Dimensions of Social Insecurity and their Relations to Coronary-Prone Behaviour in College Undergraduates

Paul R. Yarnold
Fred B. Bryant

Available at: https://works.bepress.com/fred_bryant/13/
Dimensions of social insecurity and their relation to coronary-prone behaviour in college undergraduates

PAUL R. YARNOLD* AND FRED B. BRANT

From the Northwestern University Medical School and University of Illinois at Chicago, and Loyola University of Chicago

SYNOPSIS Research suggests that Type A behaviour and 'social insecurity' (SI) may represent independent additive task factors for coronary disease. Research examining SI and Type A behaviour, however, has not rigorously evaluated the structure of the SI scale. The present study examined the structure of a previously used eight-item SI scale, and its relation to a questionnaire measure of Type A (the student Jenkins Activity Survey), for a sample of 504 undergraduates. Exploratory and confirmatory factor analyses of responses to the SI items revealed a three-factor solution most appropriate for Type As, and a two-factor solution for Type Bs. For both As and Bs, the first factor reflected insecurity regarding one's own capabilities and worth (self-specific insecurity), and the second factor reflected insecurity specific to a group or social context (group-specific insecurity). A third factor emerging only for Type As reflected insecurity regarding others' capabilities (other-directed insecurity). Semipartial correlations revealed Type A total score was marginally negatively related to group-specific insecurity and marginally positively related to other-directed insecurity, corroborating previous angiographic and prospective medical research. The hard-driving/competitive subscale was significantly negatively related to self-specific insecurity, supporting evidence regarding Type A and interpersonal dominance, competitiveness, and aggression.

INTRODUCTION

Type A behaviour (TAB) is a response constellation consisting of time urgent, interpersonally competitive/hostile responding, and is believed to represent an attempt by Type A individuals to assert or regain control over challenging, psychologically salient contingencies (Friedman & Rosenman, 1974; Glass, 1977). Thus, TAB is considered a response to stress originating with the perceived inability to control a particular situation (Matthews, 1982). Whereas research demonstrates that TAB is a prospectively valid risk factor for coronary-artery and heart disease (CAHD), measures of TAB still fall short of standards for clinical applications (Demboerski et al. 1978; Rosenman, 1978; Yarnold & Bryant, 1987). In particular, the most frequently used measure of TAB in the literature (the student Jenkins Activity Survey or SJAS) is an objective, self-report questionnaire which has not been prospectively validated (Davis & Cowles, 1985). Recent psychometric investigations suggest that the SJAS only marginally reflects the constellation of Type A responding (Yarnold et al. 1987a) and omits items required to measure these dimensions (Graa et al. 1982; Yarnold et al. 1986).

In addition to measurement issues, investigators have begun exploring potential mediator variables in order to identify subtypes of Type As at particularly high risk for CAHD (Grimm & Yarnold, 1985; Hansson et al. 1983; Yarnold, 1987a; Yarnold et al. 1987b). Thus, research is being conducted simultaneously to develop superior measures of TAB and to identify variables that might interact with TAB to predict CAHD.

As an example of the search for potential mediating variables, Jenkins et al. (1977) administered anxiety and depression questionnaires, and the adult Jenkins Activity Survey

* Address for correspondence: Dr P. R. Yarnold, Northwestern University, The Medical School, Wesley Pavilion, Suite 296, 250 East Superior Street, Chicago, Illinois 60611, USA
† The notes appear on pages 723-724.
(AJAS) to 95 men undergoing coronary angiography. Results revealed that an eight-item ‘social insecurity’ (SI) scale which was independent of AJAS score significantly correlated with the degree of atherosclerosis. In a conceptually similar study, Sulsky et al. (1981) administered the SIAS, the same SI scale, and a questionnaire measure of psychological and psychophysiological stress to 178 college men. In a pattern parallel to Jenkins et al. (1977), TAB and SI emerged as independent additive correlates of negative stress experiences.

Neither study examined the dimensionality or structure of the SI scale, or assessed comparability in this regard between Type A and Type B (the opposite of Type A) individuals. Without such knowledge, the theoretical clarity and clinical usefulness of the SI construct are limited. Accordingly, the present study examines the structure of the Jenkins et al. (1977) SI measure and its relation to the SIAS.

METHOD

Subjects

A total of 504 undergraduates completed the following questionnaires in exchange for credit in introductory psychology.

