



# Validity & Reliability of Legal American Indian Ethnic Identity Measures for Use as a Construct in Criminology

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**Abstract:** Issues of validity and reliability of *legal* identity measures used to develop a new ethnic identity construct are examined. Legal identity measures are those found within law and used within public policy yet are somewhat different from those found and well-discussed within psychometric literature, for example. Data gathered from a Native American Indian tribe ( $N = 667$ ) during the *Southern Ute Indian Community Safety Survey* conducted in 2001 in which survey respondents were asked about their ethnic identities were compared with a female prisoner population ( $N = 596$ ) incarcerated in the Ohio Reformatory for Women in 1998, in which survey respondents were asked the same questions. Using paired-samples *t*-tests and principal component analysis some support was found to use these legal measures in an ethnic identity construct. Providing an ethnic identity construct has the potential to aid understanding of the etiology of deviance, as well as aid other areas of social science.

## Introduction

Issues relating to validity and reliability of measures used in criminological studies that seek to understand the etiology of deviance are somewhat new (Geis, 1980; Binder & Meeker, 1993) compared to the status of similar investigations of these core scientific criteria within other fields such as psychology (Binder, 1959; Binder, 1963; Binder, 1964; De Boeck & Elosua, 2016), education (Shaw & Crisp, 2011), sociology (Durkheim, 1938), and other areas. To develop a new ethnic identity construct with which researchers may use to inform the study of the etiology of crime, it was necessary to submit the measures used to rigorous scientific examination to

understand the validity and reliability of these individual *legal* ethnic identity measures. Additionally, this paper explores the applicability of an ethnic identity-based construct to both offender and non-offender populations to broaden the reach of these measures for understanding victimization and substance abuse patterns among Native American Indians, a population much-maligned and ignored in previous scientific literatures.

### ***Legal Identity vs. Psychological Identity and Ethnic Attachment***

The *legal identity* measures discussed within this report are separate and apart from ethnic identity measures that might be used to understand psychological aspects of an internalized ethnic identity standard such as attachment. A *legal identity* is one that merely requires acknowledgment of certain generalized aspects of an identity, such as group affiliation(s), knowledge of certain aspects of the identity only known to those holding such, and other minutia centered around meeting the *legal* requirements for holding such an identity. The reader might conceive of a legal identity as heritage or otherwise as tertiary or external to the individual's psyche. Examples of common legal identities are individuals who reside in most Middle Eastern countries might be classified as Arab for such legal purposes as immigration, whilst their own individual identities and psychological attachments might well be Jewish or Christian, for example. Similarly, many Asians might hail from Asian countries but are nonetheless members of myriad cultural and ethnic groups who make up those Asian countries. Thus a *legal identity* might be considered a bureaucratic tool with which to stratify and classify others who are not of the mainstream majority. Whereas a psychological identity, in contrast, involves many and varied internalized psychological processes that result from interactions within and between the larger mainstream society. Internalized psychological ethnic identities have a broad foundation in scholarly literature and include such measurement criteria as psychometrics, internal validation metrics using scales, and other such measurement tools and instruments common among psychologists. Within this present report, the form of identity at issue is a *legal* Native American Indian ethnic identity using measures found within federal Indian law.

### ***Measurement in Criminology***

Issues of measurement in criminology are not as widely disputed (and discussed in relevant literature) as they are in other scientific disciplines such as psychology (De Boeck & Elosua, 2016), medicine (Ahmed & Ishtiaq, 2021), education (Hill *et*

*al.*, 2022) are widely discussed, for example. There is evidence, however, that prior criminological work has attempted to untangle issues of validity and reliability uncovered in previous published research. Early concerns for reliability and validity in crime studies were addressed 1965 by Balogh who expressed issues about these matters in juvenile delinquency research that touched on telescoping and ‘forgetting’ by study participants. Balogh suggested several interesting issues of ‘forgetting’ and ‘telescoping’ (Schneider & Sumi, 1981), issues often cautioned by criminologist Gilbert Geis to his graduate students during their investigations of victimological phenomena (personal communication between Gilbert Geis and the author, 2001. Also, see, e.g., Geis, 1988; Geis, 1990; Geis and Bunn, 1991; Geis & Meyer, 1994). Gilbert Geis was not alone in his concerns for validity and reliability in crime datasets (Binder, 1984). In 1992, Menard was perplexed by the variations found among two large national crime datasets, the Uniform Crime Report (U.C.R) and the then-called National Crime Survey (now called the National Criminal Victimization Survey (N.C.V.S.), discussed earlier by Blumstein, Cohen and Rosenfeld (1991). Piquero and Rosay (1998) discussed the “components” of the self-control scale (this author would call the “components” ‘measures’ of a ‘construct’ prior to extraction and reduction that occurs as part of factor analysis) used by Gottfredson and Hirshi (1990) in their reformulation of Grasmick’s (1993) self-control thesis. Later, Lauritsen (1999) confronted Jang (1999) about the different decisions researchers employ when using longitudinal self-report data from the National Youth Survey (N.Y.S.) that impact reliability and validity of data derived from this source. McGloin and her colleagues (2011) were concerned with issues of ‘discriminant validity’ and used a “unique analytic technique” to explore this issue. McGloin was wise to be concerned about validity, as one of her co-authors has recently (Schlott, 2023) been found to have employed ‘unique analytic features’ in his own research, such that he was accused of “falsification of data,” “sloppy research practices,” and “extreme negligence” thereby invalidating his entire body of work - results that led to him being relieved from his faculty position at Florida State University (Jaschik, 2023).<sup>1</sup> Nguyen and Loughran (2017) too were concerned with the quality of self-report data on studies of criminal achievement, but in a different regard and without any hint of research misconduct that now shrouds the work of McGloin and colleagues.

An issue that is relevant to and currently plagues criminological research is one of researcher misconduct that threatens to invalidate *all* criminological research and jeopardizes criminology from becoming a ‘true’ science. Indeed, scandals of improperly assigning inflated alpha ( $\alpha$ ) levels and then using results from those reports to wrongly

influence public policy and then reap personal financial gains (Geis, 1999), to falsifying data in dishonesty research (of all things!) by a Harvard researcher (Scheiber, 2023), to ‘adjusting’ or “faking” data to fit the desired outcome criteria to advance an individual’s personal agenda (an agenda based on ethnicity no less!) (Schlott, 2023; Jaschik, 2023; DailyMail, 2023) are among several recent humiliating instances of researcher misconduct that has led the larger scientific body to address the field of criminology, as an institution, ‘made-up of’ and ‘for the benefit of’ fraudsters and other deviants (Trebilcock & Griffiths, 2021).<sup>2</sup> Thus, issues of scientific validity and its ‘right hand’ reliability must be forefront to all matters related to research within the entire field of criminology lest our combined efforts to achieve legitimacy in the eyes of other scientists be quelched.

Most previous criminological work discussed above revolved around issues relevant to long-established datasets; data usually collected, maintained, and the responsibility of official government agents. It has long been acknowledged that data collected by official government agents are likely to be the most problematic and thus any findings from such are subject to repudiation if they are used in anything other than rudimentary descriptive studies (see, e.g., Abril, 2003; Pepinsky & Jesilow, 1984). Problems inherent to ‘official government statistics’ are many and varied and thus beyond the scope of this report. It may be easier to simply state here that the designers of data collection instruments for official government use are not likely to be the best designers available for scientific research studies, at least not for criminological studies. Official government data might be best reserved solely for simple tabulation of numbers of jail beds, for example, and not for use in predictive analytics of any sort. Hopefully, with the advent of the National Research Council (N.R.C.) and the National Academy of Sciences (N.A.S.) working in support of federal government policymakers who seek the advice and assistance of better trained scientists for future data collection efforts, relief from the problems inherent in federal datasets that subjected the studies derived from such to problems of validity and reliability so identified, will be realized. Criminologists should take comfort in the efforts of empirical scientists Joan Petersilia and Robert J. Sampson, for example, who both often questioned the validity and reliability of the data gathered in studies designed by themselves; evidence of this desire for higher quality data by Petersilia and Sampson is abundant and cannot be found in datasets collected by official government agents.

