CAUSAL FACTORS IN ALCOHOL REHABILITATION SUCCESS OR FAILURE. (U)

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Report No. 88-10

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NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND
BETHESDA, MARYLAND
Causal Factors in Alcohol Rehabilitation Success or Failure

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Report Number 80-10

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SUMMARY

Problem

Younger participants in alcohol rehabilitation have much lower effectiveness rates after treatment than older participants. At the same time an increasing proportion of men entering treatment are younger. In order to provide a basis for improving the post-treatment effectiveness rate among younger men, it is necessary to obtain better understanding of the specific causes of rehabilitation success-failure.

Objective

The objective of this study was to examine in detail biographical and personnel characteristics that significantly affect post-rehabilitation success. If a particular pattern of personal and service history variables can be found that is highly discriminating with respect to post-treatment outcome, then younger personnel can be classified as to potential for success before referral to rehabilitation.

Approach

A sample of 4,937 Navy enlisted men admitted to four Alcohol Rehabilitation Centers, nine Services, and seven Drydocks during late 1974 through early 1977 was included in the study. A Biographical Questionnaire of 129 items was administered routinely to all rehabilitation participants and provided a wide range of information on family and social background, occupational and military history, and alcohol problems. Post-rehabilitation effectiveness was determined from service history files maintained at the Naval Health Research Center. Analyses were conducted to determine items that best discriminated success-failure for both younger and older populations at Centers, Services, and Drydocks separately. Special attention was given to a combination of variables that provided a simple but effective screening or selection method for younger participants in lower pay grades.

Results

Success rates varied by type of rehabilitation facility. These differences were probably explained by population differences at the three types of facilities.

Age, years of service, and pay grade were among the most discriminating variables at all types of facilities for both younger and older participants. Past disciplinary problems, whether associated with drinking or not, were important predictors of failure for younger participants. School achievement, job satisfaction, and positive Navy career intentions were favorable indicators. Counselor prognostic ratings and composite scales reflecting severity of alcoholism, sociopathy, family alcoholism and psychopathology, and age when drinking problems started all were highly
discriminating of success-failure in the younger population.

Among older men items related to drinking behavior, for example, trying to stop drinking, experiencing hallucinations, and drinking during treatment discriminated post-treatment successes from failures. Past disciplinary problems also were associated with a lower probability of success. Job satisfaction and positive career intentions were favorable indicators.

A combination of pay grade and disciplinary items provided a highly effective method of differentiating younger participants in terms of success-failure.

Conclusions

It was concluded that differences in success rates among the three types of rehabilitation facilities were largely due to differences in population characteristics. Biographical and personnel characteristics were highly related to post-treatment success or failure in both younger and older populations, but a combination of pay grade and disciplinary record was particularly effective in differentiating success-failure among younger participants.

Recommendations

Screening procedures using pay grade level and disciplinary record should be instituted at Counseling and Assistance Centers (CAACs) to eliminate from consideration for rehabilitation those younger men most likely to be ineffective after treatment.
INTRODUCTION

Background

Previous studies of the military effectiveness of Navy enlisted men following alcohol rehabilitation have indicated success rates of approximately 80% for older men (age 26 or older) and 60% for younger men (age 25 or younger). The lower success rate for younger men is of concern because an increasing proportion of referrals to rehabilitation are younger men. For example, 47% of the admissions were age 25 or younger during 1974-1977 compared with only 30% during 1972-1974.

Regression equations and actuarial tables have been developed to predict post-rehabilitation success-failure for both younger and older populations, but such equations provide little insight into possible underlying causal factors and their interrelationships. In order to devise the means for improving post-treatment success and thus reducing rehabilitation costs and manpower losses, particularly among younger participants some degree of understanding of causal factors seems essential. For example, if the most important determinants of success are individual or personal history characteristics at the time of referral, then the most effective strategy for improving post-treatment success is more appropriate referral or assignment of participants. On the other hand, if the most important determinants of outcome were particular kinds of treatment, then a great deal of attention should be given to identifying or developing the best possible treatment procedures. Finally, if post-treatment success-failure depends heavily upon actions or experiences that occur after rehabilitation, such as attending AA, taking Antabuse, and maintaining sobriety, then appropriate forms of post-rehabilitation support and assistance should be emphasized.

Objective

The primary objective of this study will be to examine in detail personnel characteristics that significantly affect post-rehabilitation success-failure. Generally, previous studies have indicated that individual characteristics are the most important determinants of treatment outcome. At the same time, differences among individual treatment facilities and programs have had little apparent impact on post-rehabilitation success. That is, individual facilities of the same type, for example, Centers, tend to have similar success rates. Although post-treatment AA attendance and sobriety have been shown to be highly related (1), it is not known at present whether they result in better military performance than non-attendance and continued drinking. It seems plausible, however, that post-rehabilitation factors play some role in treatment success.
METHOD

Participants

The sample consisted of all male enlisted admissions to alcohol rehabilitation facilities during the period from late 1974 through early 1977 (N = 4,937). More than half of the participants were admitted during 1976. The types and numbers of facilities involved were: (a) four Alcohol Rehabilitation Centers, residential facilities located at major naval bases (N = 1,859); (b) nine Alcohol Rehabilitation Services, residential facilities located in naval hospitals (N = 1,324), and (c) seven Alcohol Rehabilitation Drydocks, outpatient or short-term residential counseling facilities located at smaller naval bases (N = 1,754).

