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**PERSONALITY, PERFORMANCE,
SATISFACTION, AND POTENTIAL LONGEVITY
IN PRODUCT DESIGN TEAMS**

by

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Many product development teams are often evaluated to some degree by self-reports of the team's performance, or by the level of the team members' satisfaction. Although these two measures may be of use in determining the team's success, and in some cases may be the only way to measure the team's performance, it is of ultimate concern to the organization how these measures are influenced by the characteristics of the team members themselves, and the degree to which these measures are indicative of actual performance.

Self-reported, or perceived performance, may be argued to be a function of both the accurate interpretation of performance criteria as they relate to the team's product, and the error associated with this interpretation. It may also be argued that this error is a function of a person's tendency to over or under report his/her achievement, and the ability a person has to accurately assess performance information. Both the tendency to distort performance claims and the degree to which one is accurate in interpreting performance information may be influenced by one's personality characteristics. Thus, the accuracy of the self-reports of performance may be a function of one's personality.

The degree of satisfaction that a person experiences when working as part of a team is likely a function of many factors. However, in teams assembled for a short duration, satisfaction is likely influenced by the innate characteristics of the person. One possible source of variation in the satisfaction level may be attributable to the preference one has for working in a group environment which in turn may be argued to be a function of an individual's personality.

Until recently, it was believed that "a satisfied employee is a productive employee". Armed with this wisdom, satisfaction has often played a part in the evaluation of performance

especially in a team environment (e.g. if everyone on the team is satisfied, then the team must be doing well).   However, a meta-analysis by Iaffaldano & Muchinsky (1985) investigating the relationship between satisfaction and performance (at the individual level) reported only an overall correlation of 0.17 between the two measures. This called into question the validity of satisfaction as a proxy for performance. Researchers since then have also called into question the causal direction of the relationship between these two variables.   In fact, the current prevailing theory is that performance is causal to satisfaction.

Self-reported performance has been used both as part of a more complex evaluation system (e.g. 360 degree feedback), or in isolation as a proxy for actual performance. Although self-reports of performance often provide valuable information (especially when the job is complex and the supervisor may not be aware of the complete scope of duties required in performing the job), evidence to date has suggested that they are not an especially effective way of estimating performance. A meta-analysis by Mabe &West (1982) suggested that an overall effect size of 0.29 existed between self-reports of performance and actual performance. More recent reviews of the literature (Latham, 1986; Latham, Skarlicki, Irvine & Siegal, 1993) also suggest that in most cases self-reports of performance are moderate (at best) indicators of actual performance.

According to the above evidence from the individual personnel literature, the potential usefulness of satisfaction and self-reports of performance in team evaluation seems to be dubious. However, if the satisfaction level of the team members, or the team members' self-report of performance, are measures that management can easily obtain in comparison with data measuring actual performance criteria, it is still of interest to know how these measures are related to the

performance of the team. Furthermore, if there are individual characteristics that influence reports of performance in a systematic way (e.g. personality), it may be possible to control these variables in order to obtain a more accurate view of performance via self-reported performance and satisfaction.

There are several purposes to this study. First, the degree to which a person's self-report of his/her team's performance is indicative of the team's actual performance will be investigated. Second, the relationships among self-reports of performance and satisfaction will be examined. Third, the degree to which the personality characteristics of the individual as measured by the "Big Five" personality typology (e.g. Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness) influences the accuracy of his/her interpretation of his/her team's performance and his/her satisfaction level will be ascertained. Fourth, in order to determine the effect of the variables examined in this study on longer term teams, the propensity of the person to remain working as part of the team will be analyzed as a function of the independent and dependent variables in this study. Finally, the inter-relationships of personality, self-reports of performance, satisfaction, and the propensity to work as part of the team in the future will be presented.

Method

This experimental study required the subjects to complete an Engineering Design task in a laboratory setting within a specified time limit. The subjects were administered a personality test, a satisfaction and performance questionnaire, and a demographic profile (gender and age only). A laboratory design was used to control for extraneous factors (e.g./ organizational politics, status

differences) so that effects attributable to the personality variables under investigation would be more obvious (Driskell & Salas, 1992).

Subjects

The subjects were 385 first year undergraduate Engineering Students enrolled in a problem-solving course.   Twenty percent of the subjects were female.   The subjects ranged in age from 16 to 32 years of age with the median age being 19 years.

Engineering Product Design Task

The task which the teams were asked to perform was to design and build a bridge from a limited amount of newspaper and tape which were provided. The bridge was required to span the space between two chairs or tables (standing upright) which had to be at least two feet apart. The bridge could not be affixed in any way to the tables or chairs. It was to rest on top of these surfaces only. The students had 45 minutes to complete the task. Points were awarded based on the bridge's span, uniform width, height (as measured from two points on the base of the bridge) and strength. Bonus points were awarded for teams who finished under the time limit. Bridge dimensions were scored prior to the strength test. The strength of the bridge was determined by its ability to support a two pound book being placed on it and dropped from various heights. Once strength testing commenced, the team was not allowed to touch the bridge. Points were awarded for each drop the bridge withstood. Each team was given the scoring key before the task began. The overall objective of the task was to maximize the points obtained. Each team received an identical amount of resources with which to build the bridge.

