This article provides a review of several studies, which used the Minnesota Multiphasis Personality Inventory (MMPI) to attempt to differentiate adult children of alcoholics (ACOAs). The studies focused on either non-clinical ACOAs or alcoholic ACOAs. Overall, the MMPI differentiated ACOAs, but the degree and patterns of elevations varied considerably. Thus, the MMPI did not reveal a consistent way to identify at-risk non-clinical ACOAs, nor did it reveal a homogeneous diagnostic subgroup among alcoholic ACOAs. However, when the MMPI is used in context, it can provide valuable information for targeting at-risk ACOAs and developing effective preventive and treatment interventions for this population. (Contains 12 references.) (Author)
Use of the MMPI with Adult Children of Alcoholics

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Abstract

This article provides a review of several studies, which used the MMPI to attempt to differentiate adult children of alcoholics (ACOAs). The studies focused on either non-clinical ACOAs or alcoholic ACOAs. Overall, the MMPI differentiated ACOAs, but the degree and patterns of elevations varied considerably. Thus, the MMPI did not reveal a consistent way to identify at-risk non-clinical ACOAs, nor did it reveal a homogenous diagnostic subgroup among alcoholic ACOAs. However, when the MMPI is used in context, it can provide valuable information for targeting at-risk ACOAs and developing effective preventive and treatment interventions for this population.
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Adult Children of Alcoholics

It is estimated that as many as 28 million people in the United States are children of alcoholics (Coleman & Frick, 1994). Evidence indicates that children of alcoholic parents are at increased risk for adjustment problems throughout life. Furthermore, they are four to six times more likely to develop a drinking problem than control groups (Coleman & Frick, 1994).

Personality may play a significant role in the risk for alcoholism and other adjustment problems with adult children of alcoholics (ACOAs). There are two theories behind the link between personality and alcoholism among ACOAs, both of which have some support in research literature (Coleman & Frick, 1994). The basis of the first theory is social learning: Children of alcoholic parents learn dysfunctional responses as a way to cope with the challenges of the environment (Mucowski & Hayden, 1988). These patterns of interaction are internalized as personality characteristics and then permeate all aspects of an individual’s life (Mucowski & Hayden, 1988). Another theory suggests genetics: “ACOAs inherit personality characteristics that predispose them for the development of problem drinking” (Coleman & Frick, 1994, p. 446).

Either way, it is important to determine whether ACOAs do have distinct coping styles and personality characteristics. If so, this information would be helpful in the development of effective preventive and treatment interventions designed specifically for the challenges of this population (Coleman & Frick, 1994).

Minnesota Multiphasic Personality Inventory

The Minnesota Multiphasic Personality Inventory (MMPI/MMPI-2) is the most widely used clinical personality inventory and is supported by almost 60 years of extensive research. It is a standardized questionnaire that elicits self-descriptions and provides a quantitative
measurement of an individual’s level of emotional adjustment and attitude toward test-taking (Groth-Marnat, 1999). It has been used in many studies with ACOAs to help in understanding this population. A review of the literature reveals two types of studies: those that focus on non-clinical ACOAs and those that focus on alcoholic ACOAs.

In both types of studies, the MMPI or the MMPI-2 is administered to try to differentiate ACOAs from the control group. However, the purposes differ. In studies working with non-clinical ACOAs, the goal is to identify potential risk for adjustment problems and/or substance abuse, with prevention being the ultimate objective. In studies working with alcoholic ACOAs, the goal is to uncover a diagnostic homogenous subtype that would have treatment implications for that population.

Non-Clinical ACOAs

The majority of research indicates that the MMPI profiles of non-clinical ACOAs were significantly higher statistically compared to non-clinical non-ACOAs, but the resulting elevations were slight and; therefore, not clinically useful independently. For example, a study by Knowles & Schroeder (1990) involved 800 male undergraduate students who took the MMPI, 199 of whom were the sons of alcohol abusers. The scores of the ACOAs differed significantly from the control group on all 10 clinical scales, though the actual scores were not very high. Given the large sample size, this is strong evidence that there is a correlation between parental alcohol abuse and reliable but relatively small elevations of MMPI personality profiles in non-clinical sons of alcohol abusers (Knowles & Schroeder, 1990).

Hegedus, Alterman, and Tarter (1984) used delinquent adolescents with poor academic performance (N=41) and also found that the MMPI clearly differentiated the children of alcoholics (COAs). Once again, their elevations were only slightly elevated but were
significantly higher statistically on every clinical scale, even though the control group was also delinquent. Though the elevations were only slight, putting the higher MMPI scores in context with the COA status, the academic underachievement, and the early pattern of delinquency gives a clear indication of the need for intervention.