Procedure

During the period of study, a 129-item Biographical Questionnaire was administered routinely to all participants entering naval alcohol rehabilitation facilities. This questionnaire contained a wide range of information pertaining to family background, social and occupational history, military service, and drinking history and alcohol-related problems. At the completion of treatment staff counselors rated each man's prognosis on a 4-point scale and indicated whether the individual drank during treatment.

Post-rehabilitation success or failure was determined from service history files maintained at the Naval Health Research Center. Success was defined as being on active duty status or receiving a favorable discharge from service with no recommendation against reenlistment at least six months following completion of rehabilitation. Failure was the receipt of an unfavorable discharge from service more than 30 days after completing rehabilitation or a negative recommendation for reenlistment at the time of discharge.

Questionnaire responses were grouped by type of facility and were divided into younger (age 25 or younger) and older (age 26 or older) populations at each type of facility. Distributions with respect to success or failure and $\chi^2$ significance tests were computed for each biographical item by age group and type of facility (Centers, Services, and Drydocks). Also, success rates in terms of the post-treatment military effectiveness criterion were reported for appropriate levels of each of the discriminating variables.

The analyses were concerned primarily with the following questions: (a) Which questionnaire items best discriminated success-failure? (b) Which items discriminated in both younger and older populations? (c) Which items discriminated uniquely for younger or older groups? (d) Which items discriminated at all types of facilities? (e) Does the pattern of discriminating items suggest the most important underlying causal factors? and (f) Does a combination of highly dis-
criminating variables offer an effective screening or selection tool for referral of younger participants?

RESULTS

Younger Alcoholics

The younger alcoholics had an overall success rate of 59%. The three types of facilities differed in success rate as follows: Centers - 53.9%, Services - 57.6%, and Drydocks - 63.1%. These differences in outcome are consistent with differences in population characteristics at the three types of facilities.

Breakdowns of success and failure for all discriminating biographical items are shown separately for younger and older participants in the Appendix.

For the younger population the most discriminating variables with respect to post-treatment success and failure at all types of facilities were age, length of service, and pay grade at the time of admission to rehabilitation. Pay grade was the most discriminating variable overall.

Additional variables that were highly discriminating for the younger population reflected occupational achievement and satisfaction: being assigned to a technical specialty (designated striker), job satisfaction, career attitude, and achieving military honors.

Also, past disciplinary problems (demotions, times on report, captain’s mast, court-martial, times in the brig, arrests before age 16, etc.) were powerful predictors of post-treatment failure. Not only the number of disciplinary actions but the ages at which they occurred were important factors in post-treatment performance—occurrence at a younger age was associated with failure.

Pre-enlistment school achievement and adjustment were significant factors in post-treatment success-failure. Being a high school graduate generally was a favorable indicator but did not discriminate for all types of facilities. Low school grades and trouble in school because of alcohol were both discriminating for all types of facilities but were somewhat weaker indicators than most of those already mentioned. Similarly, a group of variables that reflected referral and treatment experiences were generally discriminating, but differences in success-failure were not great.

Prognostic ratings given by staff counselors at the end of treatment were highly predictive of success-failure.

Special scales based upon combinations of questionnaire items that reflected severity of alcoholism, severity of sociopathy, family history of alcoholism and psychiatric disorder, and age when first experienced serious problems because of drinking generally discriminated success-
failure in the younger population.

**Older Alcoholics**

Fewer biographical variables discriminated success-failure among the older population. The reasons for this are obvious—the success rate for the older population overall was very high (88%), and the variance on both the criterion variable and the predictor variables tended to be small. This was especially true for the Drydock population which had a success rate of 92% and tended to be homogeneous on predictor variables.

Again, as in the younger population, age, length of service, and pay grade were the most discriminating variables. For Services and Centers, being non-rated (pay grades E-1 and E-3) was more predictive of post-treatment failure than any other condition. Marital status was highly discriminating in the older population but not in the younger.

Pre-treatment job satisfaction was a significant factor in post-treatment success, particularly for Centers and Services, and considering the Navy a career also was highly predictive of success.

A number of disciplinary history items were discriminating with respect to success-failure at all types of facilities for older men: time in a civilian jail; wandered from place to place with no job; disciplinary action pending at time of admission to rehabilitation; missed time on the job because of drinking; demoted because of drinking, and unauthorized absence because of drinking. Therefore, although disciplinary records of these older enlisted men were generally good—indeed much better than the disciplinary records of the younger population, the occurrence of disciplinary episodes, whether directly associated with drinking or not, lowered the probability of post-treatment success in this population.

Other variables that had a negative influence on successful outcome were trying to stop drinking (but failing), having hallucinations because of alcohol, and drinking during treatment. Drinking coffee had a positive relationship with success, presumably reflecting identification with Navy customs and traditions.

Special scales derived from combinations of questionnaire items to reflect severity of alcoholism, severity of sociopathy, and age at which serious alcohol problems were first experienced all discriminated success-failure at all types of facilities.

**Combined Predictor Variables for the Younger Population**

The results shown in the Appendix strongly suggested that a combination of pay grade and disciplinary items might provide an effective means of differentiating younger participants in terms of success-failure. Therefore, the discriminating power of a number of disciplinary items was
tested for lower pay grade participants considered as separate groups, that is, pay grades E-1 and E-2 in one group and pay grade E-3 in another group. For purposes of this analysis the three types of facilities were combined.

