulted in a single factor accounting for approximately 66% of the variance. This same study found single-factor loadings ranging from .61 (e.g. "If I could live life over, I would change almost nothing") to .83 ("In most ways my life is close to ideal"). When correlated with other measures of self-esteem, the SWLS exhibited convergent validity measured by correlations ranging from .47 to .75 (Diener et al., 1985). Although no reliability estimates were given in the development manuscript of the SWLS, more recent literature has demonstrated the reliability of the SWLS on multiple samples (Shevlin & Brunsten, 1998; Vassar, 2008).

The SWLS was utilized in the current study to establish discriminant validity against ATISS as no known studies exist demonstrating a relationship between satisfaction with life and attitudes towards individual and/or groups of people. SWLS scores should correlate weakly and/or non-significantly with attitudes as measured by ATISS. The Cronbach's alpha for the SWLS in the current study was .89.

Results

Following deletion of participants who did not validly answer attention check items, participants were deleted listwise if their survey responses included any missing data. A total of 43 individuals were deleted following this process. As a result, Study 2a results contained no missing data, no univariate outliers (i.e. scores exceeding $|z| > 3$) and no multivariate outliers (as evidenced by a Mahalanobis distance threshold of $p < .001$). The sample used in Study 2a included 405 adults ranging in age from 19 to 82 with an average age of 35 ($SD = 12.01$). Approximately 94% ($n = 379$) of our participants reported being born in the United States and of

those born outside of the United States, 31 reported residing in the United States for less than 10 years. Regarding residential environment, approximately 17.5% ($n = 71$) of our participants reported living in rural areas, slightly less than the census data indicating 19.3% of individuals in the United States living in rural communities. Full demographic characteristics of Study 2a participants are included in Table 1.

Internal consistency of the ATISS remained adequate during Study 2a. Cronbach's alpha for the full scale ATISS in the current study was .95, indicating results similar to that of Study 1 and an excellent level of internal consistency. This result gives initial credence to the ability of the ATISS to be scored as a whole scale. The Cronbach's alpha for the subscales of the ATISS were .95 for Social Distance, .85 for Human Value, .91 for Impact on Society, and .89 for Parenting.

The current study's number of participants who sell or have sold sex ($n = 39$) and individuals who have purchased sex ($n = 47$) is considered largely inadequate for factor analysis. However, it should be noted that preliminary results with each of these groups reveal a similar four-factor structure of the ATISS as that found in Study 1.

Convergent Validity. In order to assess the ability of the ATISS to measure its core construct, convergent validity was tested using the Attitudes Towards Prostitution Scale (ATPS) and the Attitudes Towards Prostitutes and Prostitution Scale (APPS), both previous measures of attitudes towards individuals who sell sex (described as "prostitutes" in the scales). As expected, the APPS was strongly and positively correlated with the ATISS and all ATISS subscale scores with correlations ranging from .311 (Parenting) to .783 (Impact on Society). The Social Distance ($r = .613$), Human Value ($r = .389$) and ATISS total score ($r = .688$) also exhibited strong positive correlations with the APPS.

The ATISS total and subscale scores all positively correlated with the ATPS total score in varying ways. The correlations between the ATPS and the Parenting ($r = .361$), Social Distance ($r = .180$), Human Value ($r = .146$), and total ATISS score ($r = .193$). Impact on Society exhibited a positive but nonsignificant correlation with the ATPS ($r = .067$). Table 3 reports the full correlations among the Study 2a sample.

Discriminant Validity. Discriminant validity was assessed by comparing correlations between the ATISS and its subscales and the Rosenberg Self Esteem Scale (RSE), and the Satisfaction with Life Scale (SWLS). It was expected that the ATISS would poorly correlate with both the RSE and the SWLS as they theoretically measure constructs unrelated to attitudes towards ISS. As expected, correlations with the RSE remained small ranging from $-.107$ (Parenting) to $.007$ (Human Value). Both the Parenting ($r = -.072$) and the Human Value ($r = -.063$) subscales correlated nonsignificantly with the SWLS. The total ATISS score ($r = -.249$), and the Impact on Society ($r = -.276$), and Social Distance ($r = -.282$) subscales correlated negatively and significantly with the SWLS. These unexpected relationships may signal an influence between one’s satisfaction with their own life and the attitudes they hold towards individuals and/or groups. In the current study, it appears that as individuals reported greater global life satisfaction, their attitudes towards ISS lessened in that they wish for greater social distance from ISS and believe that ISS have a negative impact on society. As a full examination of this phenomenon is beyond the scope of the current article, it is recommended that future literature examine this relationship in greater detail.