Within early work by Petersilia, Greenwood, and Lavin (1978) in their pioneering study of habitual offenders housed in a California prison, Petersilia questioned the validity of the self-reported crime history data she and her colleagues collected (157; see

also, e.g., Petersilia, 1989). At the time of their groundbreaking habitual offender study, few other similar studies could be found to correlate self-reported responses about criminal history (especially as they related to an offenders' recollections of the number of times an offender committed a crime), except for work reported by Ball (1967) in his piece about 59 narcotic drug addicts (Petersilia *et al.*, 1978; also see, e.g., Geis, 1980). A longtime colleague of Petersilia from their time developing the foundations of modern offender research at RAND Corporation, Susan F. Turner has also spent a considerable amount of her scientific life efforts unpacking a variety of intervening influences that may affect data gathered during many of the research studies she led (Lane, Turner *et al.*, 2007; Sreenivasan, Garrick *et al.*, 2007; Turner, 2006; Turner *et al.*, 2002; Longshore *et al.*, 1998; Longshore, Turner *et al.*, 1998(b); Turner & Petersilia, 1996a; Longshore *et al.*, 1996; Turner & Petersilia, 1996b; Lind *et al.*, 1980; Sedlak & Turner, 1980; Kerr & Turner, 1978; Kerr & Turner, 1977). Petersilia would spend the next four decades of her scientific career questioning and then demonstrating the reliability and validity of measures she and her colleagues designed and used in her own pathbreaking criminological work (Lane, 2023), and in the studies conducted by her colleagues Susan Turner and Peter Greenwood (Turner & Fain, 2006; Longshore, Stein & Turner, 1998; Longshore, Turner & Stein, 1996). It was this author's personal experience with Joan Petersilia, who reviewed *post-hoc* the data collection instrument and its coded dataset employed during the prisoner study reported herein and who also partially advised during this author's larger S.U.I.C.S.S., that Petersilia was always uncompromisingly dedicated to accuracy in the scientific measurement of any criminologically-related phenomena that might impact her own field of study. Petersilia's dedication to scientific rigor was unlikely to be matched in the criminological sciences at the time until Robert J. Sampson entered the arena with his community survey, included as part of the Project on Human Development in Chicago Neighborhoods (P.H.D.C.N.) (Sampson, Raudenbush & Earls, 1997).

Sampson has been observed by this author to be meticulously and scrupulously addressing issues of reliability and validity in a variety of contexts - from journal articles in myriad and varied scientific fields (sociology, criminology, urban studies, ethnic studies, political science, education and health sciences to name a few) to opinion pieces (less so) and from a variety of perspectives (such as addressing "neighborhood effects," observational/interview/photographic/video data), and as they relate to other significant manners and methods employed in the P.H.D.C.N. (Sampson, 2002). Two notable pieces on the matter, it should be mentioned here, were his and his colleagues' discussions of "econometrics" (O'Brien, Sampson, Winship, 2015) and "contextual

effects” such as the neighborhood (Raudenbush & Bryk, 2002:139). It is this author’s opinion, Sampson, as a modern leader in community research takes great pains to address the reliability and validity of data he and his colleagues - who used multiple millions of taxpayers and private foundation dollars to collect and analyze<sup>3</sup> - and upon which significant public policies are based now and will continue to be into the future. Perhaps it is the weight of the totality of the financial investments made into Sampson and his colleagues’ studies that motivates them to defend their work? Or could it be the internalized dictates of a well-evident scientific cultural value structure? It is unclear and beyond the scope of this report to delve deeper into the motivations for this behavior so displayed by Sampson and his associates, but it is certainly clear to this author that their *publicly-displayed* scientific conduct is such that the field of criminology is now mandated to follow in pursuit of realizing the ideal of becoming a true science, as Émile Durkheim had envisioned (1938) and others have pursued in The Chicago School (Park & Burgess, 1922) of the past century and now within the School of Social Ecology of the 21<sup>st</sup> Century, founded by Arnold Binder and Daniel Stokols of the social ecological perspective aided by a core interdisciplinary faculty who impart the highest scientific ideals into the work ethic of their students (“Science Driving Solutions” website homepage declaration as of 02/01/2024; also see, e.g., Binder, Stokols & Catalano, 1975a & 1975b).<sup>4</sup> A basic tenet of science mandates adherence to accuracy, as Professor Paul Jesilow, the first student of Social Ecology at its founding in 1970, cautioned this author “science is precise” (personal communication between Paul Jesilow and the author, 1998). Precision, within the science of criminology, must then be focused on strict adherence to using measures and methods founded well within the confines of established scientific rules and procedures, such as those outlined by Robert K. Merton (1913), Émile Durkheim (1938) and Sir Lord Kelvin (as discussed by Merton in (1984:321) “if you cannot measure, your knowledge is meager and weak”). Precision of measuring tools used within social science then becomes of critical importance for the project discussed herein and for future work within this developing field.

Validity of legal ethnic identity measures, for example – for use in the science of criminology - then must be based on rules previously established by others for development of social scientific measuring criteria. It is here wherein which the legal measures of a Native American Indian ethnic identity were developed. Émile Durkheim (1933) suggested the law would contain and reflect the values of society. Indeed, it was the codified values of the dominant Euro-American society directed toward Native American Indians and reflected *in the law* wherein measures used for the Native

American Indian ethnic identity construct discussed herein were derived, as Durkheim might have advised (1938).

### *Validating Measures of Native American Indian Ethnic Identity*

*I realize I'm an Indian. Every day is a hard day. It's a hard life to be an Indian because you have to try to fit into two worlds. And not with only just that, but the way you think, the way you pray ... the way you live your life ... and, the way you try to raise your kids.*

—Native Woman “Full Blood”

For hundreds of years, the United States government has used measures of ethnic identity to classify and categorize ethnic groups and subject members of such groups to many and varied public policies. Japanese-Americans, for example, were targeted for internment camp incarceration during World War II and Mexican migrants for the Bracero Program from 1942 to 1964 to name a few of many past policies which were based on ethnic classifications; policies which have had varying degrees of lasting effects on these group members (Calavita, 1992; Irons, 1993). Of course, the institution of slavery in the United States was founded on classifying dark-skinned individuals as less-than-human and subjected these people to degrading and humiliating lethal public policies, the effects from which still linger today. Unfortunately, these types of ethnic- and race-based federal policies are not tucked away in some dark distant part of the past of our great Nation. Occasionally, we see these types of ethnic-based policies brought back into use (or, considered once again) in the modern era. After the terrorist attacks of September 11<sup>th</sup>, 2001, Arab- and Muslim-Americans were subjected to travel restrictions and other forms of ethnic targeting in the name of “national security” (Cainkar, 2003). Migrants from Central and South America have been subjected to federal policies designed by United States President Donald J. Trump that separated families (infants and children from their parents) and segregated these families in disparate institutions sometimes states apart from each other, to control immigration into the United States (Southern Poverty Law Center, 2022).

These race-based types of federal policies have been in effect long before enslaved African people were transported against their will to this land. American Indians were the first such ethnic group in this land, which is now the United States, to be subjected to public policies based on ethnic group membership. Methods used to identify and

classify members of this ethnic, then-at-that-time once dominant group, have developed over the centuries.

The United States government has maintained legal definitions of who is and is not considered an Indian and how an Indian tribe is defined, see e.g., United States Code, Title 25 – Indians, and the Code of Federal Regulations (C.F.R.) Section 25 – Indians. For example, the United States Department of Justice defines an Indian as “a person who is of some degree Indian blood and is recognized as an Indian by a Tribe and/or the United States” (Office of Tribal Justice / Office of Tribal Justice | Frequently Asked Questions about Native Americans, 2024). Generally, other federal agencies that administer programs targeted to serve the American Indian population, comport their definitions of “Indian” to what the U.S.D.O.J. determines best bears semblance to Constitutional requirements and United States Supreme Court rulings. The United States Code, Title 25 § 2201, defines an Indian as: “Indian” means—any ‘person’ who is a member of any Indian tribe, (or) is eligible to become a member of any Indian tribe, or is an owner (as of October 27, 2004) of a trust or restricted interest in land.” Also, Section C of Title 25, reads, “any person meeting the definition of Indian under the *Indian Reorganization Act* (25 U.S.C. 479) [1] and the regulations promulgated thereunder” is defined as an Indian. One then might ask, what is an Indian tribe? United States Code, Title 25 § 2201 defines an Indian tribe as: “Indian tribe” or “tribe” means any Indian tribe, band, group, pueblo, or community for which, or for the members of which, the United States holds land in trust.” It then becomes important to understand “membership” criteria for enrollment in an Indian tribe to better understand measures of an Indian ethnic identity as used in the study reported herein.

The United States Department of the Interior, Bureau of Indian Affairs (B.I.A.) and the Indian Health Service (H.I.S.), for example, both house many regulatory guidelines for determining who is an Indian and thus who is eligible to receive their services.<sup>5</sup> Typically, this involves a “Certificate Degree of Indian Blood” (C.I.B) obtainable from the Bureau of Indian Affairs on-line form. While the manners and methods used today to request a C.I.B. are modernized to meet today’s technological advances, the criteria for a C.I.B. have not changed in hundreds of years. In developing the measurement items for use in the Native American Indian ethnic identity survey instrument employed in a prison in the state of Ohio during the summer of 1998, the same criteria used to issue a C.I.B. were used to request ethnic identity data from female prisoners who chose to participate in the study reported herein. Likewise, the same ethnic identity measurement items used in a latter study of a ‘confirmed’ Native American Indian population (a federally-recognized tribal group) during the summer of 2003, were used herein as well.