Assessing TAB

Subjects were classified into A/B categories based upon their score on the short form of the SIAS (Bryant & Yarnold, 1987; Yarnold et al. 1987a). In order to accommodate the large sample sizes required by our method of analysis, we employed the ‘median-split’ technique of classifying subjects into A/B categories (Glass, 1977). Thus, subjects scoring above the median (7) were classified as Type As (N = 522, X = 10.02, s.d. = 1.92), and subjects scoring below the median as Type Bs (N = 182, X = 4.88, s.d. = 1.17; t = 3.41, df = 502, P < 0.0001).

Assessing SI

The eight-item questionnaire developed by Jenkins et al. (1977) was employed to assess SI in the present study. However, rather than using a ‘true-false’ response format, the present study used a 7-point Likert scale to increase discriminative power and to produce a more comparable metric to that of the SIAS (high scores represented high insecurity; Green, 1978; Nunnally, 1967).

Factor analysis strategy

As input data for factor analyses, Pearson correlation matrices of the SI items were created separately for As and Bs. In order to scale variables comparably across groups, items were standardized separately for As and Bs before being intercorrelated (Cunningham, 1978; Sorbom & Joreskog, 1976).

Model building

The objective of this analysis was to develop the appropriate measurement model(s) of the structure of SI for As and Bs. The first task involved determining the number of dimensions that underlie the SI measures for As and Bs. This was accomplished by factor analysing As’ and Bs’ responses to the eight SI items using exploratory maximum-likelihood factor analysis (Amick & Walberg, 1975; Green, 1978). The change in chi-square values across increasing numbers of factors was used to determine when extracting an additional factor yielded a statistically nonsignificant improvement in fit. Scree plots of the characteristic roots were also examined to verify the number of latent factors (Gorsuch, 1974).

The next step involved developing precise factor models of the structure of SI for As and Bs. This was accomplished using confirmatory maximum-likelihood factor analysis via LISREL IV (Joreskog & Sorbom, 1978) to refine the dimensions found in the exploratory solutions for As and Bs. Based on the exploratory analyses, all factor loadings less than 0.3 were fixed at zero and all other loadings were designated as free parameters to be calculated by the program. Measurement errors were assumed to be uncorrelated with one another and were calculated independently for each variable.

Three measures of goodness-of-fit were used to evaluate how well a given LISREL model explained a particular group’s data. First, we compared the chi-square to degrees of freedom, which approaches zero as the fit of the given model improves (Joreskog, 1971). Secondly, we computed a Tucker–Lewis coefficient (or TLC; Tucker & Lewis, 1973), which reflects the proportion of the total variance explained by the given model (Bryant & Veroff, 1982, 1984). Finally, we examined the statistical significance of the difference in chi-square values contrasting alternative models to test improvement in fit (Bentler & Bonett, 1980).

Model testing

Two different versions of each confirmatory model were tested for As and Bs. For both A/B Types, the first model assumed that the dimensions underlying SI were independent (the orthogonal factor model), and the second model assumed these dimensions were correlated (the oblique factor model). Comparing the fit of the orthogonal and oblique models allowed us to determine whether or not the dimensions underlying SI were correlated with one another.

In addition to comparing orthogonal and oblique factor models for As and Bs, we also tested the fit of two other measurement models that represented ‘baselines’ against which to compare the fit of alternative models. The first model assumed that there were no common factors and that the only source of variation in each variable was sampling error (Alwin & Jackson, 1979; McGaw & Joreskog, 1971; Tucker & Lewis, 1973). This zero-factor model was used to compute the TLC for each confirmatory measurement model. We tested the fit of a one-factor model that assumed the SI questionnaire was unidimensional (Bentler & Bonett, 1980).

Hypothesis testing

Each LISREL analysis produced a maximum-likelihood chi-square and degrees of freedom that we used to test two sets of hypotheses regarding the structure of SI. The first set of hypotheses concerned whether oblique factor models provided a significant improvement in fit over orthogonal factor models. This was performed separately for As and Bs using the measurement models developed during exploratory model-building. The second set of hypotheses concerned whether the structure of SI differs for As and Bs. Assuming that the same number of factors emerged for As and Bs, we planned to employ simultaneous confirmatory factor analysis via LISREL IV to test the equality of factor loadings and the equality of factor variances-covariances between groups.