A study by Coleman & Frick (1994) compared 69 ACOAs with 30 control college students on scales from the MMPI-2. The ACOAs scored significantly higher statistically on scales 2, 3, 4, 6, 7, & 8. Interestingly, the length of time the child lived in the home and the alcoholic parent’s level of impairment did not moderate the results (Coleman & Frick, 1994).

A dissenting study by Hunt (1999) involved administering the MMPI to 31 non-clinical ACOAs and 120 non-clinical non-ACOAs. The only statistically significant difference found between the COAs and non-COAs was in the mean score of the Frequency subscale (Hunt, 1999). This caused Hunt to conclude that ACOAs were more likely than non-ACOAs to have a lack of understanding of normalcy (antisocial beliefs) and therefore, have been generally affected by the presence of parental alcoholism (Hunt, 1999). However, the degree to which they have been affected appeared to be less than in other studies. The small sample size might explain the inconsistency between this study and others. Another possible explanation could be that the subjects in two of the other studies were college students, which represent only a portion of the ACOA population.

Regarding specific elevation patterns, the results were inconsistent. Knowles & Schroeder (1990) found that the highest scores among the ACOAs were scale 8 (T=69) & scale 9 (T=67). Hegedus et al. (1984) reported that the most notable difference was the moderate elevations on the “neurotic triad” (scales 1, 2, & 3). Using the MMPI-2, Coleman & Frick (1994)
found that scale 8 (T=66.5) and scale 7 (T=64.51) were the highest scores. Thus, although ACOAs tend to have higher elevations, they do not tend to be a homogenous subgroup.

However, an important finding by Coleman & Frick (1994) involved dividing the MMPI-2 profiles of non-clinical ACOAs based on drinking habits. The three two-point code types that people with alcoholism tend to have (49/94, 24/42, and 27/72) did not consistently appear in any of the other non-clinical ACOA studies, but did appear among the heavy drinking non-clinical ACOAs in Coleman & Frick's study (1994). Those who drank heavily "showed higher mean scale scores and were more likely to show elevations on the 4 and 9 scales and the MacAndrew Alcoholism scale" (Coleman & Frick, 1994, p. 452). This is the only group that had a consistent pattern of elevations and this pattern is considered especially predictive of alcoholism (Coleman & Frick, 1994).

The personality characteristics COAs develop may predispose them to difficulties with alcohol and other problems later in adult life. However, the means of the MMPI profiles were mostly within "normal" ranges and thus, little can be generalized about all ACOAs aside from their slightly elevated MMPI profiles. Therefore, it is critical that other information is gathered in order to determine the potential for future problems. Furthermore, the study by Coleman & Frick (1994) suggests that gathering information regarding drinking patterns could greatly increase the likelihood of identifying the higher risk ACOAs.

Alcoholic ACOAs

Alcoholism is a heterogeneous disorder that has complex causes, develops in diverse ways, and has varied results in treatment outcome (Svanum & McAdoo, 1991). One way researchers have sought to understand this disorder has been through the use of diagnostic schemes as a way to develop more homogenous subtypes. For example, one of the most
consistent features of alcoholism is that it tends to run in families; therefore, some have suggested a diagnostic subtype of familial alcoholism (Svanum & McAdoo, 1991). However, the results have been mixed.

*Elevations & Patterns*

Using the MMPI, several studies have attempted to distinguish alcoholic ACOAs from alcoholic non-ACOAs through evidence of higher elevations and/or different patterns of elevations. Svanum & McAdoo (1991) investigated the implications of parental alcoholism by studying 639 male and female alcoholics in treatment, with 264 ACOAs and 375 non-ACOAs. The ACOAs were characterized by higher levels of MMPI-measured pathology, particularly on scale 2 & 4 and were more likely to have an elevated 49/94. These elevations are "similar but more prominent than the typical alcoholic in treatment" (Svanum & McAdoo, 1991, p. 129).

Thus, the findings of Svanum & McAdoo (1991) seem to support the idea of higher elevations, but not necessarily different patterns of elevations.