Procedure

The students were randomly assigned to teams of three within classes whose composition was based on scheduling constraints. This was done in the first week of the semester of the first year. It is therefore unlikely that any of the students knew their team-mates well or had any experience working in a team with the other students (thus mitigating the effect of previous social relationships on the team's process and performance).

Teams consisted of three members for this exercise because of the difficulty of the task and the time allotted. Many authors have claimed that groups need to be large enough to accomplish the work assigned to them, but when too large, groups may be dysfunctional due to heightened coordination rules (Gladstein, 1984; O'Reilly & Roberts, 1977; Steiner, 1972; Campion, Medsker & Higgs, 1993). A previous study (Kichuk, 1996) determined that teams of three would be able to accomplish the task in the 45 minutes allotted.

The students were administered the personality test, the satisfaction/self-reported performance questionnaire and the demographic profile during class time.

At the beginning of the period, each team was given a description of the task, the material required to construct the bridge, and the scoring key. The students had 45 minutes from this point to construct the bridge. The scoring key was designed so that there were competing constraints on the bridge. The team-mates had to strategize how to build the bridge to maximize the points. There was no one superior strategy. However, significant planning was required to maximize the points attained. After the time was up or the team had finished the bridge, the bridge was scored by specially trained research assistants and the team members were asked to complete a satisfaction questionnaire about their product and the process employed.

Although measures of inter-rater reliabilities are traditionally provided when products are evaluated by external "experts", the nature of this task did not require such a precaution for several reasons. First, the bridge was evaluated in terms of a pre-set scoring guide that assigned points as a function of the length, width, height, and strength of the bridge. These dimension measures (e.g./ length, width, and height) were taken with measuring tapes that are accurate to within 1/16th of an inch. Points were assigned in 1-foot increments. Thus, there were no "judgment calls" in assigning points to the measures taken. Second, there were two people on each measuring team. One person measured while the other watched and recorded the measurements. Thus, any mistakes in the measurements made by the Measurer were likely to be caught by the Recorder. In addition to the watchful eye of the Recorder, spectators from both the team whose bridge was being measured and from rival teams were likely to catch any mistakes made by the Measurer. The most subjective part of the point assignment was the strength test. The multiple spectators were likely to catch any inconsistencies made by the Measurer, however, in this case, multiple tests (as would be required for inter-rater reliabilities to be calculated) were not possible since the bridge's integrity was diminished with each weight dropped on it.

Measurements

Actual performance was operationalized as the group's product score ("Score"). This measure was determined by trained research assistants external to the group who consistently applied the scoring guide to each product. At the individual level of analysis, "Score" may be thought of as a proxy for the accurate application of the scoring guide information to an individual's group product. When the "Score" variable is disaggregated from the group level (where it is the primary performance criterion) to the individual level, this information may be

used to understand how the product information available to each group member was processed and incorporated into his/her self-reported performance and satisfaction scores.

Self-reported performance was determined by two statements using a 5-point Likert scale asking the subjects to rate their performance in terms of the product produced : "The product that our team produced was of high quality" (SRP2); "I do not think that our team performed well" (SRP1). The responses for these two questions were not combined into a composite because they measure the team's perceived performance of two separate aspects of performance. SRP2 measures perceived quality of the team's product, while SRP1 measures perceived performance with the process. The internal consistency reliability of these two items ($r = 0.62$) were supportive of the contention that these two items measured related but different aspects of performance. The effect of personality on these two items were analyzed separately.

The accuracy of self-reported performance was operationalized as the absolute value of the difference between the standardized value of the individual's self-report of performance (either SRP1 or SRP2) and the standardized value of the actual performance score assigned to his/her team.

Team member satisfaction (Satisfaction) was measured by six questions using a Likert 5 point scale tapping into the team members' satisfaction with their product, process, and people. Questions included: "I am satisfied with the quality of the product our group produced"; "I am satisfied with the degree to which our product matched the requirements of the exercise"; "I am satisfied with the process our team employed in creating our product"; "I am satisfied with the contributions of the other team members toward our team's product"; "Overall, I am satisfied with the performance of our team". This scale had an internal consistency reliability of 0.86.

Factor analysis provided support for these items to be combined into an overall Satisfaction composite.