RESULTS

Significance levels

Since the present study involved multiple statistical comparisons, we made our alpha level more stringent to avoid capitalizing on Type I errors (Cook & Campbell, 1979). Specifically, we divided our desired alpha (0.05) by the total number of statistical comparisons performed (35) in order to obtain a new alpha adjusted for the error-rate per experiment (see Ryan, 1959). To achieve an actual alpha level of 0.05, we thus used P < 0.002 as a criterion for establishing statistical significance with the present data. Although this procedure is conservative, the large sample size would otherwise facilitate identification of anomalous correlations.

The dimensionality and structure of SI

Number of factors

Exploratory factor analyses revealed that whereas a three-factor solution was most appropriate for Type As, a two-factor solution was most appropriate for Type Bs. The hypothesis that
two factors were sufficient to explain the structure of responses to the eight SI items as rejected for As (χ²(13) = 25.50, P < 0.02) but not for Bs (χ²(12) = 9.20, P < 0.76), and the hypothesis that three factors were sufficient to explain response structures could not be rejected for As (χ²(7) = 7.92, P < 0.31). Inspection of the scree plots of the latent roots for As and Bs corroborated these decisions. We thus decided to develop a three-factor model for As and a two-factor model for Bs.

Independent versus correlated factors

Table 1 presents the LISREL statistics obtained using the orthogonal and oblique versions of the three-factor model developed for As and the two-factor model developed for Bs, as well as the one-factor models for As and Bs. Table 2 presents comparative statistics from selected contrasts among these LISREL models. For both As and Bs, the oblique factor models provided a statistically significant improvement in fit over the corresponding orthogonal factor models. The oblique three-factor model accounted for 93% of the total variance in Type As' responses to the SI items (compared with 53% for the orthogonal version), and the oblique two-factor model accounted for 95% of the total variance in Type Bs' responses to the SI items (compared with 61% for the orthogonal version). Thus, at least with the current data, it appears that measurement models allowing factors to correlate are better representations of the data than measurement models constraining factors to be independent. Given the A/B difference in the number of factors comprising SI items (compared with 61% for the orthogonal tory analyses (designed to test the equality of factor loadings and variances-covariances between A/B groups) would be inappropriate.

Measurement models

Separate factor models were estimated for As and Bs. Table 3 presents the LISREL factor loadings and factor intercorrelations obtained using the oblique three-factor model for Type As. As seen in Table 3, four variables (having low self-confidence, being highly self-conscious, easily hurt by criticism, and bashful) loaded on the first factor that reflects doubt in one's intrinsic qualities and abilities (this factor was labelled 'self-specific insecurity').

Two items loaded on the second factor (experiencing trouble in groups and being a bad mixer) that reflect specific concern over one's ability to interact in a group (or social) context ('group-specific insecurity'). Note that this factor was highly positively correlated with the first factor (r = 0.76). Thus, for Type As, concern over one's intrinsic abilities is highly positively correlated with more specific concern over one's ability to engage in successful interactions with others in a group (or social) context.

Finally, the third factor for Type As consisted of one item - distrust of others ('other-directed insecurity'). Although this factor correlated positively with the first two factors, it explained less than 5% of the variance in both of them. Thus, it appears that this other-directed factor is relatively independent of the two self-directed factors.

Table 4 presents the LISREL factor loadings and factor intercorrelations obtained using the oblique two-factor model for Type Bs. As seen in Table 4, five items loaded on the first factor for Type Bs (experiencing trouble in groups, having low self-confidence, being bashful, easily hurt by criticism and unusually self-conscious) these reflect concern over one's intrinsic qualities and abilities ('self-specific insecurity').

The second factor was composed of one item (being a bad mixer) that reflects concern over one's ability to interact with others ('group-specific insecurity'). As for Type As, these two factors were significantly positively correlated (r = 0.33). In contrast to the results for Type As, the item measuring distrust of others failed to form a factor for Type Bs.

Summary of factor analyses

The analyses thus far suggest that a three-factor model of SI is the most appropriate structure for Type As, as compared with a two-factor model for Type Bs. Even though As' and Bs' responses were modelled using differing numbers of factors, in both cases the resulting solution captured the vast majority of the total variance (93% and 95%, respectively). For both A/B Types, oblique models were significantly better representations than were orthogonal models. The first two factors for Type As were very similar to those of the two-factor Type B model, assessing insecurity regarding oneself and insecurity specifically regarding group or social situations. The third factor for Type As, that did not emerge for Type Bs, assesses insecurity regarding others. In order to proceed, a single scoring system for two different factor solutions is necessary.