Conley & Prioleau (1983) studied MMPI personality types among a large sample of 1470 male and 693 female hospitalized alcoholics. The study was intended to test the hypothesis that "primary" alcoholism is associated with Psychopathic & Schizoid profiles, while "secondary" alcoholism is associated with Neurotic and Classic profiles. A primary (or essential) alcoholic "suffer[s] from a more severe form of the disease characterized by a familial history of alcohol misuse [ACOA], early age of onset of alcoholism and psychopathic personality disorder" (Conley & Prioleau, 1983, p. 996). Secondary (or reactive) alcoholism is considered less severe, associated with lower rates of familial alcoholism, has a later onset, and a more neurotic psychopathology (Conley & Prioleau, 1983).
When given the MMPI, just below 50% of each group of alcoholics (men & women) were classifiable into the subgroup profiles (Psychopathic, Schizoid, Neurotic, or Classic). Among those that were classified, the hypothesis proved correct. The social history of those with Psychopathic and Schizoid types revealed that “alcoholism usually appeared early in adult life in a socially disruptive form and seemed to be part of a familial pattern” (Conley & Prioleau, 1983, p. 1007), with the opposite being typically true for the Neurotic type and to some extent, the Classic type (Conley & Prioleau, 1983). The large sample size combined with the results supports the possibility of being able to distinguish between primary (typically ACOAs) and secondary (typically non-ACOAs) forms of alcoholism. Thus, Conley & Prioleau (1983) had the opposite results from Svanum & McAdoo (1991). Among alcoholic ACOAs as compared to alcoholic non-ACOAs, they did not find higher elevations but did find support for different patterns of elevations.

In a study of 1,929 alcoholics by McKenna & Pickens (1983), the number of alcoholic biological parents (0, 1, or 2) was directly related to elevations on the MMPI, especially aggression. Specifically, scale 4 was positively and significantly correlated to the number of alcoholic parents, suggesting “significantly more characterological problems among children of one or more alcoholic parents” (McKenna & Pickens, 1983, p. 695). Scale 2 was negatively correlated, indicating slightly less depression (or more denial). Thus, this study indicates both higher elevations and different patterns of elevations. Furthermore, the results may have been moderated by the fact that only subjects who were raised by both biological parents in the same home were included in the study (McKenna & Pickens, 1983).

Similar in purpose to the study by McKenna & Pickens (1983), Alterman (1988) compared 83 alcoholic men to determine if the degree of familial alcoholism factored into the
severity and/or level of psychopathology. Those with alcoholism on both sides of the family “exhibited an MMPI profile reflective of a characterological disorder” (Alterman, 1988, p. 167). This study did not find higher elevations, but did find different patterns of elevations for ACOAs. However, alcoholics with psychiatric conditions were excluded and people with alcoholism and psychiatric problems might occur more frequently among ACOAs. Thus, it may be that the most severe group of ACOAs was excluded (Alterman, 1988).

Keltner, McIntyre, & Gee (1986) studied the effects of birth order position on male alcoholic ACOAs (N=90) who were from intact families with three children. There was a consistent pattern of first-borns evidencing significantly less psychopathology scores on the MMPI than both groups of later-borns (Keltner et al., 1986). Thus, “psychopathology generalizations about ACOAs may give a distorted view unless birth order position is considered” (Keltner et al., 1986, p. 496). This study did not compare alcoholic ACOAs to a control group of alcoholics, so there is no conclusion regarding whether ACOAs have higher or different MMPI profiles. However, the discovery of this study is important because it suggests that higher and/or different patterns of elevations might have been found more consistently in the other studies if they controlled for birth order.

A study by Cartwright, McKay, & Stader (1990) is the dissenting article in that neither differences in elevations nor patterns of elevations were found. The study involved the administration of the MMPI to 195 alcoholics at a treatment center; 86 were ACOAs. The purpose was to determine whether one group would be more or less pathological, based on the alcoholic status of the parents. Among all of the subjects, three distinct MMPI profile clusters emerged. Group 1 was the most pathological with eight elevated clinical scales, group 2 was the second most pathological with elevations on scale 2 & 4, and group 3 showed no clinical
elevations. “Parental status did not predict membership in the more or less pathological clusters” (Cartwright et al., 1990, p. 60). The percentages of ACOAs and non-ACOAs in each of the three profile groups were very similar (Cartwright et al., 1990). This suggests that alcoholic ACOAs are not distinguishable from alcoholics as a whole.

The other studies might have found similar results if they divided the ACOA profiles in the same way. For example, in the study by Conley & Prioleau (1983), more than 50% of participants did not fall into any of the pre-prescribed categories and thus, potentially, many ACOAs who exhibited somewhat less pathology were not represented.

Age of Onset versus Severity

An important finding in Svanum & McAdoo (1991) may moderate those studies that found alcoholic ACOAs to have higher psychopathology, which also further supports the findings of Cartwright et al. (1990). Svanum & McAdoo (1991) found that the 264 ACOA alcoholics in their study of 639 subjects had higher levels of alcohol dependency and higher MMPI-measured psychopathology. However, when they controlled for age of onset, the severity of the disease and the psychopathology were similar to non-ACOA alcoholics. Therefore, ACOA alcoholics may not begin with higher psychopathology but instead, develop it as a secondary symptom, due to a typically earlier age of onset and the progressive nature of the disease (Svanum & McAdoo, 1991). It also means that in order to prevent ACOAs from becoming alcoholics; they need preventative measures as early as possible.