Team member propensity to work together in the future (Longevity) was measured using a Likert 5 point scale (Strongly agree to strongly disagree) on two statements: "I would like to continue working with this group in the future"; "I work well with this group" . The internal consistency reliability for these two items was found to be 0.74. Thus, these items were combined into a composite of "longevity", or propensity to work together in the future.

Team member personality was defined in terms of the "Big Five" personality typology (e.g. Conscientiousness, Extraversion, Agreeableness, Neuroticism, Openness to Experience) which summarizes hundreds of personality traits into five factors (Digman, 1990). The "Big Five" factors have been extensively used and have obtained support as a selection device in the individual personnel selection literature (Barrick & Mount, 1991). The test used to measure the "Big Five" was the NEO-FFI (which is a shortened version of the NEO-PI) personality test (Costa & McCrae, 1992) consisting of 60 5-point scale items (ranging from (1) strongly disagree to (5) strongly agree). The NEO-PI test has been recommended by Hogan (1991) as a good measure of the Big Five personality dimensions. In a review of this test for the Eleventh Annual Measurements Yearbook, Widiger concluded that "any study that purports to be addressing fundamental dimensions of personality should include the NEO-PI as a measure" (pg 606). The NEO-PI has reported alpha coefficients across the facets measured ranging from .61 to .79 for men and .60 to .82 for women (Hess, 1992). Both Hess (1992) and Widiger (1992) refer to the NEO-PI as having "impressive" validity. The NEO-FFI was developed by taking the 12 items with the highest absolute factor loadings on each of the five factors (Neuroticism, Extraversion,

Openness to Experience, Agreeableness, and Conscientiousness) from the NEO-PI (McCrae &

Costa, 1992; Schmit & Ryan, 1993). Correlations between the NEO-FFI scales and the NEO-PI

factors range .75 to .89 (Costa & McCrae, 1992; Schmit & Ryan, 1993). Alpha coefficients in

this sample for each of the 12 item scales were found to be .85 (N), .78(E), .75(E), .76 (A), and

.83 (C) which was in accordance with previous reports (.89, .79, .76, .74, and .84 respectively;

Costa & McCrae, 1989; Schmit & Ryan, 1993).

Gender was measured using a dichotomous scale (M/F) and was used as a control

variable.

Analysis

The gender composition of the sample (e.g. 80% male) was not consistent with that of the

general population (e.g. 50% male). In order that the results in this study be generalizable to the

population, gender was used as a control variable.

SPSS for Windows was used for conducting the analysis. The relationships among the

self-reported measures of performance, actual performance, and satisfaction were investigated via

a correlation analysis. The impact that personality had on self-reported performance, the accuracy

of performance, satisfaction, and longevity were investigated via various regression analyses.

Other post-hoc regression analyses were also done to clarify underlying relationships.

Results and Discussion

The inter-correlations and descriptive information for the personality variables may be

found in Table 1. Correlations among the dependent variables are displayed in Table 2.

Correlations between the independent and dependent variables are in Table 3.

Insert Tables About Here

Sample Characteristics on The Big Five Personality Factors

Males and females were found to significantly differ in their scores on all of the personality factors with the exception of Extraversion (Table 1). The gender differences found within each of the personality factors did not come as a surprise. Many personality tests including the NEO-FFI use separate norm tables for males and females.   All of the gender differences found in the sample studied were consistent in direction with the those stated in the NEO-FFI manual. However, both the norms (e.g. means) for each factor, and the significance level of the gender difference within each factor, differed between those presented in the NEO-FFI manual for college age individuals and those found in this study. More specifically, the mean of the sample distribution for males were significantly higher from the norms given in the NEO-FFI manual for Agreeableness, Conscientiousness, and Extraversion, and were significantly lower for Neuroticism. For females, the sample means were significantly higher that those presented in the manual for Agreeableness, Conscientiousness, and Openness to Experience, and significantly lower for the factor of Neuroticism.   One possible reason for the discrepancy between the sample characteristics and the norms in the NEO-FFI manual is that the populations from which the two samples are drawn (e.g. the one which generated the norms, and the one in the current study) are different. This study used Engineering students, or, "future Engineers". It is likely that the sample used for generating

the college age norms in the manual targeted a more general population. It may be possible that Engineers as a group have unique personality characteristics that differ significantly from those of the general population. If this is the case, then the differences found between Engineering students and other "college age" men and women would be expected. Another possible explanation for the discrepancy is that the norms given in the NEO-FFI manual are not truly representative of the college age population. The college age norms were generated from a total sample size of 148 men and 241 women aged 17 - 21 years of age. This sample size provides a good starting point from which norms could be derived, however, more samples need to be taken to get a truly adequate representation of the personality norms for college age individuals. The significant differences found in the female sample may also be partly attributed to the potential inaccuracies occurring because of the relatively small female sample size in this study (e.g. only 75 females).

