

INTERNAL CONSISTENCY RELIABILITY OF THE FRANCIS
SCALE OF ATTITUDE TOWARD ALCOHOL AMONG
ADOLESCENTS IN NORTHERN IRELAND^{1,2}

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Summary.—The Francis Scale of Attitude toward Alcohol was completed by 324 adolescents ($M=17.1$ yr., $SD=3.6$) in Northern Ireland to examine reliability of the measure among this age group. These data support its internal consistency (.89) and suggest that the Francis Scale of Attitude toward Alcohol is psychometrically appropriate for use among this age group.

The Francis Scale of Attitude toward Alcohol (Francis, 1992) was developed for use among adults to aid researchers concerned with monitoring changes or establishing the correlates of attitude toward alcohol. The availability of such a measure allows researchers to examine the role of underlying attitudinal predispositions to alcohol rather than just the behavioural aspects of alcohol use and abuse (Francis, 1992). Despite the utility of such a measure, only two published studies have employed the scale.

First, Francis (1992) successfully employed the measure among 315 adult youth workers ages 20 to 70 years in England. Within this sample, the first principal factor of an unrotated solution estimated by principal component analysis accounted for 36.9% of the variance, with individual loadings between .37 and .80. Coefficient alpha was .88 (Cronbach, 1951), with individual item-to-total correlations between .33 and .73. Analysis indicated that age of respondents was significantly associated with a more negative view of alcohol ($F=7.8$, $p<.0001$). There was also a significant difference in mean scores on attitude toward alcohol by denomination ($F=7.2$, $p<.001$), with unaffiliated persons adopting the more liberal view and the members of the Free Churches adopting the more negative view. Members of the Church of

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England and the Roman Catholic Church occupied the middle ground. There was also a significant difference in mean scores by frequency of church attendance ($F=7.4$, $p<.001$), with weekly attendance being associated with a more negative view and no attendance being associated with a more liberal view of alcohol use.

Second, Francis, Gilpin, and Robbins (1999) successfully employed the measure with 200 university student members of the Christian Union in Northern Ireland and Scotland ages 18 years and over. Within this sample, coefficient alpha was .82, with individual item-to-total correlations between .33 and .66. Of the 16 items, 12 showed endorsement inside the range considered appropriate for item discrimination (20–80%; Kline, 1986). There was no significant difference in mean attitude toward alcohol scores by sex ($F=2.0$, ns) or country ($F=3.7$, ns) and no significant interaction between sex and country ($F=0.1$, ns).

Researchers have reported alcohol use among underage youth is a serious public health problem. For example, a national survey in the USA found that a majority of Grade 12 students reported using alcohol in the last month, and 30% exhibited binge-drinking behaviours (Johnston, O'Mally, & Bachman, 1992). However, it is well recognised that some young people are more vulnerable to becoming involved in use and abuse of alcohol than others. Researchers have sought to identify both risk and protective factors which might be associated with alcohol-related attitudes and behaviours.

The aim of the present paper was to evaluate the suitability of the Francis Scale of Attitude toward Alcohol (Francis, 1992) as a research tool for use among adolescents, a younger sample than previously employed with the scale, by examining the internal consistency reliability of the measure.

METHOD

Sample

The scale was administered to a sample of 324 adolescents in Northern Ireland. Their mean age was 17.1 yr. ($SD=3.6$). Included were 29 15-yr.-olds, 131 16-yr.-olds, 128 17-yr.-olds, and 36 adolescents 18 years or over. Of the sample, 173 (53%) were boys and 151 (47%) were girls; 139 (43%) were Protestants and 185 (57%) were Catholics.

Scale

The Francis Scale of Attitude toward Alcohol (Francis, 1992) is a 16-item self-report measure (see Table 1 below), scored on a 5-point scale with anchors of 1: agree strongly, 3: uncertain, and 5: disagree strongly. Scores can range from 16 to 80 with higher scores representing a more negative attitude toward alcohol and the lower scores a more liberal view. The scale was administered with questions on sex, age and religious denomination.

RESULTS

Table 1 presents the 16 items of The Francis Scale of Attitude toward Alcohol (Francis, 1992) and the item-rest-of-test correlations and percent of item endorsement. The data presented in Table 1 support the unidimensionality and internal consistency reliability of the scale. A satisfactory coefficient alpha of .89 was found (Cronbach, 1951). Item endorsement is shown by the proportion of respondents who assented to each item by selecting either the 'agree' or the 'agree strongly' responses. Of the 16 items, 11 items were endorsed by proportions inside the range considered appropriate for item discrimination (20–80%; Kline, 1986).

TABLE 1
INTERNAL RELIABILITY AND PERCENT ITEM ENDORSEMENT:
FRANCIS SCALE OF ATTITUDE TOWARD ALCOHOL

Item	<i>r</i>	%
Young people should be discouraged from taking up drinking.	.61	47
Alcohol is responsible for an increase in vandalism.	.64	68
Having a drink with someone is a way of being friendly.*	.45	15
Drink is the cause of many unhappy marriages.	.60	60
Drink usually brings out the worst in people.	.65	43
Alcohol is responsible for an increase in cricket disturbances.	.40	22
Alcohol is responsible for an increase in social violence.	.65	68
Drink is one of the main causes of immoral behavior.	.60	56
Alcohol is responsible for an increase in the breakdown of family life.	.65	53
Alcohol abuse is a growing problem today.	.68	83
Under-age drinking is a growing problem today.	.51	83
A drink makes many people more sociable.*	.33	10
Alcohol is responsible for an increase in road traffic offences.	.51	79
It does some people good to get drunk once in a while.*	.46	22
Alcohol helps to create a relaxed atmosphere.*	.42	15
Alcohol is responsible for an increase in football hooliganism.	.45	62
Alpha		.89

*Permissive items were reverse-scored to establish internal consistency reliability.

As shown in Table 2, analysis yielded no significant differences in the mean scale scores by sex ($F_{1,320} = 0.71, p = .40$) or by religious denomination ($F_{1,320} = 0.03, p = .87$). Furthermore, a two-way analysis of variance gave no significant interaction between these variables ($F_{1,320} = 0.14, p = .71$).

DISCUSSION

Two main findings emerge. First, present data show the Francis Scale of Attitude toward Alcohol (Francis, 1992) indicates reliable responding by a sample of adolescents in Northern Ireland. These findings are consistent with previous findings among adult youth workers in England (Francis, 1992) and student members of the Christian Union in Northern Ireland and Scot-

TABLE 2
 MEAN SCORES AND STANDARD DEVIATIONS FOR FRANCIS SCALE OF
 ATTITUDE TOWARD ALCOHOL BY SEX AND DENOMINATION

Denomination	Boys			Girls		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Protestant	69	53.0	12.0	70	53.5	9.9
Catholic	104	52.4	8.1	81	53.8	9.7

land (Francis, *et al.*, 1999). Second, the data show no denominational or sex differences in attitude toward alcohol scores among this sample. These findings are also consistent with previous results among samples of adults and students (Francis, 1992; Francis, *et al.*, 1999). These data suggest that the scale is psychometrically appropriate for use among adolescents and can be commended for further use. Researchers may seek to establish what risk and protective factors may be involved in alcohol-related attitudes and behaviours of young people.

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