Federally-recognized American Indian tribes have varying degrees of enrollment criteria. These range from five-eighths (5/8 %) of a percentage (Northern Ute Tribe - expressed as a quantum) of Indian blood to all the way up to 1/64<sup>th</sup> degree Indian blood (see, e.g., Cherokee Nation, 2024), whereas other tribes require proof of lineal descent from a previously enrolled member. Because tribes are legally considered “domestic dependent nations,” (see *Cherokee Nation v. Georgia* (1831) and *Worcester v. Georgia* (1832) as both are foundational Constitutional interpretations of who is an Indian and authority over tribal membership) each federally-recognized tribe may set its own membership criteria in accordance with rules promulgated by the United States Department of the Interior, Bureau of Indian Affairs as guided by the United States Congress, which is guided by the United States Constitution in matters relating to Indian matters.

This criteria for percentages (quantum) of Indian blood are an unfortunate relic of past ethnocentric views held by non-European-American individuals that promulgated such deleterious historical policies and laws such as the *Racial Integrity Act of 1924* (Virginia) that further fueled negative ideologies such as the “one drop of Black blood” about black-ness (Sharfstein, 2007). In any event, certain criteria for enrollment in an Indian tribe remain today. These include the following: (1) previous enrollment of a family member from any generation, (2) documentation of blood lineage with ties to the tribe, (3) residence on tribal lands, (4) historic familial affiliation with the tribe, and (5) attendance at an Indian school. The criteria for enrollment in a tribe are promulgated by various federal agencies such as the B.I.A. and I.H.S. in comportment with Congressional edicts of the past, particularly when the *Indian Reorganization Act* (25 U.S.C. 479) was passed and which now covers all individuals and their tribes seeking federal recognition; a formal process by which tribes are accorded the special status as a “domestic dependent nation” within the United States and accorded with semi-sovereign powers over their internal affairs, such as enrollment of members. The point of discussing Indian identity and measures used to determine such is to demonstrate these measures were derived directly from the law, as Durkheim might suggest they should be (1938).

The ten measures of Indian identity used in the ethnic identity construct in this study, were developed by the author from (a) knowledge of Federal Indian Law, (b) tribal enrollment practices, and (c) a general lifetime knowledge gleaned from living an “Indian’s life.”<sup>6</sup> Table 1 below illustrates the measures under investigation herein with the source from which they were originally derived.

**Table 1: Legal Sources of Native American Indian Identity Measures**

<i>Source</i>	<i>Individual Construct</i>	<i>Indian Identity Measure</i>
<i>United States Constitution</i>	n/a	Knowledge of one's own tribal affiliation from history
<i>Cherokee Nation v. Georgia</i> , 30 U.S. 5 Pet. 1 1 (1831)	Enrollment in an Indian tribe	Are you enrolled? Is anyone in your family enrolled?
<i>Indian Reorganization Act</i> (25 U.S.C. 479)	Visits to land or reservation	When was the last you visited your land/reservation?
Presidential Proclamation (Bureau of Indian Affairs, previously War Department)	Indian school attendance	Has anyone in your family attended an Indian school?
<i>Indian Appropriations Act of 1851</i>	Established Indian reservations	When was the last you visited your land/reservation
A Lifetime of Humanity	The ability to identify one's own ethnic origin	Name your tribe, band, clan, or agency affiliation.
Living an "Indian's life"	Family knowledge of Indian blood / ancestry origin	Does your family talk about their Indian blood? Being able to ID one's own Indian bloodline origination
Bureau of Indian Affairs / Indian Health Service	Percentage / degree of Indian blood / blood quantum	What is your percent degree of Indian blood? Do you know your percent degree of Indian blood?

Because the *legal* ethnic identity measures employed herein have at least a 400-year-old history of being used by the United States government - within the law - to identify Indian individuals, the validity of these measures for detecting an Indian ethnic identity within a variety of disparate settings within the U.S., should be settled.

### ***Types of Tests of Validity Assessments Relevant to this Work***

The measures used in the study reported here were also subject to several analysis to determine the accuracy of these items to predicting an Indian ethnic identity. Criteria-related validity tests involved using principal component factor analysis which uses a validity coefficient to determine the size of the correlation between the measures being compared (Carmin & Zeller, 1979; Rosenthal & Rosnow, 1997). Concurrent validity, however, was established for these measures by visually comparing data gathered by the two instruments used in the two distinct studies reported here – many of which were verbatim on the two different survey forms. For example, of the item that asked, “Are you enrolled?” responses to which the Indians supplied were according to how the researcher had anticipated, i.e., “yes,” as all potential S.U.I.C.S.S. study participants were selected from a tribal enrollment roster, whereas study participants in the prisoner

O.R.W. sample responded wildly and with varying degrees of understanding then concurrent validity of the item would be deemed to be weak or non-existent, as the measures failed to gather the same data when using the same measures. These tests of validity, however, are in and of themselves weak and thus should not be considered conclusive in the overall analysis of the validity of these measurement items (Carmines & Zeller, 1979: 22).

Construct validity, the nugget of which is core to the study here is best evaluated and tested to determine the degree to which one measure of the construct is related to the other measures within the same construct (Carmines & Zellers, 1979: 23). However, since these individual measures of a Native American Indian ethnic identity have been used consistently by federal bureaucracies in the furtherance of ethnic-based social and legal policy for nearly ninety years since the enactment of the *Indian Reorganization Act of 1934*, and their use continues today in various areas of federal Indian policy without any reported weaknesses in their ability to capture ‘an Indian,’ construct validity of the totality of the Native American Indian ethnic identity construct for use in social science-based criminological research should be subjected to further statistical analysis, as was conducted in this study. From this position, it is now possible to examine the Native American Indian identity construct developed by this author for use within criminological research.

## Methods

### *Southern Ute Indian Community Safety Survey (S.U.I.C.S.S.)*

The Southern Ute Indian Community Safety Survey (S.U.I.C.S.S.) was a study of crime and violence occurring on and around the Southern Ute Indian reservation, located in rural southwest Colorado, USA. The nearest municipality to the reservation is Durango, Co. The S.U.I.C.S.S. consisted of a 72-item survey questionnaire completed by 667 residents of rural southwest Colorado and 85 structured personal face-to-face interviews conducted with American Indian tribal members, with a survey response rate of 18.2 %. The survey instrument was mailed to all adult tribal members (those over the age of 18) whose addresses were obtained from the Southern Ute Tribal Council. A control sample of non-Indians was derived from the La Plata County voter registration list that contained names and addresses of only adults over the age of 18 years. The sample contained 312 INDIANS (tribal members) and other people who self-identified as Native American Indian, as well as 355 non-INDIANS, who reported membership in varying ethnic groups, with the dominate group being Euro-American based.<sup>78</sup> In the present study, only responses from the INDIAN ( $n = 312$ ) group were used as a comparison group.

### *Ohio Reformatory for Women: The O.R.W. Prisoner Study*

The little early data on Native American Indian ethnic identities among women prisoners found in the search of the literature come from a study conducted during the summer of 1998 (Abril, 2003 & 2002). Data collected during this study were obtained from responses to open-ended questions distributed to all prisoners incarcerated at the Ohio Reformatory for Women (O.R.W.) located in Marysville, Ohio. At the time of the study, O.R.W. had the largest female prisoner population in the state, with more than 1,700 prisoners. The Ohio Department of Rehabilitation and Correction (O.D.R.C.) demographic statistics, current at the time of the study, indicated that O.R.W.'s population was predominantly Black ( $n = 1,134$ ; 56%); White was the next largest group ( $n = 899$ ; 44.14%), while all others were classified as Other. The prison research agency for the state of Ohio reported that "only 1 Asian and 2 Native American women" were housed in O.R.W. (personal communication, 1998). United States census data from 1990 for Ohio indicated the state's general population was almost all White (87.7%), with far fewer Blacks (10.6%). Other ethnic groups, according to official government statistics current at the time of the study, constituted less than 2% of the state's residents.

The participants in the prisoner study were all adult women housed in O.R.W. during the summer of 1998. They ranged in age from 17 to 70 years. Prisoner participation for this study was requested by the author in a single letter printed on the back of the survey instrument. Prisoner participation was again requested by O.R.W.'s Warden, who posted a memorandum to all prisoners on bulletin boards throughout the institution, including in each housing unit. The memorandum advised prisoners of the nature of the study, reported the steps institutional staff would take to facilitate distribution and collection of the questionnaire, and included a request for their participation. The warden also issued a memo to O.R.W. staff advising them of the study and instructing them to assist participants with completing the questionnaires. Prison staff were instructed to read and interpret any questions from prisoners and provide referral services for any prisoner who may become in need of counseling because of the study. No participants (neither prisoner nor O.R.W. staff) were compensated (paid) for their assistance in facilitating this study. About 2,000 blank questionnaires were sent directly to the O.R.W. warden's office by the researcher. Prison staff distributed and collected the instrument from the prisoner population during the morning and afternoon counts on two days during the week of August 5th, 1998. The warden had instructed O.R.W. staff to make certain prisoners, who were away from their usual posts during prisoner count times when the survey was administered, be given the opportunity to complete the questionnaire. More than one third (35.6% or  $n = 601$  out of 1,700) of the prisoner population of O.R.W.

returned a completed questionnaire to the researcher. Many culture- and class-specific terms and phrases were used throughout the instrument, such as “your people” and “your ancestors” to better reach the targeted population because the researcher believed prisoners would have command of the lexicon used by the researcher. See Abril (2002 & 2003) for complete discussions of the methodology and the study’s strengths and weaknesses.