Table 1
Items That Discriminate Success-Failure for Younger Men in Lower Pay Grades

<table>
<thead>
<tr>
<th>Pay Grades E-1 and E-2</th>
<th>Pay Grade E-3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>17-18</td>
<td>15</td>
</tr>
<tr>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>20-22</td>
<td>65</td>
</tr>
<tr>
<td>&gt; 22</td>
<td>61</td>
</tr>
<tr>
<td><strong>Times on Report</strong></td>
<td>46.9</td>
</tr>
<tr>
<td>0-3</td>
<td>68.8</td>
</tr>
<tr>
<td>4-7</td>
<td>59.5</td>
</tr>
<tr>
<td>More than 7</td>
<td>38.0</td>
</tr>
<tr>
<td><strong>Captain's Mast</strong></td>
<td>63.4</td>
</tr>
<tr>
<td>0</td>
<td>70.3</td>
</tr>
<tr>
<td>1-3</td>
<td>63.4</td>
</tr>
<tr>
<td>More than 3</td>
<td>46.9</td>
</tr>
<tr>
<td><strong>Courts-Martial</strong></td>
<td>29.1</td>
</tr>
<tr>
<td>0</td>
<td>64.7</td>
</tr>
<tr>
<td>1 or More</td>
<td>29.1</td>
</tr>
<tr>
<td><strong>Time in Jail</strong></td>
<td>43.4</td>
</tr>
<tr>
<td>Less than 24 hours</td>
<td>67.9</td>
</tr>
<tr>
<td>1-7 Days</td>
<td>56.2</td>
</tr>
<tr>
<td>More than 7 Days</td>
<td>43.4</td>
</tr>
<tr>
<td><strong>Demoted</strong></td>
<td>32.0</td>
</tr>
<tr>
<td>Never</td>
<td>66.6</td>
</tr>
<tr>
<td>Other</td>
<td>52.0</td>
</tr>
<tr>
<td><strong>Disciplinary Action</strong></td>
<td>67.4</td>
</tr>
<tr>
<td>Never</td>
<td>89.7</td>
</tr>
<tr>
<td>Other</td>
<td>89.7</td>
</tr>
</tbody>
</table>

\[ x^2 = 10.45; df = 3; p < .02 \]

\[ x^2 = 21.40; df = 2; p < .001 \]

\[ x^2 = 18.03; df = 2; p < .001 \]

\[ x^2 = 8.85; df = 1; p < .01 \]

\[ x^2 = 25.40; df = 2; p < .001 \]

\[ x^2 = 4.97; df = 1; p < .05 \]

\[ x^2 = 5.65; df = 1; p < .02 \]
Results are shown in Table 1. It can be seen that indeed further discrimination is achieved by considering the disciplinary records of the lower pay grade groups separately. For example, the item Times on Report achieves a high degree of discrimination for both the E-1 and E-2 group and the E-3 group and provides a simple but powerful method for classifying younger participants in terms of potential for post-treatment success, before referral to rehabilitation.

DISCUSSION

The results make it apparent that it should be possible to develop simple but powerful screening methods for younger candidates for referral to alcohol rehabilitation. Presently, large numbers of younger participants (41%) do not complete their obligated service successfully after undergoing rehabilitation. The large costs in rehabilitation services and lost work time involved are unacceptably high and could readily be reduced by implementing simple screening procedures of the type suggested by the present study.

It would not appear that disciplinary history would be an important factor in referral decisions for older men except in cases where repeated or serious offenses have resulted in demotion to pay grades E-1 to E-3.

The findings confirm the proposition that personnel characteristics at the time of entering rehabilitation are important determinants of treatment outcome. Many of the variables in the biographical questionnaire were discriminating for both young and old participants and for all types of facilities. However, it is clear that application of pre-rehabilitation screening and referral procedures would only prove effective in the younger population. For this group large savings in rehabilitation costs and manpower losses could be realized by implementing simple techniques such as those suggested by the present study.

REFERENCE

### Items That Discriminate Post-Treatment Success-Failure

**YOU NGER POPULATION**

<table>
<thead>
<tr>
<th>Age</th>
<th>Centers</th>
<th>Success</th>
<th>Failure</th>
<th>Percent Success</th>
<th>Percent Failure</th>
<th>Drydocks</th>
<th>Success</th>
<th>Failure</th>
<th>Percent Success</th>
<th>Percent Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-18</td>
<td>9</td>
<td>40</td>
<td>18.4</td>
<td>15</td>
<td>28</td>
<td>34.9</td>
<td>35</td>
<td>63</td>
<td>35.7</td>
<td>35.7</td>
</tr>
<tr>
<td>19</td>
<td>58</td>
<td>56</td>
<td>49.5</td>
<td>45</td>
<td>48</td>
<td>48.4</td>
<td>80</td>
<td>65</td>
<td>55.2</td>
<td>55.2</td>
</tr>
<tr>
<td>20-22</td>
<td>178</td>
<td>140</td>
<td>56.0</td>
<td>142</td>
<td>172</td>
<td>53.8</td>
<td>265</td>
<td>146</td>
<td>64.5</td>
<td>64.5</td>
</tr>
<tr>
<td>23-25</td>
<td>127</td>
<td>80</td>
<td>61.4</td>
<td>137</td>
<td>51</td>
<td>72.9</td>
<td>189</td>
<td>59</td>
<td>76.2</td>
<td>76.2</td>
</tr>
<tr>
<td>Total</td>
<td>369</td>
<td>316</td>
<td>339</td>
<td>249</td>
<td>35</td>
<td>63</td>
<td>35.7</td>
<td>35.7</td>
<td>35.7</td>
<td>35.7</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 30.9; df = 3; p < .001 \]

