The relationship between selected scales of the Adjective Check List and musical creativity: A validation study

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The purpose of this study was to determine whether personality characteristics associated with creativity in other samples of creative adults would distinguish a group of professional jazz musicians, selected for excellence of improvisational ability, from a group of professional symphonic musicians. A second purpose was to determine whether such differences found between these professional groups would also characterize groups of adolescent jazz and symphonic music students. In this regard, 60 male professional musicians (30 jazz and 30 symphonic) and 60 male student musicians (30 jazz and 30 symphonic) were asked to respond to items of the Adjective Check List (ACL). The ACL failed to distinguish between the jazz and symphonic players at every level of analysis—from two specific creativity scales, through profile analysis, and on down to the item level. These findings raise questions about the generalizability of the ACL creativity scales.

Despite the extensive literature in the psychology of creativity, there have been few investigations into the creativity of the musician. For the most part, investigations into musical creativity have been limited to describing the composing process (Cowell, 1926; Reitman, 1965) or examining correlates associated with student grades in a course in music composition (Khatena, 1971). Perhaps one reason (among others) for this may be that in the performance of traditional symphonic music, there is virtually no place for creative behavior. Rather, the symphonic musician functions as a highly trained technician performing the created work of the composer under the interpretive direction of the conductor. In fact, originality on the part of the musician would likely result in unemployment.

Apparently, in studying the creativity of musicians, researchers have overlooked the improvising jazz musician. Unlike the symphonic musician, the jazz musician is judged by peers for the ability to produce sustained creative improvisation. In what might be considered the riskiest of creative acts, an individual stands up before an audience and spontaneously reorders musical patterns within the formal structure of music theory in an attempt to communicate feelings.

In this regard, if a creative product is defined as one that is both "novel and fit" (MacKinnon, 1962), it might well be the case that the improvising jazz artist has been neglected as creator because many fail to understand that jazz improvisation "fits." That is, many laymen overlook the fact that in the jazz solo there is a formal, almost

mathematical, logic to the correctness of the notes played. Each solo is related to every other part of the music and to the whole and is simultaneously influenced by the feelings and personality of the performer. An example of this misunderstanding, and thus of the downgrading of jazz improvisation, can be found in the words of I. A. Taylor (1975), who placed Louis Armstrong's music at a level of creativity that was "largely somatic as in spontaneous dancing" (p. 306).

The fact is that improvisation might be called instant composition. Although the same standards are not brought to the judgment of improvised solos as to formal composition, they often could be. Moreover, the player must also be open to and aware of what the other players in the group are doing, including both the musical ideas and the "mood" of the other musicians, in order to properly integrate his or her own work with that of the group. Ideally, this happens for all members of the group and takes an intense concentration and openness to both inner and outer cues.

Compare this with the role of symphonic musicians, whose job it is to play a particular part as homogeneously as possible: The more uniform the sound, the better the performance. This is a fundamental difference between jazz and symphonic music. It seems likely that the difference in these roles might be reflected in the personalities of musicians who have chosen to perform them.

The main purpose of this study was to see whether the "stable set of core characteristics" (Barron & Harrington, 1981, p. 453) found to be associated with creativity in other samples of creative adults (Barron, 1963; Helson & Crutchfield, 1970; MacKinnon, 1961) would dis-

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tinguish a group of professional jazz musicians, selected for excellence of improvisational ability, from a group of professional symphonic musicians.

A second purpose of this study was to see whether such differences found between the groups of professional adults would also be found between groups of adolescent musicians. In this regard, studies by Cashdan and Welsh (1966) and Rivlin (1959), for example, showed that, although the creative adolescent tends to be more socially oriented than his or her adult counterpart, in other respects the creative adolescent and creative adult appear to be very similar. In this study, student jazz players selected for the excellence of their improvisational ability were compared with a group of student symphonic players to see whether personality characteristics related to creativity in other samples would also distinguish between the two groups of student musicians.

METHOD

Subjects

Sixty male professional musicians (30 jazz and 30 symphonic) (mean age = 40 years) and 60 male student musicians (30 jazz and 30 symphonic) (mean age = 16 years) were asked to respond to items of the Adjective Check List (ACL) (Gough & Heilbrun, 1980).

Scales

The ACL was chosen as the measure because it had been developed in part to facilitate investigation into personality variables of creative individuals. This checklist of 300 descriptive adjectives can be scored for 37 scales, including a Creative Personality scale (CPS). A high scorer on the CPS is described as "venturesome, aesthetically reactive, clever, and quick to respond. Intellectual characteristics such as breadth of interests, cognitive ability, and ideational fluency are also apparent" (Gough & Heilbrun, 1980, p. 18). In addition to the CPS, a second, empirically keyed creative personality scale, that is, the Composite Creative Personality scale (CCr) (Harrington, 1979) has been developed using data generated by five previous creativity investigations from the ACL items (Domino, 1970; MacKinnon, 1962; Smith & Schaefer, 1969; Taft & Gilchrist, 1970; Van Zelst & Kerr, 1954). Both creativity scales were scored for the entire sample of 120 subjects.