### *Ethical Considerations*

As both Native American Indian and prisoner populations are considered ‘highly vulnerable’ to researcher misconduct, the ethical protections instituted for both populations were significant and detailed.

### *Southern Ute Indian Community Safety Survey (SUICSS)*

Before any research was conducted with the Southern Ute Indian Tribe on their reservation, the researcher met with the Director of the Department of Justice and Regulatory for the tribe. After a successful consultation with the Director, including the Director providing a “Letter of Research Site Support,” the researcher was invited to personally address the entire Tribal Council to discuss the proposed project and formally request permission to conduct the study on their reservation. As the Tribal Council is the sole federally-recognized authority for the reservation, only the Tribal Council may authorize any research within the exterior boundaries of the reservation. The Tribal Council fully agreed and authorized this study on January 17<sup>th</sup>, 2001. In the research site approval letter signed by the then-sitting Tribal Chairwoman, the following text reads:

*This letter shall serve as notice to all concerned that the Tribal Council representing the Great Southern Ute Indian Nation has granted Ms. Julie C. Abril, M.S., permission to conduct a study entitled (sic), “Southern Ute Indian Tribe Community Safety Survey.” Ms. Abril has informed the Tribal Council that this research study has been approved by the Institutional Review Board of the University of California, Irvine (UCI IRB #HS2001-1605). Ms. Abril will take all measures to protect the confidentiality of the data collected during this study. Furthermore, Ms. Abril agrees not to reveal the personal identities (names) of the Southern Ute Members who chose to participate in this study.*

Prior to submitting the research grant application to the United States Department of Justice/Office of Justice Assistance/Bureau of Justice Statistics for funding support

of this project (Award No. 2001-3277-CA-BJ), the Human Subjects Research Review Board of the University of California, Irvine Division, approved of this study as a full board to be covered from January 5<sup>th</sup>, 2001 to January 4<sup>th</sup>, 2002, with an additional extension period authorized after the conclusion of the first. The research protections instituted and required by the U.S.D.O.J. were in and of themselves extensive, including the following requiring a “Protection of Human Subjects Assurance Identification/Certification/Declaration.” Once data were collected, these were submitted to the U.S.D.O.J. as an electronic file on a CD. Because these data were collected from a closed tribal community where ‘everyone knows everyone’ – a reality that was only revealed to the researcher during the study; the dataset contained information which would make it easy for anyone to seek out the research participants. Because of this reality, the U.S.D.O.J. has classified this dataset as “restricted/sensitive” and does not allow access to the data for the protection of the research participants. After the data were entered into a computerized dataset format (IBM/SPSS v11 used in 1998), the original survey questionnaires completed by all study participants (Indian and non-Indian) were destroyed beyond recognition. A copy of the original dataset is personally held by this author, the Principal Investigator of this study, in a secured facility (a bank vault). When publishing reports emanating from this dataset, the author takes great efforts to protect the identities of research participants, such as not revealing the tribal affiliations (names of tribes) of the persons being quoted, as doing so would reveal the identity of the individual. For example, there was only one individual who was Mohawk living in this tribal community, thus if the tribal affiliations were revealed then the individual would be easily identifiable. The only exception to this was when members of the Southern Ute Indian tribe were being quoted because is already known this group participated in the research. Only adults over the age of 18 years were included in this study as they were competent to decide to participate, although the Tribal Council had requested the author to conduct additional studies of their juvenile and adult offender populations, work that has yet to be completed.

### *Ohio Reformatory for Women (O.R.W.)*

Similarly for the imprisoned adult female offender population, the ethical protections instituted were vast and complex. The Ohio Department of Corrections (O.D.C.) Human Subjects Research panel, then-led by Dr. Steve Van Dine and then- ORW Warden Shirley Rogers fully approved this study for the researcher and faculty of the University of Cincinnati, Department of Criminal Justice, to be conducted in the Ohio Reformatory for Women (O.R.W.) during the summer of 1998, to last from July 1<sup>st</sup>, 1998

to August 30<sup>th</sup>, 1998. While the survey was intended to be anonymous and no names or personally identifying information other than ethnic identities were requested, many survey respondents included their names and institutional identification numbers on the survey form. Because of this reality, the researcher has continued to hold this dataset in a secured location (a bank vault) until the time it is needed for analysis. After the data were entered into a computerized dataset format (IBM/SPSS v11), the original survey questionnaires completed by the prisoners were destroyed beyond recognition.

## Measures

### *Measures of Native American Indian Identity*

Each measure within the Indian identity construct included responses from the following ten (10) items: (1) An affirmative response to the item, “Do you consider yourself to be American Indian, Native American, or Aboriginal,” (2) Asking the respondent to identify the name of their tribe, (3) Asking the respondent if they are enrolled in their tribe, (4) Asking if the respondent has any family members who are enrolled in the tribe, (5) Asking if the respondent had any family members who attended an Indian school, (6) Asking the respondent if they know their degree of Indian blood, (7) Asking the respondent if they have any contact with their tribe, (8) Asking the respondent when the last time they visited their land / reservation (9) Asking the respondent to identify who in their family line was Indian, and, (10) Asking the respondent if their family ever talks about their Indian blood.

For the 2024 study reported herein, all survey items were re-coded from what they were coded as in 1998, into dichotomous (0/1) variables for ease of comparison in paired samples t-tests. The coding criteria for each study were as follows:

***Identity Measure Item 1:*** PRISONERS: “Do you consider yourself to be (even partially) American Indian, Native American or Aboriginal?” If the option “yes” was circled, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data. In any case, only those self-identifying as requested were included in the analysis.

INDIANS: The item was “Are you Southern Ute or Other Indian?” Because (a) everyone in the Indian sample group were previously identified as American Indian by a federally-recognized American Indian tribe and (b) appeared on the tribal enrollment roster of this tribe, each survey respondent who checked “yes,” were coded as “1” for being the basis or comparison group. All survey items from 1998 were re-coded in 2024 as dichotomous variables.

**Identity Measure Item 2:** PRISONERS: “Identify your tribe, band, clan or agency affiliation.” If the respondent indicated a tribal affiliation, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data.

INDIANS: Because everyone in the Indian sample group were previously identified as enrolled members of the Southern Ute Indian Tribe, each survey respondent who checked “yes,” to the item that asked “I am Southern Ute or Other Indian” were coded as “1” for being the basis for inclusion in the comparison group.

**Identity Measure Item 3:** PRISONERS: “Are you enrolled?” If the option “yes” was circled, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data.

INDIANS: Because everyone in the Indian sample group were previously identified as enrolled members of the Southern Ute Indian Tribe, each survey respondent who checked “yes” or who answered affirmatively to the item “Are you enrolled?” were coded as “1” for being the basis for inclusion in the comparison group.

**Identity Measure Item 4:** PRISONERS: “Is anyone in your family enrolled?” If the option “yes” was circled, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data.

INDIANS: Because (a) everyone in the Indian sample group were previously identified as enrolled members of the Southern Ute Indian Tribe, and (b) only enrolled members of a tribe are authorized to pass their enrollment lineage (status) on to other biological family members for tribal enrollment purposes, each survey respondent who checked “yes” or who answered affirmatively to the item “Are you enrolled?” were coded as “1” for being the basis for inclusion in the comparison group.

**Identity Measure Item 5:** PRISONERS: “Do you know your percent degree of Indian blood?” If the option “yes” was circled, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data.

INDIANS: “Do you know your percent degree of Indian blood?” If the option “yes” was circled, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data, as the basis for inclusion in the comparison group.

**Identity Measure Item 6:** PRISONERS: “Has anyone in your family attended an Indian school?” If the option “yes” was circled, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data.

INDIANS: Because all Native American Indians (regardless of enrollment status or recognition tribe) were subjected to forced attendance at Indian schools, each survey respondent was coded as “1” for being the basis for inclusion in the comparison group.

**Identity Measure Item 7:** PRISONERS: “Do you have any contact with your tribe, band or clan?” If the option “yes” was circled, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data.