Table 1. Chi-square statistics and measures of relative fit using LISREL models for Type As and Type Bs

<table>
<thead>
<tr>
<th>A/B Type</th>
<th>Models</th>
<th>χ²</th>
<th>df</th>
<th>χ²/df</th>
<th>TLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type As</td>
<td>One factor</td>
<td>59.39</td>
<td>20</td>
<td>2.97</td>
<td>0.96</td>
</tr>
<tr>
<td>(N = 322)</td>
<td>Two orthogonal factors</td>
<td>166.90</td>
<td>21</td>
<td>8.00</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>Two oblique factors</td>
<td>62.80</td>
<td>20</td>
<td>3.19</td>
<td>0.98</td>
</tr>
<tr>
<td></td>
<td>Three orthogonal factors</td>
<td>154.41</td>
<td>20</td>
<td>7.72</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>Three oblique factors</td>
<td>55.30</td>
<td>17</td>
<td>2.08</td>
<td>0.95</td>
</tr>
<tr>
<td>Type Bs</td>
<td>One factor</td>
<td>20.53</td>
<td>20</td>
<td>1.03</td>
<td>0.92</td>
</tr>
<tr>
<td>(N = 182)</td>
<td>Two orthogonal factors</td>
<td>79.15</td>
<td>21</td>
<td>3.77</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>Two oblique factors</td>
<td>57.87</td>
<td>20</td>
<td>2.94</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>Three oblique factors</td>
<td>65.15</td>
<td>20</td>
<td>3.26</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>Three oblique factors</td>
<td>18.90</td>
<td>17</td>
<td>1.10</td>
<td>0.99</td>
</tr>
</tbody>
</table>

- The basic two-factor model was initially developed using the data of Type Bs, and the basic three-factor model was initially developed using the data of Type As.
- As this ratio decreases and approaches zero, the fit of the given model improves (Joreskog, 1971).
- This Tucker-Lewis coefficient reflects the proportion of total variance explained by the given model. As the TLC increases and approaches 1.0, the fit of the model improves (Bryant & Veroff, 1982; 1984; Tucker & Lewis, 1973).

Table 2. Comparative statistics from selected contrasts of LISREL models for Type As and Type Bs

<table>
<thead>
<tr>
<th>A/B Type</th>
<th>Models compared</th>
<th>Δχ²</th>
<th>Δdf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type As</td>
<td>1 factor v. 3 oblique factors</td>
<td>24.038</td>
<td>3*</td>
</tr>
<tr>
<td>(N = 322)</td>
<td>2 oblique factors v. 3 oblique factors</td>
<td>28.504</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>3 orthogonal factors v. 3 oblique factors</td>
<td>119.111</td>
<td>3*</td>
</tr>
<tr>
<td>Type Bs</td>
<td>1 factor v. 3 oblique factors</td>
<td>11.521</td>
<td>3</td>
</tr>
<tr>
<td>(N = 182)</td>
<td>2 orthogonal factors v. 3 oblique factors</td>
<td>53.275</td>
<td>1*</td>
</tr>
<tr>
<td></td>
<td>2 oblique factors v. 3 oblique factors</td>
<td>7.868</td>
<td>3</td>
</tr>
</tbody>
</table>

* Statistically significant using the adjusted alpha rate.

Table 3. LISREL factor loading and factor intercorrelations using three-factor model for Type As (N = 322)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1 (Self-specific insecurity)</th>
<th>Factor 2 (Group-specific insecurity)</th>
<th>Factor 3 (Other-directed insecurity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bashful</td>
<td>0.40</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Low self-confidence</td>
<td>0.70</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Hurt by criticism</td>
<td>0.91</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Trouble in groups</td>
<td>0.00</td>
<td>0.85</td>
<td>0.00</td>
</tr>
<tr>
<td>Bad mixer</td>
<td>0.00</td>
<td>0.69</td>
<td>0.00</td>
</tr>
<tr>
<td>Trust no one</td>
<td>0.00</td>
<td>0.00</td>
<td>0.87</td>
</tr>
<tr>
<td>Self-conscious</td>
<td>0.48</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Enjoy playing with others</td>
<td>0.00</td>
<td>0.00</td>
<td>0.90</td>
</tr>
</tbody>
</table>