Table 3

Means, Standard Deviations, and Intercorrelations of Study Scales

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
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1. Social Distance	29.16	12.07	--	--	--	--	--	--	--	--
2. Human Value	23.32	4.74	.437**	--	--	--	--	--	--	--
3. Impact on Society	27.25	9.50	.786**	.503**	--	--	--	--	--	--
4. Parenting	15.59	4.44	.537**	.650**	.564**	--	--	--	--	--
5. Total ATISS	101.13	26.92	.910**	.690**	.907**	.742**	--	--	--	--
6. APPS	79.25	18.24	.613**	.389**	.783**	.311**	.688**	--	--	--
7. ATPS	65.85	36.34	.180**	.146**	.067	.361**	.193**	.255**	--	--
8. RSE	29.59	29.59	-.080	.007	-.001	-.107*	-.050	-.126*	-.311**	--
9. SWLS	23.99	23.99	-.282**	-.063	-.276**	-.072	-.249**	.256*	-.48	.557*

Note. * $p < .05$, ** $p < .001$

ATISS = Attitudes Towards Individuals who Sell Sex Inventory, APPS = Attitudes Towards Prostitutes and Prostitution Scale, ATPS = Attitudes Towards Prostitution Scale, RSE = Rosenberg Self Esteem Scale, SWLS = Satisfaction With Life Scale

Study 2b

The purpose of Study 2b was to examine the test-retest reliability of the ATISS and its subscales after a one-month interval. Study 2b addressed the following research question:

- RQ2: Do ATISS scores exhibit stability over time?
 - Do the ATISS scores exhibit adequate test-retest reliability?

Method

Participants and Procedures. A total of 34 participants from Study 2a participated in Study 2b. Participants in Study 2a, if willing, were asked to give an email to be contacted one month later for participation in Study 2b. Study 2b participants were given only the ATISS, as their demographic information was already collected during Study 2a. Scores from their original

and follow-up ATISS surveys were compared for the analysis in the current study. Participants ranged in age from 20 to 61 with an average age of 33. Approximately 88.6% ($n = 30$) of our participants reported being born in the United States and of those born outside of the United States, only 1 reported residing in the United States for less than 10 years. Regarding residential environment, approximately 34.3% ($n = 12$) reported living in a rural area. Full demographic characteristics of Study 2b are included in Table 1.

Results

Study 2b scores were compared with Study 2a scores to determine test-retest reliability following a one-month interval. Results from Study 2b included no missing data. For the full-scale ATISS total $r = .865$, regarding subscales, $r = .709$ for Parenting, $r = .834$ for Impact on Society, $r = .816$ for Human Value and $r = .832$ for Social Distance. These correlation values represent “acceptable” reliability for the full-scale ATISS and “good” reliability for all subscales (George & Mallery, 2003).

Discussion

Despite the relatively small sample size for Study 2b ($n = 37$), all scales including the full-scale ATISS reached the minimum criteria of $r > .70$ for test-retest reliability (Nunnally & Bernstein, 1994).

General Discussion

Findings from the current study indicate that the Attitudes Towards Individuals who Sell Sex (ATISS) inventory is a multidimensional, psychometrically sound instrument to measure attitudes towards individuals who sell sex. The ATISS demonstrated strong alpha coefficients for both its subscales and overall scale scores. Factor loadings were moderate to high on all

indicators and the ATISS demonstrated adequate convergent and discriminant validity against scales measuring related and unrelated constructs.

The ATISS exhibits several advantages over previous similar scales. First, unlike previous scales which assumed a female ISS and a male customer, the ATISS assumes no demographic characteristics of the individual who sells sex or their customer, instead letting users utilize their own visions to attach their attitudes to. Second, unlike previous measures, the ATISS focuses on an individual's attitude towards one individual who sells sex, inviting participants to envision one person, and imagining how they may interact with that person in everyday situations. This focus is consistent with the goal of the ATISS to examine attitudes of participants in a way that directly questions their likelihood to hold beliefs and/or engage in behaviors that could be stigmatizing or discriminatory against that one person known to sell sex. Third, the ATISS intentionally does not assume the agency and/or motivation of the individual selling sex in its items (i.e. whether that individual is doing so through choice or force/coercion). This ambiguity was intentionally constructed to mirror the interactions that most individuals in society have with ISS. That is, when individuals, authority figures, and systems interact with ISS in everyday situations, the motivation for their selling sex is often unknown. In this way, the ATISS extracts attitudes towards ISS regarding their humanity and value regardless of their motivation for selling sex.