INDIANS: As all Indians in the survey sample were identified by their inclusion on the most current tribal enrollment roster inferring they maintained contact with the tribe, each survey respondent was coded as “1” for being the basis for inclusion in the comparison group.

**Identity Measure Item 8:** PRISONERS: “When did you last visit your land / reservation?” If the item indicated a response, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data.

INDIANS: Each survey respondent who provided a positive response, or who answered affirmatively to the item “When did you last visit your land / reservation?” were coded as “1” for being the basis for inclusion in the comparison group.

**Identity Measure Item 9:** PRISONERS: “Who in your family was Indian?” If a positive response was indicated, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data.

INDIANS: Each survey respondent who provided a positive response, or who answered affirmatively to the item “Who in your family was Indian?” were coded as “1” for being the basis for inclusion in the comparison group.

**Identity Measure Item 10:** PRISONERS: “Does your family talk about their Indian blood?” If the option “yes” was circled, then the item was coded as a “1” (as a positive response), whereas all other responses were coded as “0” either meaning “no” or missing data.

INDIANS: Each survey respondent who provided a positive response, or who answered affirmatively to the item “Does your family talk about their Indian blood?” were coded as “1” for being the basis for inclusion in the comparison group.

Again, the same survey items were presented to both sample groups: INDIANS and PRISONERS.

### *Quantifying Qualitative Survey and Interview Data*

The methods used to quantify qualitative data gathered during the SUICSS and the O.R.W. prisoner study were simple but time-consuming. All items were coded as

dichotomous variables (0/1), where each respondent who indicated a positive or ‘yes’ response was coded as “1” whereas negative or ‘no’ responses were coded as “0.” Those participants declining to supply the requested information (or supplying unresponsive or undecipherable responses) were coded as “0.” The later responses were not re-coded as “system-missing” in IBM/SPSS (v26 used in 2024) because the respondent did provide some type of information, but it was unclear to the researcher what their information meant. Those respondents who did not provide any information were coded as “system-missing.” The same dichotomous coding procedures were followed when preparing the dataset derived from the O.R.W. study surveys for use in the present work. Farrington and Loeber (2006) has informed criminologists that dichotomization of coded variables provides some additional benefits, such as some “improved power” to detect effects and “no measurable decrease” in the strength of detected associations than when using continuous variables that rely on interpretation of the  $r$  statistic alone, as in regression analysis. Also, using items that required simple “yes / no” responses help control the possibility of myriad and varied responses that the researcher may or may not later be able to interpret without recontacting original survey participants from 1998, an option that was clearly not available when these data were re-analyzed for the present report in 2024.

Guiding research questions herein became “Will the measures of Indian identity used in a ‘confirmed’ Indian population, i.e., a population that is unequivocally Indian, gather the same data when used in a sample population that should have virtually no Indians and, thus potentially revealing an “invisible” population of Indians now residing prison, as Jones *et al.*, (2023) have previously described? With this question as an overall guide, the following hypotheses were developed:

### **Hypothesis 1**

Hypothesis 1 was: There would be no difference between the two means of each of the *individual* measures (items) of Indian identity-based construct.

1 <sup>st</sup> Hypothesis	$H_0 = \text{Null}$	No difference between the two means of each item
	$H_1 = \text{Research}$	A difference between the means of each item

### **Hypothesis 2**

Hypothesis 2 was: There would be no difference between the two means of each of the *combined* measures (the entire construct) of the Indian identity-based construct.

1 <sup>st</sup> Hypothesis	$H_0 = \text{Null}$	No difference between the two means of the combined measures
	$H_1 = \text{Research}$	A difference between the means of the combined measures

## Data Analysis

### *Reliability of Native American Indian Identity Measures*

To determine the reliability (and thus replicability) of the measures of an Indian identity used to develop the Indian identity construct, paired-samples *t*-tests were first conducted between the responses obtained from the INDIAN and the PRISONER samples using IBM/SPSS (v26). First, however, descriptive statistics were obtained from each sample. Not surprising to the researcher, the PRISONER population contained 100% females, while the INDIAN population had 186 (59.6%) females and 124 (39.7%) males. The age ranges for respondents in both groups ranged from 18 to 78 years. While 55.1% of the INDIANS were under 40 years of age, 60.5% of the PRISONER population reported being aged 40 or under. There was a wide range of tribal affiliations provided by both sample groups. Table 2 below displays the variety of tribal groups represented by respondents in both studies.

**Table 2: Names of Tribal Groups Identified by both INDIANS and PRISONERS**

INDIANS			PRISONERS		
	<i>f</i>	%		<i>f</i>	%
Southern Ute	278	89.1	Apache	2	1.6
Ute Mountain Ute	4	1.2	Blackfoot	22	17.1
Navajo (Diné)	4	1.2	Cherokee	81	62.8
Zuni / Chichita	1	.3	Iroquois	1	.8
Pueblo	1	.3	Seneca	2	1.6
Absentee Shawnee	1	.3	Sioux	5	3.9
Apache	1	.3	Navajo (Diné)	2	1.6
Assiniboine (Nakota)	1	.3	Cheyenne	2	1.6
Blackfoot	2	.6	Chippewa	3	2.3
Blackfoot Montana	1	.3	Creek	1	.8
Cherokee	6	1.8	Shoshone	1	.8
Choctaw	2	.6	Chickasaw	1	.8
Iowa Tribe of Kansas and Nebraska	1	.3	Mohawk	1	.8
Isleta Pueblo	1	.3	Kiowa	1	.8
Mayan	1	.3	BlackHawk	1	.8
Northern Paiute	1	.3	Choctaw	1	.8
Pawnee	1	.3	Shawnee	1	.8
Pueblo of Acoma	1	.3	Chicawa	1	.8
Southern Cheyenne & Pawnee	1	.3	TOTAL	129	100.0
Sioux	1	.3			
Yakama	1	.3			
Yankton Sioux	1	.3			
TOTAL	312	100.0			

Many in the PRISONER sample provided data to describe the characteristics of their sample group. Table 3 presents a description of the characteristics of the sample PRISONER population.

**Table 3: Other Relevant Descriptive Variables**

<i>PRISONERS</i>	
<i>Measure</i>	<i>Responses</i>
Time in ORW (prison)	Less than 5 years <i>n</i> = 442 (66.3%) Between 6 to 10 years <i>n</i> = 77 (10.8%) More than 10 years <i>n</i> = 35 (5.2%)
Any relatives in jail / prison / probation?	Yes <i>n</i> = 68 (40.2%) No <i>n</i> = 275 (41.2%)
Outside of ORW (prison), how do you feel about your Indian blood?	Blank <i>n</i> = 371 (55.9%) Proud / Positive <i>n</i> = 150 (22.4%)
Did you know of your Indian blood BEFORE prison or AFTER prison?	BEFORE <i>n</i> = 189 (28.3%) AFTER <i>n</i> = 5 (7%)
Gender of family member who was Indian?	FEMALE <i>n</i> = 115 (17.2%)
Gender of person informing you that you were Indian?	Learned about Indian blood from a FEMALE <i>n</i> = 54 (8.1%)
From whom did you first learn you had Indian blood?	Parent <i>n</i> = 176 (26.4%) Other Relative <i>n</i> = 61 (9.1%)

### ***Paired-Samples t-tests***

A paired-samples *t*-test will allow observance of any differences between the means found between the two samples (Rosenthal & Rosnow, 1991). Paired-samples *t*-tests were conducted in the first level of analysis because these two samples (INDIAN and PRISONER) were collected from different populations and during different time periods, although the same measures were used in each sample (verbatim) (Rosenthal and Rosnow, 1991: 308). The formula for paired-samples *t*-test is:

$$t = \frac{M_1 - M_2}{\sqrt{\left(\frac{1}{n_1} + \frac{1}{n_2}\right) S^2}}$$

A large *t*-value will indicate a rarer event i.e., one unlikely to occur if the null hypothesis is true (Rosenthal and Rosnow, 1991: 304). Rosenthal and Rosnow offer another way to conceptualize this hypothesized relationship. They wrote “the means do not differ in the population(s) from which they were ... sampled.” To determine the differences and the level of significance of these differences between the means on each of the individual measures of the identity construct, paired-samples *t*-tests were

conducted on each item of measurement. An alpha ( $\alpha$ ) level of .05 (for 2-tailed tests) was set as the level for rejection, as it is a standard alpha level value used in criminological research, although not necessarily the best level (Maier *et al.*, 2022). As these data are original and unique, an alpha level of .05 is likely to be adequate for use herein. Moreover, when each measure is subjected to an individual *t*-test, the differences would be easier to detect.