Goodness-of-fit χ² = 35.30, df = 17, P < 0.001

Factor intercorrelations

<table>
<thead>
<tr>
<th>Factor correlations</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>0.76*</td>
<td>---</td>
<td>0.15**</td>
</tr>
<tr>
<td>Factor 2</td>
<td>0.22**</td>
<td>---</td>
<td>0.00</td>
</tr>
</tbody>
</table>

* P < 0.0001. ** P < 0.01.
Table 4. LISREL factor loadings and factor intercorrelations using the oblique two-factor model for Type Bs (N = 182)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Factor 1 (Self-specific insecurity)</th>
<th>Factor 2 (Group-specific insecurity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basdf</td>
<td>0.54</td>
<td>0.0</td>
</tr>
<tr>
<td>Low self-confidence</td>
<td>0.63</td>
<td>0.0</td>
</tr>
<tr>
<td>Hurt by criticism</td>
<td>0.24</td>
<td>0.0</td>
</tr>
<tr>
<td>Trouble in groups</td>
<td>0.69</td>
<td>0.0</td>
</tr>
<tr>
<td>Bad mixer</td>
<td>0.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Trust in one</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Self-conscious</td>
<td>0.28</td>
<td>0.00</td>
</tr>
<tr>
<td>Enjoy playing with others</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Goodness-of-fit: χ² = 25.87, df = 20, P < 0.18

Factor intercorrelations

| Factor 2 | Factor 1 | 0.3** |

* In order for the program to reach a unique solution for this particular model, this loading had to be fixed at unity in the unstandardized solution. This suggests that the second factor may be insufficiently defined by the current set of items and that additional items need to be devised to tap insecurity regarding group interaction (see Dohi, 1978; Jackson & Chan, 1980).
** P < 0.0001.

Constructing SI subscales

Our resolution of the paradox just stated represents a compromise between an etiologic and nomothetic procedure. Since the first two factors were highly comparable for As and Bs, a nomothetic approach is appropriate for these dimensions. Accordingly, items that loaded on the self-directed factors for both Type As and Type Bs were used to define those factors for both groups (self-specific insecurity was thus defined as the sum of four items: basdf, low self-confidence, hurt by criticism and self-conscious). Similarly, group-specific insecurity was defined by one item: bad mixer. Finally, the item assessing insecurity regarding others was used to define other-directed insecurity.†

The relationship between SJAS and SI subscales

We first attempted to replicate the Jenkins et al. (1977) and Suls et al. (1981) findings regarding independence of the SJAS and SI total scores (the latter is the sum of a subject’s responses to all eight items). The correlation between these two scores in our sample was significantly negative; r(502) = −0.21, P < 0.0001. Examination of the relationships between SJAS and SI subscales reveals more about the nature of this inverse relationship (see Table 5).

The zero-order correlations (in which SI subscale scores are correlated and therefore are not unique) reveal statistically significant negative correlations between SJAS total score and self- and group-specific insecurity. Thus, the more Type A one is, the less insecure one feels about oneself or one’s ability to behave appropriately in a group context (note, however, these effects were of small magnitude; R² = 0.05).

In order to assess the unique contribution of the SI subscales to the prediction of SJAS total score, semipartial correlations were calculated between each subscale and SJAS total score with the other insecurity subscales partialled out (Cohen & Cohen, 1975; Kleibaum & Kupper, 1978). As shown in Table 5, the only marginally significant unique effects to emerge included the positive semipartial correlation between SJAS total score and other-directed insecurity, and the negative semipartial correlation between SJAS total score and group-specific insecurity. These results suggest that in addition to being more socially-secure than Type Bs, Type As are also more other-insecure.

The relations between the SJAS hard-driving/competitive and SI subscales are similar to those obtained using SJAS total scores, although there are two differences. First, the semipartial correlation between hard-driving/competitive and self-specific insecurity is significantly (in contrast to marginally) negative (R² = 0.03), suggesting that the more hard-driving one is, the less one feels personally inadequate. Secondly, the correlation between self-directed hard-driving and other-directed insecurity is not statistically significant.

Finally, since none of the correlations between the SJAS speed/impatience and SI subscales were statistically significant, it appears that time urgency and the dimensions of SI tapped by the Jenkins et al. (1977) measure are unrelated.