Procedure

The subjects in all of the groups were performers on instruments found in the typical jazz organization. These included wind instruments (both brass and reed), rhythm instruments, and piano. All professional jazz players had recorded improvisations with a recognized jazz group, and approximately one-third of the jazz professional subjects had nationally distributed, major label recordings as leader. The symphonic professionals were members of the San Francisco, Oakland, or San Jose Symphony Orchestras or of the San Francisco Ballet Orchestra. The student jazz players were selected on the basis of the improvisational ability they had demonstrated during a jazz festival in which their school jazz band had participated. In each case, this selection was made by an official festival judge who was not aware of the specifics of this study. For each student jazz player selected, a symphonic player from the same school, nominated by the school band director, was also tested.

Qualified professional subjects were contacted personally or by mail and asked to participate in a study of personality characteristics of musicians. If they agreed, the tests were mailed, and return envelopes were provided. Jazz student subjects were contacted through their band directors and asked to participate in the study. For the students who agreed, test materials were mailed to the band director, who gave them to the subjects and then returned the completed tests to the investigator.

In addition to the ACL, a short information sheet was filled out by

Table 1
Means and Standard Deviations (SDs): Two Creativity Scales of the ACL for Four Groups of Musicians

Scale	Groups							
	Professional				Student			
	Symphonic		Jazz		Symphonic		Jazz	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
CPS	51.6	10.6	50.9	9.7	51.1	8.0	53.8	9.3
CCr	-1.3	6.3	-.3	5.0	-.9	4.3	-.3	4.7

each subject; the information included certain demographic questions and a question about whether the subject composed or arranged music.

RESULTS

See Table 1 for means and standard deviations on two ACL scales for the four groups of musicians. A 2 (experience level: professional or student) $\times$ 2 (type of music: symphonic or jazz) analysis of variance was performed. No significant F ratios were found. On the CPS, for type of music, $F(1,116) = .13$, for experience level, $F(1,116) = .19$, and for type of music $\times$ experience level, $F(1,116) = .52$. On the CCr, for type of music, $F(1,116) = .13$, for experience level, $F(1,116) = 1.46$, and for type of music $\times$ experience level, $F(1,116) = 1.46$. To further explore these data, the experience level category was collapsed to increase the power of the statistical tests. Again, no significant differences were found between the combined groups of jazz and symphonic musicians on the two ACL creativity scales. Due to the expense of scoring, only professional subjects' protocols were scored for all 37 ACL scales. Here again, there were no significant differences between the two groups.

Finally, using the responses of the professional musicians only, the possibility of a "musician profile" on all of the ACL subscales and items was considered. To do this, first the group means for each of the 37 ACL scales were plotted for each of the professional groups. An inspection of these data revealed that neither group varied more than 3 points from the standardization mean of 50 on any of the 37 ACL scales. Next, in an attempt to find any field-specific patterns within the item pool of the ACL, each of the 300 adjectives that make up the ACL was correlated with type of music: symphonic or jazz. Again, only chance fluctuations were observed.

Yet, chi-square analyses carried out on the question about composing and arranging music, a more traditional focus for the study of creativity in musicians (Cowell, 1926; Reitman, 1965), yielded significant differences. Jazz players, both professional and student, indicated that they were actively involved in composing or arranging music to a greater degree than were symphonic players ($\chi^2 = 14.03$, $p < .001$, with $\phi' = .48$). When professional subjects were analyzed alone in order to eliminate the possible confounding factor of school assignments that might have affected student responses, $\chi^2 = 19.98$ ($p < .0001$, with $\phi' = .58$). In fact, all 30 jazz profes-

sional subjects reported that they composed or arranged music.

DISCUSSION

The ACL, chosen for its psychometric versatility and the fact that it was developed to facilitate studies of creative adults (Gough & Heilbrun, 1980), failed to distinguish between the jazz and symphonic players at every level—from two specific creativity scales, through the scale profile analysis, and on down to an analysis of each item.

The CPS was developed using item versus criterion correlations, whereas the CCR was empirically keyed, and yet neither scale distinguished between the groups of musicians that were shown to vary on traditional criterion of musical creativity. Further scale profile and item analyses yielded only chance fluctuations. Thus, a group of subjects chosen for the excellence of one type of creativity (improvisation) who reported engaging in a second type of musical creativity, (formal composition) are, according to the ACL, no different from the symphonic professionals, whose job does not include improvisation and only 12 of whom reported composing or arranging music. These findings raise questions about the generalizability of at least these two ACL scales.

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