#### Years of Service

<table>
<thead>
<tr>
<th>Years of Service</th>
<th>Centers</th>
<th>Services</th>
<th>Drydocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 or less</td>
<td>180</td>
<td>199</td>
<td>47.5</td>
</tr>
<tr>
<td>3-4</td>
<td>118</td>
<td>83</td>
<td>58.7</td>
</tr>
<tr>
<td>5 or more</td>
<td>60</td>
<td>31</td>
<td>65.9</td>
</tr>
<tr>
<td>Total</td>
<td>358</td>
<td>313</td>
<td>339</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 13.3; df = 2; p < .01 \]

#### Pay Grade

<table>
<thead>
<tr>
<th>Pay Grade</th>
<th>Centers</th>
<th>Services</th>
<th>Drydocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-1, E-2</td>
<td>91</td>
<td>181</td>
<td>33.1</td>
</tr>
<tr>
<td>E-3</td>
<td>124</td>
<td>76</td>
<td>62.0</td>
</tr>
<tr>
<td>E-4 to E-9</td>
<td>134</td>
<td>43</td>
<td>75.7</td>
</tr>
<tr>
<td>Total</td>
<td>349</td>
<td>303</td>
<td>335</td>
</tr>
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\[ \chi^2 = 86.9; df = 2; p < .001 \]

#### Job Satisfaction

<table>
<thead>
<tr>
<th>Job Satisfaction</th>
<th>Centers</th>
<th>Services</th>
<th>Drydocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very dissatisfied</td>
<td>47</td>
<td>87</td>
<td>35.1</td>
</tr>
<tr>
<td>Dissatisfied/Don't care/d.k.</td>
<td>97</td>
<td>98</td>
<td>95</td>
</tr>
<tr>
<td>Satisfied/Very satisfied</td>
<td>200</td>
<td>129</td>
<td>60.8</td>
</tr>
<tr>
<td>Total</td>
<td>356</td>
<td>313</td>
<td>335</td>
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\[ \chi^2 = 25.3; df = 2; p < .001 \]

#### Navy Career

<table>
<thead>
<tr>
<th>Navy Career</th>
<th>Centers</th>
<th>Services</th>
<th>Drydocks</th>
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<tr>
<td>Yes</td>
<td>119</td>
<td>69</td>
<td>62.3</td>
</tr>
<tr>
<td>No</td>
<td>231</td>
<td>237</td>
<td>49.4</td>
</tr>
<tr>
<td>Total</td>
<td>350</td>
<td>306</td>
<td>333</td>
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</tbody>
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\[ \chi^2 = 10.5; df = 1; p < .01 \]

#### Military Honors

<table>
<thead>
<tr>
<th>Military Honors</th>
<th>Centers</th>
<th>Services</th>
<th>Drydocks</th>
</tr>
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<tbody>
<tr>
<td>No</td>
<td>228</td>
<td>225</td>
<td>50.3</td>
</tr>
<tr>
<td>One or more</td>
<td>129</td>
<td>87</td>
<td>59.7</td>
</tr>
<tr>
<td>Total</td>
<td>357</td>
<td>312</td>
<td>336</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 5.2; df = 1; p < .05 \]

---

\[ a \text{Frequencies}\]

\[ b \text{Percent success in terms of post-treatment criterion.}\]
<table>
<thead>
<tr>
<th>Designated Striker</th>
<th>Centres</th>
<th>Services</th>
<th>Drydocks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Success</td>
<td>Failure</td>
<td>Percent</td>
</tr>
<tr>
<td>Yes</td>
<td>168</td>
<td>142</td>
<td>54.2</td>
</tr>
<tr>
<td>No</td>
<td>107</td>
<td>127</td>
<td>48.6</td>
</tr>
<tr>
<td>Not applicable</td>
<td>79</td>
<td>30</td>
<td>72.5</td>
</tr>
<tr>
<td>Total</td>
<td>354</td>
<td>309</td>
<td>52.4</td>
</tr>
</tbody>
</table>

\[ x^2 = 22.5; \text{df} = 2; p < .001 \]

<table>
<thead>
<tr>
<th>Reduced in Pay Grade</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>247</td>
<td>173</td>
<td>58.8</td>
<td>251</td>
<td>160</td>
<td>61.1</td>
<td>454</td>
<td>224</td>
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</tr>
<tr>
<td>Yes</td>
<td>111</td>
<td>135</td>
<td>45.1</td>
<td>84</td>
<td>89</td>
<td>48.6</td>
<td>112</td>
<td>108</td>
<td>51.1</td>
</tr>
<tr>
<td>Total</td>
<td>358</td>
<td>308</td>
<td>50.0</td>
<td>335</td>
<td>249</td>
<td>56.0</td>
<td>567</td>
<td>332</td>
<td>51.1</td>
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\[ x^2 = 11.7; \text{df} = 1; p < .001 \]

