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# Native American Response Differences on the MMPI-2 Addiction Scales

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## Background

The Minnesota Multiphasic Personality Inventory-II (MMPI-2) is a popular psychodiagnostic tool that has become widely used in the diagnosis and treatment of severe mental illness among different racial and ethnic groups. The majority of MMPI-2 research with ethnic minorities involves comparing the minority sample with Caucasian counterparts. This assessment often yields higher rates of clinical diagnostic levels for mental health issues when used with diverse populations. More specifically, Native Americans score higher and at significant diagnostic levels on several of the clinical, content and supplementary scales of the MMPI-2. The MacAndrew-Revised (MAC-R), the Addiction Admission Scale (AAS) and the Addiction Potential Scale (APS) supplementary scales all examine different facets of addiction. These scales have all revealed significant between group differences (Pace et al., 2006; Robin, Greene, Albaugh, Caldwell, & Goldman, 2003).

**MacAndrew-Revised:** The MAC-R consists of 49 questions. Elevations of the MAC-R Scale represent an overall addiction-prone personality. The additions may be to alcohol or drugs, tobacco, caffeine, or activities, e.g., gambling. High scores are generally considered to be raw scores of 28 or more (Graham, 2006).

**Addiction Admission Scale:** The development of the AAS started with an analytical search through the MMPI-2 for items with content pointing towards substance-abuse problems. The AAS is made up of 13 items from the MMPI-2. Research has shown that both the APS (Addiction Potential Scale) and the AAS distinguish between those abusing substances and those not abusing substances. In addition they discriminate between samples considerably more effectively than MAC-R (Graham, 2006).

**Addiction Potential Scale:** This scale was developed as a measure of the personality characteristics and life situations associated with substance abuse. Research data for this purpose was obtained from three large samples collected as part of the MMPI Re-standardization Project: the MMPI-2 normative sample, a sample of psychiatric inpatients, and a sample of inpatient residents of a substance-abuse treatment program. A total of 39 items comprise the APS (Graham, 2006).

## Methods

A non-clinical community sample was recruited through flyers and announcements at local pow wows and other common areas throughout the state of North Dakota concentrating on the Grand Forks area. There were 118 Native Americans and 152 White Americans who participated in the initial study. All participants were administered the MMPI-2 and significant differences between the Native American and White individuals in non-clinical community, college and clinical outpatient samples were examined. The focus of this study is to examine the differences between the 34 Native Americans and 48 White Americans that participated in the non-clinical community sample. The MAC-R, AAS, and APS are the supplementary scales of interest. The frequency data for each individual item on each scale were examined to determine if there were significant differences between groups. Z-scores were computed and only significant items are discussed.

## Acknowledgements

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## Results

**Table 1: Addiction Admission Scale – Significant between group items**

| Question  | Native American | White American | z-score (α = .05) |
|---|-----------------|----------------|-------------------|
| 489. I have a drug or alcohol problem.                            | 31.3%           | 2.9%           | -3.20             |
| 544. People tell me I have a problem with alcohol but I disagree. | 25%             | 0%             | -3.16             |

**Table 2: Addiction Potential Scale – Significant between group items**

| Question  | Native American | White American | z-score (α = .05) |
|---|-----------------|----------------|-------------------|
| 4. I think I would like the work of a librarian.*                   | 77.1%           | 44.1%          | -3.00             |
| 89. The hardest battles are with myself.                            | 41.7%           | 70.6%          | 2.60              |
| 103. I enjoy a race or game more when I bet on it.                  | 56.3%           | 26.5%          | -3.00             |
| 220. I never worry about my looks.*                                 | 56.3%           | 88.2%          | 3.10              |
| 306. No one cares much what happens to me.*                         | 70.8%           | 94.1%          | 2.60              |
| 349. I am never happier when alone.*                                | 70.8%           | 97.1%          | 3.00              |
| 495. I believe people should keep personal problems to themselves.* | 62.5%           | 88.2%          | 2.60              |

\* item endorsed as false contributes to elevated scores.

**Table 3: MacAndrew Alcoholism – Revised Scale – Significant between group items**

| Question   | Native American | White American | z-score (α = .05) |
|--|-----------------|----------------|-------------------|
| 84. I was suspended from school one or more times for bad behavior.  | 43.8%           | 2.9%           | -4.128            |
| 103. I enjoy a race or game more when I bet on it.   | 56.3%           | 26.5%          | -2.685            |
| 229. I have had blank spells in which my activities were interrupted and I did not know what was going on around me. | 20.8%           | 0%             | 2.845             |

## Results

The proportion of individuals in each group that endorsed an item was calculated separately for each group for all three scales. Differences between the groups were tested using the z approximation to the normal curve.

- Native Americans score significantly higher on all three scales (APS, AAS and MAC-R) with the APS scale showing the greatest differences.
- Scores on the Addictions Admission Scale indicate that Native and White responded significantly different on two questions.
  - Little to no endorsement of these questions by White Americans which is inconsistent with the literature – possible underreporting or non-representative sample.
- The Addiction Potential Scale indicates there are seven questions that are significantly different between the groups.
  - Loss of culture and family ties, a by-product possibly of historical trauma and assimilation, can lead Native Americans to endorse items differently.
- The MacAndrews Scale shows three questions that are significantly different between Native Americans and Whites.
  - Issues with historical trauma and assimilation may cause Native Americans to have considerable issues with authority figures and an increase in risk taking behavior. Possible underreporting may contribute.



## Discussion

Although Native Americans have the highest rates of alcoholism among other minority groups, their rates of alcoholism are very similar to those of White Americans (Substance Abuse and Mental Health Services Administration, 2010). Interestingly enough, it is an oddity to encounter such differences on scales that measure a construct that is equally shared between Native and Whites. One of two scenarios are at play when interpreting the results of this study; 1.) White Americans are underreporting or 2.) There are possible historical and cultural differences impacting the results.

Historical trauma has far reaching effects. The harsh and lonely world of boarding schools left many without a clue as to how to best navigate the new world they were thrown into. The reservations create a whole new set of issues: The lack of resources and opportunities, high rates of extreme poverty, and substance abuse cause great distress and continued oppression of these once completely independent, efficient, resourceful, and vibrant people.