Several articles supported this finding. McKenna & Pickens (1983) found that being an alcoholic ACOA did not relate to severity of the problem and treatment outcome, but did relate to an earlier age of first intoxications. Alterman (1988) found few differences with respect to severity of alcoholism. Only age at the time of treatment and use of nonalcoholic drugs were
associated with increasing familial alcoholism. Furthermore, Keltner et al. (1986) proposed that one explanation why later-born children have higher MMPI elevations could be because later-born children may be the products of a increasingly disrupted home life as the disease progresses over time.

**Generalizability to women**

An important aspect of the study by Svanum & McAdoo (1991) was that it included both males and females and analyzed them separately. In the past, studies about familial alcoholism have been done primarily with males. This study offered "evidence that the character of "familial alcoholism" is similar for both men and women" (Svanum & McAdoo, 1991, p. 131). Thus, results of studies of male ACOAs may have substantial generalizability to female populations (Svanum & McAdoo, 1991). However, female ACOAs exhibit significantly higher levels of MMPI-measured psychopathology compared to male ACOAs (Svanum & McAdoo, 1991).

**Conclusions**

**Non-clinical ACOAs**

The MMPI is useful in helping to differentiate non-clinical ACOAs from non-clinical non-ACOAs. ACOA personality profiles had relatively small but reliable elevations, which appear to be the result of parental alcohol abuse. The higher elevations among ACOAs suggests that the personality characteristics they develop may predispose them to difficulties with alcohol and other problems later in adult life.

The MMPI also revealed that there is not a consistent pattern of elevations among non-clinical ACOAs. Therefore, the limitation is that the MMPI alone cannot identify an ACOA, nor determine which ACOAs are at highest risk. The MMPI is most useful when it is analyzed in the context of other information such as family history, patterns of delinquency, academic
performance, and drinking patterns in order to determine the risk of alcoholism or other adjustment problems later in life. Drinking pattern information could be particularly valuable since the MMPI did tend to find a consistent pattern of elevations for this subset, which is considered especially predictive of alcoholism. Overall, the MMPI, used in combination with other information, can be very useful in identifying those who are at risk among ACOAs. Since an early onset of the disease is a characteristic of ACOA alcoholics, early intervention is critical.

Alcoholic ACOAs

Most studies found that the MMPI differentiated alcoholic ACOAs from alcoholic non-ACOAs. However, the results were inconsistent, with some finding higher elevations, others finding different patterns of elevations, and still others finding both or neither. Also, there were moderating factors which may have kept the elevations artificially low or prevented patterns from emerging, such as only using subjects who were raised by both biological parents, excluding alcoholics with psychiatric problems, and including first-borns who may have less psychopathology than later-borns. On the other hand, moderating factors, which may have kept the elevations artificially high, were also present. For example, ACOAs have an earlier age of onset and therefore develop more severe psychopathology sooner than control groups and yet, some studies did not control for age of onset. There are many complicating variables and so, the MMPI has not generated a homogenous diagnostic subtype for alcoholic ACOAs.

Still, there is some evidence that alcoholic ACOAs tend to have the "primary" form of the disease, which is characterized by Psychopathic and Schizoid profiles. Thus, the MMPI can be helpful in developing treatment interventions that are consistent with the personality characteristics that are manifested among this population.
Generalizability

Knowles & Schroeder (1990) raised a consideration, which relates to the results of all of these studies. The non-clinical ACOA studies (typically undergraduate students) may over-sample from the least psychopathological end of the risk continuum, while the alcoholic ACOA studies may “over-sample from the most psychopathological end of the risk continuum” (Knowles & Schroeder, 1990, p. 143). Thus, findings based solely on one type of study or the other may under- or over-predict offspring vulnerability and not generalize to the majority of this population (Knowles & Schroeder, 1990).

Further Research

The MMPI has benefits in terms of providing information that can be helpful for both prevention and treatment of ACOAs. However, no distinct personality of ACOAs appears to exist. Further research might focus on long-term evaluation of ACOAs from adolescence into middle age to look for MMPI elevation changes and patterns as ACOAs either develop or do not develop adjustment problems. In addition, the finding of a specific pattern of elevations among ACOAs who drink seems worthy of an expanded study. More research is also needed for female ACOAs since studies have been limited and since Svanum & McAdoo (1991) found that women have significantly more pathology than male ACOAs. Finally, it is clear that ACOAs have proved resourceful in developing the coping skills they needed to survive their environment. Further research could focus on the positive characteristics of adaptability of ACOAs.

References


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