<table>
<thead>
<tr>
<th>Times on Report</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>0-3</td>
<td>216</td>
<td>151</td>
<td>58.0</td>
<td>246</td>
<td>134</td>
<td>64.7</td>
<td>416</td>
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<td>68.0</td>
</tr>
<tr>
<td>4-7</td>
<td>210</td>
<td>187</td>
<td>55.2</td>
<td>71</td>
<td>70</td>
<td>50.4</td>
<td>117</td>
<td>97</td>
<td>54.7</td>
</tr>
<tr>
<td>More than 7</td>
<td>35</td>
<td>72</td>
<td>52.7</td>
<td>20</td>
<td>45</td>
<td>50.0</td>
<td>33</td>
<td>38</td>
<td>56.0</td>
</tr>
<tr>
<td>Total</td>
<td>358</td>
<td>310</td>
<td>52.0</td>
<td>337</td>
<td>249</td>
<td>64.0</td>
<td>566</td>
<td>331</td>
<td>58.0</td>
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</tbody>
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\[ x^2 = 23.0; \text{df} = 2; p < .001 \]

<table>
<thead>
<tr>
<th>Captain's Masts</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>102</td>
<td>58</td>
<td>63.8</td>
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\[ x^2 = 19.0; \text{df} = 2; p < .001 \]

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\[ x^2 = 9.1; \text{df} = 2; p < .001 \]

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\[ x^2 = 17.0; \text{df} = 1; p < .01 \]

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\[ x^2 = 7.8; \text{df} = 1; p < .01 \]

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\( \chi^2 = 6.6; df = 2; p < .05 \quad 11.6; 2; p < .001 \quad 20.3; 2; p < .001 \)

\( \chi^2 = 12.6; df = 1; p < .001 \quad 8.7; 1; p < .05 \quad 2.8; 1; p < .05 \)

\( \chi^2 = 1.8; df = 3; p \text{ ns} \quad 11.58; 3; p < .01 \quad 17.33; 3; p < .001 \)

\( \chi^2 = 2.8; df = 1; p \text{ ns} \quad 15.21; 1; p < .001 \quad 28.21; 1; p < .001 \)

\( \chi^2 = 7.7; df = 1; p < .01 \quad 3.91; 1; p < .05 \quad 4.41; 1; p < .05 \)

\( \chi^2 = 5.6; df = 1; p < .02 \quad 16.11; 1; p < .001 \quad 5.81; 1; p < .02 \)

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*Data from Master Enlisted Tape.*
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**Prognosis**

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\[ \chi^2 = 9.0; \text{df} = 2; \text{p} < .001 \]

**Drunk in Treatment**

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</thead>
<tbody>
<tr>
<td>Never</td>
<td>209</td>
<td>134</td>
<td>60.9</td>
<td>216</td>
<td>135</td>
<td>61.5</td>
</tr>
<tr>
<td>Once or more</td>
<td>60</td>
<td>71</td>
<td>45.8</td>
<td>23</td>
<td>32</td>
<td>41.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>269</td>
<td>205</td>
<td><strong>239</strong></td>
<td>239</td>
<td>167</td>
<td><strong>239</strong></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 8.8; \text{df} = 1; \text{p} < .01 \] \[ \chi^2 = 7.6; 1; \text{p} < .01 \] \[ \chi^2 = 7.9; 1; \text{p} < .01 \]

**Alcohol**

<table>
<thead>
<tr>
<th></th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-alcoholic</td>
<td>150</td>
<td>102</td>
<td>59.5</td>
<td>164</td>
<td>103</td>
<td>61.4</td>
</tr>
<tr>
<td>Mild</td>
<td>128</td>
<td>117</td>
<td>52.2</td>
<td>118</td>
<td>77</td>
<td>60.5</td>
</tr>
<tr>
<td>Moderate, severe</td>
<td>79</td>
<td>90</td>
<td>46.8</td>
<td>50</td>
<td>68</td>
<td>42.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>357</td>
<td>309</td>
<td><strong>332</strong></td>
<td>332</td>
<td>248</td>
<td><strong>332</strong></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 6.93; \text{df} = 2; \text{p} < .05 \] \[ \chi^2 = 13.42; 2; \text{p} < .001 \] \[ \chi^2 = 6.21; 2; \text{p} < .01 \]

**Sociopathy**

<table>
<thead>
<tr>
<th></th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None, mild</td>
<td>226</td>
<td>178</td>
<td>55.9</td>
<td>217</td>
<td>119</td>
<td>64.6</td>
</tr>
<tr>
<td>Moderate, severe</td>
<td>120</td>
<td>109</td>
<td>52.4</td>
<td>102</td>
<td>109</td>
<td>48.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>346</td>
<td>287</td>
<td><strong>319</strong></td>
<td>319</td>
<td>228</td>
<td><strong>319</strong></td>
</tr>
</tbody>
</table>

\[ \chi^2 = .74; \text{df} = 1; \text{p} \text{ ns} \] \[ \chi^2 = 14.07; 1; \text{p} < .001 \] \[ \chi^2 = 13.89; 1; \text{p} < .001 \]