DICCUSION

The objectives of this study were to determine: (1) the structure of the Jenkins et al. (1977) SI scale; (2) the comparability of structures for As and Bs; and (3) the nature of the relationship between the resulting scale(s) and the SJAS and its subscales.

Structural analyses revealed that SI has a four-factor structure: a 'greater dimensionality' or more complex psychological manifestation for As than for Bs. Whereas both groups perceive dimensions labelled self- and group-specific insecurity (that are significantly correlated), As additionally perceive a dimension that reflects insecurity regarding others’ qualities and abilities. For both As and Bs, self-specific insecurity reflects a poorly developed sense of self control or self-esteem, such that the self-insecure individuals feels inadequate relative to others. For such individuals, being in an environment involving social comparison should be stressful and produce anxiety. Group-specific insecurity (for As and Bs) reflects a predisposition toward unsuccessful social interactions; individuals scoring high on this factor should experience anxiety when interacting with others. Finally, other-directed insecurity (emerging as a factor only in the analysis of Type As' responses) reflects lack of trust in the qualities and abilities of others; individuals scoring high on this factor should experience anxiety when forced to trust or depend on another person.

The finding of a third factor for Type As suggests that an individual is not Type A unless he or she perceives other-directed insecurity. It is also interesting that the first two factors were more strongly correlated for Type As (r = 0.76) than for Type Bs (r = 0.53; P < 0.01). The lower correlation for Type Bs may reflect a greater range restriction in their data and correspondingly lower maximum obtainable correlations (Yarnold et al. 1987a). Alternatively, self- and group-specific insecurity may share a common psychological structure for As but not for Bs. For an insecure Type A, for example, being in a group (social) situation should instigate both group- and self-specific anxiety/stress. For Type Bs, this would not necessarily be the case.

Clearly, the current eight-item Jenkins et al. (1977) questionnaire represents a 'minimal' measure of these dimensions; for example, the group-specific and other-directed factors each consist of only one item. Accordingly, the psychometric and conceptual clarity of these factors is currently minimal. Future research directed toward further elaboration of these phenomena should expand the item-pool to facilitate more complete measures of the current
Thus, although researchers have considered the structure and measurement of social anxiety, a unified theoretical approach is yet to be achieved. It would appear then, that in order for research examining the relations between TAB and SI to progress, a more conceptually and theoretically clear definition of SI should be constructed.

Having determined the dimensionality of the Jenkins et al. (1977) SI measure, however, the second objective of the present study was to determine the relation between these subscales and the SJS total and subscale scores. The zero-order correlations suggested that Type As are more secure than Type Bs regarding their own intrinsic capabilities as well as their ability to perform well in group situations. Examination of statistically unique effects, however, revealed that the SJS total score was marginally positively related to other-directed insecurity and marginally negatively related to group-specific insecurity, and that the SJS hard-driving/competitive subscale was significantly negatively related to self-insecurity.

Although the statistically significant relations that we report appear to disconfirm earlier studies reporting nonsignificant or marginally significant relations between JAS/SJS and SI measures (e.g., Jenkins et al., 1977; Lundberg, 1980; Nelson & Dobson, 1980; Smith & Brehm, 1981; Smith et al., 1983), Suls et al. (1981), the magnitude of the effects that we report are quite small. Nevertheless, anographic research suggests that patients with a history of myocardial infarction are generally less socially anxious and that patients without such history (Blumenthal et al. 1979), supporting our finding of a marginally negative correlation between SJS total score and group-specific insecurity (see also Van Dul, 1979).

Additionally, in a prospective study, Ostfeld et al. (1964) reported that men who developed coronary heart disease (in contrast to those who did not) tended to be more suspicious about the motives of others and more independent in their social relationships, supporting the present finding of a marginally positive semi-partial relationship between other-directed insecurity and SJS scores.

The negative semi-partial relationship between hard-driving/competitive and self-specific insecurity that we report contradicts findings that angiography patients who were more 'anxious' than patients who were not. Angiography patients were arterial blockage (Jenkins et al., 1977; Suls et al., 1981; Zyzanski et al., 1976). However, coronary angiography patients (Shekelle et al., 1970) and patients with life-threatening diseases in general (Finn et al., 1974) show state-dependent elevations in generalized anxiety attributable to their immediate situation. We are unaware of any studies which track SI of post-clinical patients, but such research would further illuminate these issues.