A principal component analysis will allow observers to do several things, most importantly for this analysis it serves to provide “scientific parsimony” (Kerlinger, 1986: 569). Simply, a factor analysis will tell observers which measures belong together ... which measures (measure) the same thing ... and how much the measures do indeed measure the same thing” (Kerlinger, 1986: 569). A principal component analysis will calculate and “extract a maximum amount of variance” (576). This is important here because at this point in the analysis, each item is being analyzed separately and having the most amount of variance will be helpful to understand the differences between the INDIAN and PRISONER populations. The formula for principal component analysis is:

$$C = w_1(Y_1) + w_2(Y_2) + w_3(Y_3) + w_4(Y_4)$$

On the first item, where each respondent indicated an Indian identity, the *t*-test revealed a significant difference between the means (INDIAN  $N = 596$ ,  $\bar{X} = .48$ ,  $SD = .628$ ,  $\sigma_{\bar{X}} = .026$ ; PRISONER  $N = 596$ ,  $\bar{X} = .40$ ,  $SD = .491$ ;  $\sigma_{\bar{X}} = .020$ ;  $t = 2.035$ ,  $df = 595$ ,  $p = .042$ ,  $KMO = .500$ , Approx.  $X^2 = 8.355$ ,  $df = 1$ ,  $p = .000$ ). On the second item, where each respondent was asked to identify the name of their tribe, the differences were also detected (INDIAN  $N = 575$ ,  $\bar{X} = .38$ ,  $SD = .486$ ,  $\sigma_{\bar{X}} = .020$ ; PRISONER  $N = 575$ ,  $\bar{X} = .19$ ,  $SD = .391$ ;  $\sigma_{\bar{X}} = .016$ ;  $t = 6.395$ ,  $df = 574$ ,  $p = .000$ ,  $KMO = .500$ , Approx.  $X^2 = 17.795$ ,  $df = 1$ ,  $p = .000$ ). On the third item, where respondents were asked if they were enrolled in their tribe, the differences were also significant (INDIAN  $N = 596$ ,  $\bar{X} = 1.75$ ,  $SD = .926$ ,  $\sigma_{\bar{X}} = .038$ ; PRISONER  $N = 596$ ,  $\bar{X} = .02$ ,  $SD = .135$ ;  $\sigma_{\bar{X}} = .006$ ;  $t = 45.476$ ,  $df = 595$ ,  $p = .000$ ,  $KMO = .500$ , Approx.  $X^2 = .793$ ,  $df = 1$ ,  $p = .373$ ). On the fourth item, where respondents were asked if any of their family members were enrolled in the tribe, wherein the differences, too, were significant (INDIAN  $N = 470$ ,  $\bar{X} = 1.74$ ,  $SD = 1.165$ ,  $\sigma_{\bar{X}} = .054$ ; PRISONER  $N = 470$ ,  $\bar{X} = .06$ ,  $SD = .241$ ;  $\sigma_{\bar{X}} = .011$ ;  $t = 31.095$ ,  $df = 469$ ,  $p = .000$ ,  $KMO = .500$ , Approx.  $X^2 = 3.638$ ,  $df = 1$ ,  $p = .056$ ). On the fifth item, where respondents were asked if they knew their own percentage degree of Indian blood and the differences here, too, were significant (INDIAN  $N = 596$ ,  $\bar{X} = .40$ ,  $SD = .491$ ,  $\sigma_{\bar{X}} = .020$ ; PRISONER  $N = 596$ ,  $\bar{X} = .17$ ,  $SD = .377$ ;  $\sigma_{\bar{X}} = .015$ ;  $t = 8.506$ ,  $df = 595$ ,  $p = .000$ ,  $KMO = .500$ , Approx.  $X^2 = 18.394$ ,  $df = 1$ ,  $p = .000$ ). Results of the first five *t*-tests are

not surprising, as the INDIAN population respondents were selected from the tribal enrollment roster for the tribe. Thus, all ( $n = 312$ ) INDIAN participants would likely respond in the affirmative to these items, and indeed they did so. The significant area to examine for validity of these first five tested measures is if the PRISONER population respondents (1) understood the question being asked, and (2) responded accordingly with an appropriate response. For example, when asked to name one's tribe, and many in the PRISONER sample responded "I fly over the moon" or with similar unresponsive responses, and did not name their tribal group, then the validity of that item would be doubted. The PRISONERS appeared to understand the questions asked of them in the survey questionnaire.

On the sixth measure of Indian identity, the respondents were asked if any of their family members had previously attended an Indian school, the differences continued to be significant (INDIAN  $N = 232$ ,  $\bar{X} = .83$ ,  $SD = .379$ ,  $\sigma_{\bar{X}} = .025$ ; PRISONER  $N = 232$ ,  $\bar{X} = .01$ ,  $SD = .113$ ;  $\sigma_{\bar{X}} = .007$ ;  $t = 30.992$ ,  $df = 231$ ,  $p = .000$ ,  $KMO = .500$ , Approx.  $X^2 = .546$ ,  $df = 1$ ,  $p = .460$ ). As all Indians were subjected to the Indian boarding school policy, and there being a former Indian boarding school located within the exterior boundaries of the reservation, all INDIANS were aware of family members who were subjected to this policy. In contrast, the PRISONER sample is not as likely to be aware of this aspect of Indian legal history. Moreover, many PRISONERS are not likely to have strong intimate contacts with their own biological family members due to many prisoners having severed familial ties (Cochran & Mears, 2013). On the seventh measure of Indian identity, respondents were asked if they have any contact with their tribe, where again the differences were significant (INDIAN  $N = 388$ ,  $\bar{X} = .89$ ,  $SD = .308$ ,  $\sigma_{\bar{X}} = .016$ ; PRISONER  $N = 388$ ,  $\bar{X} = .04$ ,  $SD = .205$ ;  $\sigma_{\bar{X}} = .010$ ;  $t = 45.130$ ,  $df = 387$ ,  $p = .000$ ,  $KMO = .500$ , Approx.  $X^2 = .027$ ,  $df = 1$ ,  $p = .870$ ). This finding is not surprising as most tribes are in distant rural areas, while many PRISONERS are apprehended for their offenses in urban centers. Thus, sustained contact with one's tribe may be negatively impacted not only by distance but also by economic reasons that limit phone and mail contact, as well as physical visits to the tribe's location. On the eight item, wherein which respondents were asked when the last time they visited their land or reservation, the respondents again differed significantly (INDIAN  $N = 596$ ,  $\bar{X} = .45$ ,  $SD = .498$ ,  $\sigma_{\bar{X}} = .020$ ; PRISONER  $N = 596$ ,  $\bar{X} = .07$ ,  $SD = .248$ ;  $\sigma_{\bar{X}} = .010$ ;  $t = 16.322$ ,  $df = 595$ ,  $p = .000$ ,  $KMO = .500$ , Approx.  $X^2 = 8.464$ ,  $df = 1$ ,  $p = .004$ ). Again, economic reasons including distance needed to travel to visit a reservation may explain why the PRISONERS had significant differences in their responses to this item, whereas the vast majority ( $n = 252$ ; 80.7%) of the INDIANS reported currently

living on either their or another reservation. On the ninth item, respondents were asked if they knew who in their family was Indian, to which the groups also differed significantly (INDIAN  $N = 596$ ,  $\bar{X} = .40$ ,  $SD = .491$ ,  $\sigma_{\bar{X}} = .020$ ; PRISONER  $N = 596$ ,  $\bar{X} = .40$ ,  $SD = .491$ ;  $\sigma_{\bar{X}} = .020$ ;  $t = .051$ ,  $df = 595$ ,  $p = .960$ ,  $KMO = .500$ , Approx.  $X^2 = 80.355$ ,  $df = 1$ ,  $p = .000$ ). The lasting effects of severed familial relations between PRISONERS and their own biological families from which their Indian heritage must arise, whilst most INDIANS were currently living amongst their family on the reservation, may have played a meaningful role in explaining why these differences were so significant between the two sample populations. On the tenth and final item to measure Indian identity, where each respondent was asked if their family talks about their Indian identity, the two samples again differed significantly (INDIAN  $N = 278$ ,  $\bar{X} = .27$ ,  $SD = .446$ ,  $\sigma_{\bar{X}} = .027$ ; PRISONER  $N = 277$ ,  $\bar{X} = .48$ ,  $SD = .500$ ;  $\sigma_{\bar{X}} = .030$ ;  $t = -4.753$ ,  $df = 278$ ,  $p = .000$ ,  $KMO = .500$ , Approx.  $X^2 = 6.373$ ,  $df = 1$ ,  $p = .012$ ). The results of the  $t$ -test for the final set of identity measures are also not surprising. As could be inferred, living on the reservation amongst one's biological family would likely lead to conversations about their shared Indian-ness amongst the INDIAN sample thus higher scores for this sample were reported, whereas the PRISONER sample would not likely have close ties to their biological families (CITES) thus leading to lower affirmative responses to this item. The negative impact of severed familial ties affects not only the physical and psychological well-being of PRISONERS as many have previously discovered (CITES). Many PRISONERS are further distanced from ties to their cultural heritage and may not receive any of the direct positive benefits of cultural immersion and integration nor any of the indirect effects of developing crucial components for effective cultural efficacy; as defined as the ability of an internalized cultural value structure and its associated ethnic identity to both constrain one's deviant behavior, and to motivate one to act when witnessing cultural deviance.