**Family History**

<table>
<thead>
<tr>
<th></th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low pathology</td>
<td>280</td>
<td>218</td>
<td>56.2</td>
<td>264</td>
<td>170</td>
<td>60.8</td>
</tr>
<tr>
<td>High pathology</td>
<td>77</td>
<td>89</td>
<td>46.4</td>
<td>69</td>
<td>73</td>
<td>48.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>357</td>
<td>307</td>
<td><strong>333</strong></td>
<td>333</td>
<td>243</td>
<td><strong>333</strong></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 4.85; \text{df} = 1; \text{p} < .05 \] \[ \chi^2 = 6.57; 1; \text{p} < .02 \] \[ \chi^2 = 8.46; 1; \text{p} < .01 \]

**Age Alcohol Problem**

<table>
<thead>
<tr>
<th></th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>17, 24 or older</td>
<td>252</td>
<td>181</td>
<td>58.2</td>
<td>262</td>
<td>150</td>
<td>63.6</td>
</tr>
<tr>
<td>16-23</td>
<td>107</td>
<td>130</td>
<td>45.2</td>
<td>72</td>
<td>98</td>
<td>42.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>359</td>
<td>311</td>
<td><strong>334</strong></td>
<td>334</td>
<td>248</td>
<td><strong>334</strong></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 10.49; \text{df} = 1; \text{p} < .01 \] \[ \chi^2 = 22.20; 1; \text{p} < .001 \] \[ \chi^2 = 13.83; 1; \text{p} < .001 \]

\[ \text{dVariable derived from combination of several questionnaire items.} \]**
### Older Population

<table>
<thead>
<tr>
<th>Age</th>
<th>Centers Success</th>
<th>Percent Success</th>
<th>Centers Failure</th>
<th>Percent Failure</th>
<th>Services Success</th>
<th>Percent Success</th>
<th>Services Failure</th>
<th>Percent Failure</th>
<th>Drydocks Success</th>
<th>Percent Success</th>
<th>Drydocks Failure</th>
<th>Percent Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>26-29</td>
<td>206</td>
<td>74.6</td>
<td>176</td>
<td>75.5</td>
<td>221</td>
<td>86.3</td>
<td>35</td>
<td>93.4</td>
<td>155</td>
<td>97.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-34</td>
<td>345</td>
<td>89.4</td>
<td>221</td>
<td>90.6</td>
<td>284</td>
<td>93.4</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 34</td>
<td>352</td>
<td>94.4</td>
<td>206</td>
<td>96.3</td>
<td>195</td>
<td>97.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>903</td>
<td>603</td>
<td>700</td>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 58.0; df = 2; p < .001 \]

### Years of Service

<table>
<thead>
<tr>
<th>Years of Service</th>
<th>Centers Success</th>
<th>Percent Success</th>
<th>Centers Failure</th>
<th>Percent Failure</th>
<th>Services Success</th>
<th>Percent Success</th>
<th>Services Failure</th>
<th>Percent Failure</th>
<th>Drydocks Success</th>
<th>Percent Success</th>
<th>Drydocks Failure</th>
<th>Percent Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 or less</td>
<td>57</td>
<td>57.6</td>
<td>41</td>
<td>56.9</td>
<td>49</td>
<td>88.1</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-16</td>
<td>426</td>
<td>92.4</td>
<td>222</td>
<td>96.1</td>
<td>318</td>
<td>92.5</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 16</td>
<td>277</td>
<td>98.9</td>
<td>172</td>
<td>99.4</td>
<td>140</td>
<td>99.3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>966</td>
<td>601</td>
<td>726</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 158.8; df = 3; p < .001 \]

### Pay Grade

<table>
<thead>
<tr>
<th>Pay Grade</th>
<th>Centers Success</th>
<th>Percent Success</th>
<th>Centers Failure</th>
<th>Percent Failure</th>
<th>Services Success</th>
<th>Percent Success</th>
<th>Services Failure</th>
<th>Percent Failure</th>
<th>Drydocks Success</th>
<th>Percent Success</th>
<th>Drydocks Failure</th>
<th>Percent Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-1 to E-3</td>
<td>67</td>
<td>49.6</td>
<td>44</td>
<td>49.4</td>
<td>46</td>
<td>52.2</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-4</td>
<td>92</td>
<td>71.3</td>
<td>67</td>
<td>82.7</td>
<td>62</td>
<td>80.5</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-5</td>
<td>252</td>
<td>87.2</td>
<td>140</td>
<td>90.9</td>
<td>196</td>
<td>90.3</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-6 to E-9</td>
<td>551</td>
<td>97.5</td>
<td>338</td>
<td>96.8</td>
<td>405</td>
<td>97.4</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>942</td>
<td>589</td>
<td>709</td>
<td>75</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 234.4; df = 3; p < .001 \]

### Marital Status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Centers Success</th>
<th>Percent Success</th>
<th>Centers Failure</th>
<th>Percent Failure</th>
<th>Services Success</th>
<th>Percent Success</th>
<th>Services Failure</th>
<th>Percent Failure</th>
<th>Drydocks Success</th>
<th>Percent Success</th>
<th>Drydocks Failure</th>
<th>Percent Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married, widowed</td>
<td>576</td>
<td>91.1</td>
<td>346</td>
<td>94.9</td>
<td>452</td>
<td>94.5</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single, never married</td>
<td>137</td>
<td>75.7</td>
<td>81</td>
<td>74.3</td>
<td>97</td>
<td>84.3</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>913</td>
<td>598</td>
<td>727</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 38.8; df = 2; p < .001 \]