Fourth, beyond valuable knowledge regarding attitudes towards ISS in general, the non-assumptions in the ATISS makes it a tool flexible enough to be used for specific purposes within clinical and research settings. For example, if clinicians or researchers wish to look at the attitudes towards an individual who sells sex that is doing so through force/coercion (i.e. a sex trafficking victim) they may use the items in the ATISS but provide a vignette in order to lead

participants to think of a particular individual when answering the items. This flexibility is missing in previous measures. In pairing the instrument with a vignette or specific ISS populations, researchers and organizers may gain a more detailed assessment of attitudes and may then compare attitudes towards an individual who sells sex of differing motivations, characteristics, and circumstances. Finally, unlike previous measures, the ATISS was developed for and normed on a large sample of the general population in the United States.

Implications and Future Research

The purpose of the current study was to develop a valuable and reliable tool to assess attitudes towards ISS that may be used in both research and clinical settings. As seen in previous studies on the topic, attitudes can have a powerful impact on individuals who sell sex and their experiences with public systems (e.g. healthcare, law enforcement; Kritin et al., 2017; Lazarus et al., 2012; Urban Justice Center, 2003, 2005) and everyday interactions with others (Tomura, 2009). By focusing on elements of attitudes most salient to the lives of individuals who sell sex (i.e. human value, parenting, impact on society, social distance), the findings in this study suggest that the ATISS has both clinical and research utility.

There are several directions for future research in terms of the utilization and further psychometric testing of the ATISS. First, it is recommended that the current ATISS factor structure undergo a confirmatory factor analysis to further solidify its ability to assess its intended construct. Second, a test for predictive validity may be valuable to researchers. Specifically, research may benefit from examining if the attitudes expressed through the ATISS items are predictive of any past or future behavior. Third, a major point of concern addressed by the ATISS is the ability to examine attitudes towards ISS in varying contexts. Future researchers may benefit from utilization of this flexibility in examining attitudes towards ISS of differing

circumstances (e.g. indoor sex trade compared to street-based sex trade). Finally, the ATISS enables researchers to examine how attitudes towards ISS differ among different populations and to investigate what constructs may interact with attitudes in predicting subsequent interpersonal behavior (e.g. participants' job, region, etc.).

The development of the ATISS also allows us to examine the attitudes towards ISS held by those who may interact and/or hold authority over this population. Specifically, as selling sex is illegal in most of the United States, individuals who sell sex continue to report frequent interactions with law enforcement, and some of these interactions involve abuse and/or harassment (Footer et al., 2019). Future research may use the ATISS to illuminate if and how law enforcement officers', judges', or lawyers' attitudes towards ISS predict the quality of the interaction between them and ISS. Ultimately this information can be used to better inform intervention and awareness efforts aiming to reduce harassment or abuse towards ISS in the United States (Footer et al., 2019; Urban Justice Center, 2003, 2005).

Clinically, the ATISS may be utilized by community and/or institutional organizations in order to assess attitudes towards ISS and to inform targeted intervention efforts in reducing stigma, discrimination, and abuse of this population. Specifically, responses from the ATISS may be used in informing targeted awareness-raising efforts by community organizations looking to dispel possible myths about the experiences of ISS. As with all research involving a population of people, it is imperative that future researchers work with communities of ISS in order to ensure their efforts have the intended effect and are informed by the wants and needs of the population they examine. For example, a community organization may work with volunteers from the sex trade community to decide how to best utilize the results of the ATISS in their community.

Limitations

A number of limitations to this study should be considered. First, the current study utilized a sample of individuals currently residing in the United States. Users outside the United States should norm the ATISS on their sample prior to running any future analysis. Second, though the current sample in the current study was near representative of the United States in terms of race, region, residential environment, and gender, the current sample was highly educated when compared to the U.S. general population. Future studies may benefit from ensuring a more diverse population in terms of education. Finally, current study used both financial incentives and self-report measures in the current study. Specifically, the financial incentives provided to those participating through Amazon MTurk may impact the replicability of the current study. Self-report measures contain the risk of impression management, especially given the sensitive nature of the topic measured in the ATISS. However, due to the anonymous nature in which participants responded to the survey, this effect may have been minimized (Booth-Kewley, Edwards & Rosenfield, 1992).

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