Despite the relative focusing regarding the structure of SI, the prospective and retrospective evidence suggests that some manifestation of this phenomenon is relatively independently related to the development of CAHD (Friedman & Rosenman, 1974), and to survival of a first myocardial infarction (Friedman & Ulmer, 1985). Since the nature of SI is, in fact, social, our laboratory has been investigating the nature of Type As' and Bs' social interaction styles. In a recent study, for example, Yarnold & Bryant (1987) reported that Type As are significantly more interpersonally dominant than Type Bs (supporting the negative relations between SJS total score and group insecurity, and between the SJS hard-driving/competitive subscale and self-specific insecurity that we report), and also significantly less interpersonal in their social configurations (confirming the positive relation that we report between SJS total score and dislike/distrust of others), as assessed using the Wiggins Interpersonal Behavioural Circle model of interpersonal relations (see also Grimm & Yarnold, 1983; Yarnold, 1987a; Yarnold & Grimm, 1986, 1987; Yarnold et al., 1985).

At the present time, it is unclear through what mechanism(s) such dominant, non-parturient behaviours may be related to the development of CAHD. However, recent evidence indicates the important role of social support in both reducing the probability of disease and in facilitating recovery (Asher 1984; Razin, 1982; Rejeski et al., 1985). Perhaps the reason why previously described and empirically validated disdain of highly dominant Type As for interpersonal dependencies decreases the quantity and/or quality of their social support alternatives, therefore contributing to the disease process.

Finally, it is important to assess whether the nature of and relations between TAB and SI are comparable for college students and adults, particularly since self-concepts and attitudes of students are less stable than those of adults (Sears, 1986). Since CAHD typically requires a longer period to occur (Glass, 1977), it is important to assess whether SI is a temporally unreliable phenomenon (i.e. has a high test-retest reliability); Yarnold et al. (1986). However, even if the structural and/or distributional characteristics of SI are not temporally reliable over the course of an individual's life span, individuals who exhibit relatively low levels of other-directed or self-directed insecurity may exist, and may be at higher risk for CAHD solely on this basis. Accordingly, future prospective investigations should include an improved measure of other-directed insecurity as a possible independent and/or mediating predictor of CAHD.

Appreciation is extended to the Test Scoring Office and Computing Center of the University of Illinois at Chicago for providing resources with which this study was accomplished, and to John Burns for assistance in the literature review. Excellent comments by the reviewers greatly enhanced the manuscript.

P.R. Yarnold and F.B. Bryant were presented at the Annual Meeting of the American Psychological Association, Washington DC, August, 1986.

Notes
1 There is controversy regarding the strength of the relationship between TAB and CAHD, although research suggests that the hostility/aggression/distance component is a powerful prospective predictor (e.g., Yarnold & Grimm, 1986; Yarnold et al., 1982).
2 Unfortunately, subjects' sex was not recorded and cannot be addressed by these data. However, the sex distribution of the TAB was approximately equal.
3 Recently, self-report measures of TAB, and measures with questions about a priori unknown prosocial validities, have been criticized (see e.g., Landis, 1984). However, data from the recent study (1987) argue that multiple measures increase the convergent, discriminant and statistical conclusion validities of primary (Cook & Campbell, 1979), secondary (Bryant & Westman, 1978) and meta-analytic (Bryant, 1984) research. The SI is simply the 21 scored items of the original student questionnaire (Glass, 1977; Yarnold et al., 1987a). Bryant & Yarnold (1987) present a measurement model for the SIJS. Based on over 4000 undergraduates in three-factor model (hard-driving; fighting; talking; fast tasing) explains nearly 90% of the common variance in SIJS responses. Recent cross-cultural research (e.g., Glass, 1977; Yarnold et al., 1987).
4 Whether this factor did not emerge in the three-factor model (BS, a confounding effect would suggest that Type Bs (an ideologic solution would thus suggest that scoring Type Bs on this subscale), all subjects were scored on the three-factor model (hard-driving; fighting; talking; fast tasing) explains nearly 90% of the common variance in SIJS responses. Recent cross-cultural research (e.g., Glass, 1977; Yarnold et al., 1987).
5 In evaluating the length (i.e., #) of partial correlations, it is important to consider that small "practical" effects for correlations from which other critical variables have been partialled are more noteworthy than zero-order correlations of comparable magnitude (Klinebaum & Kupper, 1978).
REFERENCES