### Job Satisfaction

<table>
<thead>
<tr>
<th>Job Satisfaction</th>
<th>Centers Success</th>
<th>Percent Success</th>
<th>Centers Failure</th>
<th>Percent Failure</th>
<th>Services Success</th>
<th>Percent Success</th>
<th>Services Failure</th>
<th>Percent Failure</th>
<th>Drydocks Success</th>
<th>Percent Success</th>
<th>Drydocks Failure</th>
<th>Percent Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very dissatisfied/Don't care/don't know</td>
<td>158</td>
<td>76.7</td>
<td>91</td>
<td>68.9</td>
<td>102</td>
<td>82.9</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfied, other</td>
<td>904</td>
<td>88.4</td>
<td>508</td>
<td>91.9</td>
<td>625</td>
<td>91.9</td>
<td>55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>962</td>
<td>599</td>
<td>727</td>
<td>76</td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

\[ \chi^2 = 19.6; df = 1; p < .001 \]

### Time in Jail

<table>
<thead>
<tr>
<th>Time in Jail</th>
<th>Centers Success</th>
<th>Percent Success</th>
<th>Centers Failure</th>
<th>Percent Failure</th>
<th>Services Success</th>
<th>Percent Success</th>
<th>Services Failure</th>
<th>Percent Failure</th>
<th>Drydocks Success</th>
<th>Percent Success</th>
<th>Drydocks Failure</th>
<th>Percent Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 24 hours</td>
<td>673</td>
<td>88.8</td>
<td>449</td>
<td>90.7</td>
<td>342</td>
<td>93.8</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One day or more</td>
<td>293</td>
<td>81.2</td>
<td>150</td>
<td>79.0</td>
<td>185</td>
<td>83.3</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>966</td>
<td>599</td>
<td>727</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 12.0; df = 1; p < .001 \]

### Wandered, No Job

<table>
<thead>
<tr>
<th>Wandered, No Job</th>
<th>Centers Success</th>
<th>Percent Success</th>
<th>Centers Failure</th>
<th>Percent Failure</th>
<th>Services Success</th>
<th>Percent Success</th>
<th>Services Failure</th>
<th>Percent Failure</th>
<th>Drydocks Success</th>
<th>Percent Success</th>
<th>Drydocks Failure</th>
<th>Percent Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>862</td>
<td>88.2</td>
<td>550</td>
<td>89.9</td>
<td>655</td>
<td>91.6</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once or more</td>
<td>103</td>
<td>73.0</td>
<td>50</td>
<td>67.6</td>
<td>72</td>
<td>81.6</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>965</td>
<td>600</td>
<td>727</td>
<td>76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 24.0; df = 1; p < .001 \]

\[ \chi^2 = 24.0; df = 1; p < .001 \]
### Disciplinary Action

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Action</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>104</td>
<td>30</td>
<td>77.6</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>858</td>
<td>121</td>
<td>77.6</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>962</td>
<td>151</td>
<td>77.6</td>
<td></td>
</tr>
</tbody>
</table>

\[ \chi^2 = 10.1; \text{ df} = 1; p < .01 \]

### Missed Work Time

<table>
<thead>
<tr>
<th>Age</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-27</td>
<td>496</td>
<td>112</td>
<td>81.6</td>
</tr>
<tr>
<td>28 and over</td>
<td>464</td>
<td>41</td>
<td>92.9</td>
</tr>
<tr>
<td>Total</td>
<td>960</td>
<td>153</td>
<td>91.6</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 13.0; \text{ df} = 1; p < .001 \]

### Demoted

<table>
<thead>
<tr>
<th>Action</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>712</td>
<td>86</td>
<td>89.2</td>
</tr>
<tr>
<td>Other</td>
<td>250</td>
<td>67</td>
<td>78.9</td>
</tr>
<tr>
<td>Total</td>
<td>962</td>
<td>153</td>
<td>91.6</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 20.6; \text{ df} = 1; p < .001 \]

### AWOL

<table>
<thead>
<tr>
<th>Action</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>624</td>
<td>75</td>
<td>89.3</td>
</tr>
<tr>
<td>Other</td>
<td>337</td>
<td>77</td>
<td>81.4</td>
</tr>
<tr>
<td>Total</td>
<td>961</td>
<td>152</td>
<td>91.6</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 13.6; \text{ df} = 1; p < .001 \]

### Tried to Stop

<table>
<thead>
<tr>
<th>Age</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-27</td>
<td>240</td>
<td>76</td>
<td>76.0</td>
</tr>
<tr>
<td>28 or over</td>
<td>717</td>
<td>77</td>
<td>90.3</td>
</tr>
<tr>
<td>Total</td>
<td>957</td>
<td>153</td>
<td>90.3</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 39.2; \text{ df} = 1; p < .001 \]

### Hallucinations

<table>
<thead>
<tr>
<th>Action</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>779</td>
<td>112</td>
<td>87.4</td>
</tr>
<tr>
<td>Once or more</td>
<td>185</td>
<td>41</td>
<td>81.9</td>
</tr>
<tr>
<td>Total</td>
<td>964</td>
<td>153</td>
<td>86.4</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 4.7; \text{ df} = 1; p < .05 \]