Exploratory factor analyses (E.F.A.) were not conducted prior to principal component analyses (P.C.A.) because the data and the instrument used to collect the data were designed by the author who had foreknowledge of the type of data to be collected, i.e., ethnic identity data. Indeed, the purpose of the PRISONER study was to understand the prevalence of individuals who hold a Native American Indian ethnic identity and who are housed within a prison, whereas the INDIAN study was to understand the correlation of measures of ethnic identity used within the PRISONER population when compared to a 'confirmed' INDIAN population. Thus, the researcher initially hypothesized i.e., she had an *a priori idea* there would be no significant differences in ethnic identity data reported from an imprisoned population than would

be reported by a 'free' Native American Indian population located many states away from the prison population, one from which all study participants were 'confirmed' to be Native American Indian.

### *Further Reliability Testing*

To test internal consistency reliability, Rosenthal & Rosnow (1991: 554) advised it may be best to "employ principal component analysis with varimax rotation as (one's) standard procedure." Thus, it was determined that principal component analysis (P.C.A.) would be best suited for use to determine the correlations (agreement) between responses from the PRISONER and INDIAN populations. In principal component analyses, eigenvalues are the sum of the squared factor loadings (Rosenthal and Rosnow, 1991: 553, 619) and indicate the amount of variance between the variables once these have been transformed after extraction and rotation. Armor (1974, as cited in Rosenthal & Rosnow, 1991: 553) provides a formula to compute a reliability index, as theta:

$$\theta = \frac{V}{V-1} \left( \frac{L-1}{l} \right)$$

An eigenvalue of 1 or more is "high" (Valicer & Fava, 1998). Similarly, communality extraction values (which are  $r^2$  values or correlation coefficients) in social science commonly range from .40 to .70 in the most common dataset scenarios (Costello and Osborne, 2005). Costello and Osborne suggest dropping any variable(s) (i.e., removal from analysis) any such with a communality extraction value of less than .40. As the datasets compared here within these analyses are original and thus unique and unlike anything else in social science, especially datasets developed by government bureaucrats on behalf of the U.S. Census Bureau, the researcher decided to include all variables with a communality value of at least .30. It should be clear from Table 5, of the twenty variables examined in a COMBINED (INDIAN and PRISONER) analysis, only one variable was observed to have a communality extraction factor of less than .40 (PRISONER Family Past Attendance at an Indian School = .331). In the analysis of only INDIAN responses, the eigenvalues ranged from .921 to .346, which was not unexpected, as this sample was hypothesized to have a higher preponderance of Indian individuals who would answer the ethnic identity items in the affirmative. In the analysis of the PRISONER population, the eigenvalues ranged from .974 to .460, which were still higher than expected and thus indicates a similarity between the two populations based on the measures used therein.

**Table 5: Communality ( $r^2$ ) Values from COMBINED, INDIAN and PRISONER Populations**

COMBINED	Initial	Extraction	Indian	Initial	Extraction	Prisoner	Initial	Extraction
INDIAN Is Indian	1.000	.960	-	1.000	.921	-	1.000	-
ORW Is Indian	1.000	.926	-	1.000	-	-	1.000	.974
INDIAN Named Tribe	1.000	.818	-	1.000	.567	-	1.000	-
ORW Named Tribe	1.000	.660	-	1.000	-	-	1.000	.645
INDIAN Enrolled In Tribe	1.000	.925	-	1.000	.856	-	1.000	-
ORW Enrolled In Tribe	1.000	.809	-	1.000	-	-	1.000	.648
INDIAN Family Enrolled	1.000	.925	-	1.000	.758	-	1.000	-
ORW Family Enrolled	1.000	.690	-	1.000	-	-	1.000	.552
INDIAN % Indian Blood	1.000	-	-	1.000	.766	-	1.000	-
ORW % Indian Blood	1.000	.820	-	1.000	-	-	1.000	.739
INDIAN Attend School	1.000	.596	-	1.000	.346	-	1.000	-
ORW Attend School	1.000	.314	-	1.000	-	-	1.000	.460
INDIAN Contact w/ Tribe	1.000	.690	-	1.000	.434	-	1.000	-
ORW Contact w/ Tribe	1.000	.532	-	1.000	-	-	1.000	.617
INDIAN Visit to Land / Res	1.000	.738	-	1.000	.702	-	1.000	-
ORW Visit to Land / Res	1.000	.753	-	1.000	-	-	1.000	.538
INDIAN Knows Who Was	1.000	.498	-	1.000	.710	-	1.000	-
ORW Knows Who Was	1.000	.926	-	1.000	-	-	1.000	.974
INDIAN Talks About Blood	1.000	.960	-	1.000	.921	-	1.000	-
ORW Talks About Blood	1.000	.689	-	1.000	-	-	1.000	.531

From within the principal component analysis, several other significant relationships were uncovered. Among the INDIAN population, knowledge of one's own ethnic identity as an Indian was, as suspected, known by all study participants ( $\lambda = 5.577$ ), knowledge of the name of one's own tribe ( $\lambda = .905$ ), being enrolled in a tribe, band or clan ( $\lambda = .681$ ), and having a family member enrolled in a tribe, band or clan ( $\lambda = .627$ ) were significant measures of an Indian identity. Among the PRISONER population, knowledge of one's own ethnic identity as an Indian was known ( $\lambda = 3.326$ ), knowledge of the name of one's tribe ( $\lambda = 2.126$ ); knowledge of one's enrollment status ( $\lambda = 1.227$ ) were significant. To a somewhat lesser extent, respondents in the PRISONER population knew the enrollment status of a family member ( $\lambda = .774$ ), knew about a family member's previous attendance at an Indian school ( $\lambda = .632$ ), and knew their own percentage / degree / quantum of Indian blood ( $\lambda = .603$ ).

### *Indian Voices*

When asked how the prisoners felt about their American Indian heritage, most ( $n = 150, 66.7\%$ ) specified they felt "proud" or "fine," such as these women indicated: "I

accept it like my being Irish and Welch. It's who I am.”; “It wasn't a big deal. I didn't go around talking about it unless I was asked.”; “Proud because my grandpa had a lot of pride. Both his parents were half Chiwawa.”; “Proud. A couple years ago I became real interested in my culture.”; “I'm proud to be the race I am – with or without Indian blood.”; “I walk proudly.”

Conversely, only 75 (33.3%) reported having any feelings about their heritage, as many wrote “it's just blood” or “it's just part of who I am.” Many women, however, felt ambivalent about their tribal heritage and indicated so as these women did: “I don't think about it.”; “Nothing different to me”; “I guess it's ok.”; “I never really thought about it.”; “It's there.”; “can't change it”; and “Never really thought about it.”

Of the 107 (47.6%) women responding to the item, “How do you think you family feels about their Indian heritage, only 6 (2.7%) reported their family was “proud” of their indigenous heritage and 100 (44.9%) wrote they did not know how their family felt. This latter result may be an artifact of many prisoners not having close contact with their families and not necessarily that their families did not have views about their own Indian heritage. This finding has significant theoretical and crime policy implications which will be discussed soon. These findings are relevant to theories about female prisoner self-esteem and development of a sense of self-efficacy with which prisoners must use to both navigate institutional barriers and to successfully complete rehabilitative programs. Implications of these findings for developing cultural efficacy within a correctional institution are also discussed next.

## Results

There were no significant differences found between the INDIAN and PRISONER sample populations when asked about their ethnic identities. This means the identity measures used in the two studies herein are likely to be the best currently available for use in other sample populations where an Indian identity is either questioned or where the size of an Indian population is at stake for public policies, such as for use by other prison systems throughout the United States to gain an accurate understanding of their populations and by the U.S. Census Bureau in the decennial census. The results of this study support use of the Native American Indian identity measures examined herein to other populations where an Indian identity may be questioned, as they relate to understanding the lasting and often deleterious social effects of long-ago policies such as the Indian school attendance mandate and the Indian reservation system policies to name just two past federal policies that previously targeted the Native populations of the United States.