### Drank in Clinic

<table>
<thead>
<tr>
<th>Action</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>596</td>
<td>71</td>
<td>89.4</td>
</tr>
<tr>
<td>Once or more</td>
<td>44</td>
<td>18</td>
<td>71.0</td>
</tr>
<tr>
<td>Total</td>
<td>640</td>
<td>89</td>
<td>86.4</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 17.9; \text{ df} = 1; p < .001 \]

### Alcoholic

<table>
<thead>
<tr>
<th>Action</th>
<th>Success</th>
<th>Failure</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-alcoholic</td>
<td>307</td>
<td>38</td>
<td>89.0</td>
</tr>
<tr>
<td>Mild</td>
<td>296</td>
<td>41</td>
<td>87.8</td>
</tr>
<tr>
<td>Moderate, severe</td>
<td>330</td>
<td>73</td>
<td>81.9</td>
</tr>
<tr>
<td>Total</td>
<td>933</td>
<td>152</td>
<td>84.7</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 9.16; \text{ df} = 2; p < .05 \]

---

\textsuperscript{a}Variable derived from a combination of several questionnaire items.
<table>
<thead>
<tr>
<th>Sociopathy</th>
<th>Centers</th>
<th></th>
<th>Services</th>
<th></th>
<th>Drydocks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Success</td>
<td>Failure</td>
<td>Percent</td>
<td>Success</td>
<td>Failure</td>
<td>Percent</td>
</tr>
<tr>
<td></td>
<td>452</td>
<td>52</td>
<td>89.7</td>
<td>299</td>
<td>26</td>
<td>92.0</td>
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<tr>
<td>Mild</td>
<td>339</td>
<td>53</td>
<td>86.8</td>
<td>202</td>
<td>26</td>
<td>88.6</td>
</tr>
<tr>
<td>Moderate, severe</td>
<td>148</td>
<td>38</td>
<td>79.6</td>
<td>84</td>
<td>30</td>
<td>73.7</td>
</tr>
<tr>
<td>Total</td>
<td>939</td>
<td>143</td>
<td>81.6</td>
<td>586</td>
<td>82</td>
<td>83.1</td>
</tr>
<tr>
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<td>26.51; 2; p &lt; .001</td>
<td>14.65; 2; p &lt; .001</td>
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<tr>
<td>Age Alcohol Problem</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>17, 28 or more</td>
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<td></td>
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<tr>
<td>18-27</td>
<td>611</td>
<td>79</td>
<td>88.6</td>
<td>396</td>
<td>36</td>
<td>91.7</td>
</tr>
<tr>
<td>Total</td>
<td>939</td>
<td>152</td>
<td>85.8</td>
<td>594</td>
<td>84</td>
<td>85.6</td>
</tr>
<tr>
<td>x² = 9.65; df = 1; p &lt; .01</td>
<td>18.08; 1; p &lt; .001</td>
<td>14.79; 1; p &lt; .001</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Cups of Coffee</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1 or less</td>
<td>129</td>
<td>40</td>
<td>76.3</td>
<td>105</td>
<td>25</td>
<td>80.8</td>
</tr>
<tr>
<td>2-4</td>
<td>210</td>
<td>50</td>
<td>80.8</td>
<td>150</td>
<td>26</td>
<td>85.2</td>
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<tr>
<td>More than 4</td>
<td>623</td>
<td>62</td>
<td>90.9</td>
<td>344</td>
<td>35</td>
<td>90.8</td>
</tr>
<tr>
<td>Total</td>
<td>962</td>
<td>152</td>
<td>85.8</td>
<td>599</td>
<td>86</td>
<td>85.6</td>
</tr>
<tr>
<td>x² = 33.6; df = 2; p &lt; .001</td>
<td>9.9; 2; p &lt; .01</td>
<td>18.2; 2; p &lt; .001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Causal Factors in Alcohol Rehabilitation Success or Failure.

Younger participants in alcohol rehabilitation have much lower effectiveness rates after treatment than older participants, and an increasing proportion of men entering treatment are younger. The purpose of this study was to examine in detail a large number of biographical and personnel characteristics that may be discriminating with respect to post-rehabilitation success. Such examination may contribute to better understanding of underlying causal factors. Responses to 129 biographical questionnaire items were related to post-

<table>
<thead>
<tr>
<th>KEY WORDS</th>
<th>ABSTRACT</th>
</tr>
</thead>
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<tr>
<td>Alcohol rehabilitation</td>
<td>Younger participants in alcohol rehabilitation have much lower effectiveness rates after treatment than older participants, and an increasing proportion of men entering treatment are younger. The purpose of this study was to examine in detail a large number of biographical and personnel characteristics that may be discriminating with respect to post-rehabilitation success. Such examination may contribute to better understanding of underlying causal factors. Responses to 129 biographical questionnaire items were related to post-</td>
</tr>
</tbody>
</table>
rehabilitation effectiveness for younger and older populations at Alcohol Rehabilitation Centers, Services, and Drydocks separately. Many items were discriminating for both younger and older groups, and a combination of pay grade and disciplinary record proved to be a highly effective method of differentiating younger participants in terms of success-failure. Differences in success rates among the three types of rehabilitation facilities appeared to be largely due to differences in population characteristics.