## Discussion

*I consider a person who is a 'half-breed,' who goes to the spiritual or traditional ceremonies (an Indian). Then we have a 'full-blood' who doesn't go to anything ... drinkn.' I have more respect and identify with the 'half-breed' as being more Indian than the 'full-blood.' My mom's 'full-blood' Ute.*

—Personal Interview #3, male

The benefits of this study for other Native American Indians, their tribes, and for the United States society are substantial. Tribes are often faced with a deluge of individuals who wish to claim tribal membership without the benefit of evidence for such membership (see, e.g., Crawford, 2019). This causes undue financial hardship on already impoverished tribes who must now engage in expensive confirmatory, or refutation efforts brought by individuals who do not even hold basic knowledge of their own ethnic identities, such as the time and human resources of tribal enrollment departments and costs associated with legal challenges to denials arising from these efforts. Further, the pan-Indian population suffers from much abuse by individuals who propagate many false narratives of Indian-ness. The “my grandmother was a Cherokee Princess” is one fallacy many non-Natives propagate to the detriment the pan-Indian community (Oxendine, 2024). Other pseudo-Indians also attempt to take social and economic advantage of an Indian identity, such as have several academics (Viren, 2021; Quinn, 2023; Phillips, 2023; Beaumont, 2021; Simon, 2021), political figures (McDonald, 2018), artists (Associated Press, 2021), writers (Barerra, 2016) and, of course, actors like “Iron Eyes Cody” of television commercial fame and performance artist Cher (Kovalchik, 2008), and other Hollywood types (Deer & Barerra, 2020) in the recent past. If one is claiming a Native American Indian identity *for any purpose* such as to obtain any woefully mis-conceived social ‘benefits or social status upgrade, one must be able to provide the name of one’s tribe as a *minimum* amount of knowledge about their purported ethnicity. “What kind of Indian does not even know the name of their tribe?” is a question often asked by ‘real’ Indians about those who purport to be Indian yet have no confirmatory information to substantiate such a claim.

### *Theoretical Implications*

Revisions to sizes and compositions of ethnic groups in the United States such as the Native American Indian population, for example, will need to be adjusted to account for a vast difference likely to be uncovered when demographic data collection instruments are re-calibrated to collect bi-racial and multi-ethnic identities and those collecting these

data are informed and re-trained about the problems inherent to previous data collection implementation practices. Theoretical constructs positioned on the 'dwindling' size of the United States Native population found within several scientific fields of study, for example, may need to be recalculated and readdressed based on updated ethnic identity data collection techniques which are likely to yield revised population size estimates.

### ***Public Policy Relevance of This Work***

It is ill-advised for criminal justice system agencies to continue to employ fatally-flawed methods of ethnic identity data collection, such as what occurs in O.R.W. and within police reports and court records. The dominant ethnic identity data collection technique has been and continues to be the 'how they look' standard, i.e., 'you look white/black, so you are white/black' with total disregard to one's cultural affiliation. Changes must occur to data collection techniques and instruments because crime statistics, victimization profiles, and other criminal offending characteristics are grossly distorted when the data upon which they use to measure such things as offender and victim races, are collected using fatally-flawed methodologies. Further, rehabilitative programs directed toward at-risk youth and imprisoned adult offenders, too, are not adequately capturing the elements of their audiences these efforts should be targeting. Potential rehabilitative programs, too, may not even be considered for offender populations for whom the bureaucrats in administrative positions over same do not even believe they have a Native American Indian population based on current offender demographic profiles, as was the situation in O.R.W.

Several previous research efforts, for example, have demonstrated the efficacy of improved ethnic identity acceptance to improved outcomes for such areas as early education and social adjustment in schools and families are areas which have been observed to be critical for the acquisition of *pro-social* identities among at-risk youth and college students (Gummadam, Pittman & Ioffe, 2016; Rivas-Drake *et al.*, 2014). Thus, it would be advisable for researchers to re-evaluate how racial and ethnic identity data are collected in the future. Finally, as distribution of federal funds to states and other municipalities are based on ethnic characteristics of the populations of same, it is incumbent upon citizens and political leaders to *demand* accuracy in census data. The State of Arizona, for example, has recently potentially lost nearly "\$30Billion dollars" in federal funding and the loss of one Congressional seat because the recent United States census of its Native and Hispanic populations are inaccurate (Hansen, 2022; Kissam, 2023). In an era of fiscal belt-contraction, accuracy in all measures and areas of accounting must be absolute and unquestioned.

## Research Implications

The benefits of asking respondents if they consider themselves to be American Indian, Native American, or Aboriginal are greater and thus provide richer data than what is collected by the current method of using the ‘how they look’ standard often employed by bureaucrats and others (Abril, 2003). Moreover, use of a new, better method that requests the informer to advise how they view themselves versus how others perceive them to be ethnically or racially has been found to uncover drastic disparities in data between official reports and what an outsider can collect (Abril, 2003). When a researcher decides to classify potential study participants according to how the researcher believes they should respond, usually by providing a box to check the standard ‘White, Black, Asian, Other’ categories which then forces the respondents to limit the quality and accuracy of the data provided, then data distortion is the only logical consequence, as Abril discovered in an earlier report (2003). Invisible or “hidden” populations (Jones *et al.*, 2022) may reveal underlying causal factors impeding efficacy of research efforts in a variety of rehabilitative and other types of programs.

## Future Research

Changes to ethnic identity data collection methods and instruments will be expensive and time consuming. Yet, when compared to the myriad costs associated with poor criminal justice system program designs that have often led to failed programs; and the ancillary costs associated with failed rehabilitative programs such as, for example, higher recidivism rates, ineffective violence reduction and victimization efforts, and myriad other residual effects that arise from failure to heed scientific dictates for accuracy which are core within all areas of research and scientific pursuits.

Changes in a dominant paradigm within criminology that focuses on why an offender offends should instead be focused on what can be done to prevent offending on the first place, such as much work that has focused on youthful individuals to attend to reasons not on the etiology (development of crime) but instead on the prevention of crime/deviant behavior. While theoretically, it might be ideal to submit such ideas to empirical observations with experimentally-designed studies, such are impossible to conduct outside of those termed “thought experiments” due to the vast ethical implications they can evoke in the minds of those who think about such matters. An alternative research strategy is now proffered and available for exploitation using a Native American Indian ethnic identity-based construct now available for use in future criminological work on offending, desistance from crime and within victimization research. Indeed, this ethnic identity construct may be useful in other settings outside

criminology, such as in healthcare and education to name just two areas. It remains to be seen yet is an optimistic probability that such innovative efforts to understand the role(s) of a pro-social ethnic identity are on the further development of the science of criminology. In the words of a Kiowa man, Pulitzer Prize winner, and United States National Medal of Arts honoree, N. Scott Momaday, “Our very existence consists in our imagination of ourselves” (1969). Indeed, it may be in our *collective* imaginations wherein which our tribal Nations will be resurrected back to their former beauty. At least, it may be where incarcerated Indians can maintain their sense of self to survive imprisonment, just as Native People have always survived.

### Notes

1. An institution Gilbert Geis once categorized as, “one of those Florida schools” (personal communication between Gilbert Geis and the author, 1998).
2. Others might argue research by Laud Humphreys (1968), for his Ph.D. dissertation project at Washington University in St. Louis and subsequent book, *Tearoom Trade: Impersonal Sex in Public Places* (Duckworth: NY), is an extreme example of researcher misconduct in the study of deviance (Lenza, 2004).
3. For comparison purposes, data gathered during the S.U.I.C.S.S. were collected using USD\$120,004 in United States taxpayer dollars awarded to this author in grant funds in 2001. Data collected during the O.R.W. prisoner study were collected using USD\$19,900 in grant funds from the California State University System awarded to the author in 1998. It can then be argued these combined taxpayer funds are still producing a respectable return-on-investment nearly 25 years hence from the original expenditures.
4. A lesson inferred from the cultural value structure of science as evidence by Sampson’s public scientific behavior, is one that undergirds the ideas relating to the influence of culture and its values being relevant to both refraining from deviance and motivating responses to deviance, as will be discussed in forthcoming pieces on this matter by this author. University of California, Irvine Division interdisciplinary School of Social Ecology website homepage available on 02/01/24: School of Social Ecology | Science Driving Solutions (uci.edu)
5. United States Department of Health and Human Services, Indian Health Service, Chapter 1 Eligibility for Services on-line resource at Chapter 1 - Eligibility for Services | Part 2 (ihs.gov); United States Department of the Interior, Bureau of Indian Affairs, Financial Assistance and Social Services (FASS0, Bureau of Indian Affairs Financial Assistance and Social Services (FASS) | disasterassistance.gov
6. The author is Yaqui Native / Cherokee Indian, a fact that will likely influence the perception of the validity of the data gathered by her and reported herein.

7. Within this report, Euro-American is generally denoted as being non-Indian, as were all others who reported an ethnic identity other than American Indian.
8. For a complete discussion of the methodology used to gather the original data, see Abril, J.C. (2009) *Crime and Violence in a Native American Indian Reservation: A Criminological Study of the Southern Ute Indians*, Forward by Gilbert Geis, Past President American Society of Criminology. VDM Publishing House: Mauritius and, Abril, J.C. (2005). *The Relevance of Culture, Ethnic Identity, and Collective Efficacy to Violent Victimization in One Native American Indian Tribal Community*. Ph.D. dissertation, on file at the University of California, Irvine Division.

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