The Relationship between Perceived and Actual Performance

The correlations between the self-reported performance measures and the actual performance score received by the team ("Score") were significant, but moderate ($r_{SRP1/Score} = 0.20$, $p<.001$; $r_{SRP2/Score} = 0.32$, $p<.001$) at best. This finding is in accordance with previous performance appraisal literature dealing with self-evaluation of performance. Self-evaluations are notoriously subject to various forms of bias, the most pervasive being positive leniency as most people have unrealistically high perceptions of their own performance (Latham, 1986). As mentioned previously, Mabe and West (1982) reported an overall validity coefficient of only 0.29 between self-evaluated and actual performance. However, this validity coefficient was highly

unstable (SD = 0.25). In other words, in some cases self-reported performance was a good estimate of actual performance (e.g. validity coefficients of up to 0.63 reported; Mabe & West, 1982) and sometimes self-reported performance had almost nothing to do with actual performance!   Self-evaluations have been shown to increase in validity to the degree that the rater expects that his/her self-evaluation will be compared with actual criterion (preferably objective) measures (Lane & Herriot, 1990; Latham, 1986; Latham, Skarlicki, Irvine & Siegal, 1993; Mabe & West, 1982), that the rater is guaranteed anonymity (obviously only possible in experimental conditions) (Latham, 1986; Mabe & West, 1982), that there are established self-rating procedures (Mabe & West, 1982) such as documentation requirements (Farh & Dobbins, 1989), that the rater has experience in rating him/herself (Mabe & West, 1982; Somers & Birnbaum, 1991), and that comparative performance information is available (Farh & Dobbins, 1989; Mabe & West, 1982). If all of these factors are incorporated into the self-evaluation procedure, the validity coefficient between self-reported and actual performance may substantially increase.

In this study, there were two self-reported measures of performance. SRP1 was a global evaluation of how the team performed, and SRP2 specifically addressed the performance of the product. In accordance with the literature presented above, the validity of the self-reports were higher when many of the success factors governing the accuracy of self-reported measures were present. In the case of SRP2, the performance criterion was explicit (e.g. the students knew that the quality of their product was the only determinant of the mark received for the exercise), well-defined (e.g. the students had access to the objective standards to which their product would be compared) and objective, the subjects new the process that would be used to determine the criterion (e.g. the scoring guide), the subjects were guaranteed anonymity, and the subjects knew

that their self-reports were going to be compared with the actual performance score. Thus, as expected, the correlation between the self-report of product performance (SRP2) and actual performance was significantly higher than the correlation between the self-report of overall performance (SRP1) and actual performance ($r_{SRP2/Score} = 0.32$ versus $r_{SRP1/Score} = 0.20$; $t = 2.24$, $p<.05$).   This implies that the subjects used the information available to them with respect to the product scoring to a greater degree when determining the performance of their product (SRP2) than their overall performance (SRP1).

Despite the fact that many of the success factors associated with accurate self-reports of performance were present when the subjects evaluated their product, the correlation between SRP2 and actual performance was only in accordance with the overall correlation reported by Mabe and West (e.g. $r = 0.29$) rather than the stronger relationships associated with the implementation of the success factors (e.g. $r = 0.63$). This implies that something (or the lack of something) caused the subjects to incorporate a substantial amount of error in their ratings.

One possible explanation for the incorporation of a large error value in reporting the team's performance is that there was no comparative information available. Self-evaluations of performance improve in accuracy if comparative information is available (Latham, 1986; Latham, Skarlicki, Irvine & Siegal, 1993). Although the scoring guide was available to the students, there were competing constraints and trade-offs that had to be made in order to maximize the points attained. In addition, there was more than one strategy the team could employ in order to maximize their points. Therefore, it would not be immediately apparent from the scoring guide how many points were possible, nor how many points would constitute a "job well done". Information with respect to the actual performance of other teams was not available until after

each team member rated his/her performance. Thus, it may be argued that the lack of comparative information contributed to the error in score interpretation.

The Relationships Among Self-Reported Performance measures and Satisfaction

The inter-relationships among SRP1, SRP2, and Satisfaction are displayed in Table 2. It was not surprising that these variables were significantly correlated with one another since they were all self-reports and they all purported to measure some aspect of group performance or effectiveness. The purpose of this section is to examine how and propose why these variables are inter-related. Based on the sequence of events in the experiment, and drawing on related literature, a pattern of relationship among the dependent variables will be proposed. Alternative hypotheses will be discussed.

Satisfaction

It may be argued that the degree to which one derives satisfaction with the team experience is a function of the benefit one accrues from the exercise. Possible benefits may include intrinsic rewards such a self-fulfillment and enjoyment, or, extrinsic rewards such as compensation (in this case, the grade assigned for this part of the course work). Assuming the potential reward has value, one's satisfaction would be a positive function of the attained reward amount. The most tangible reward for this study was the product score (and the subsequent grade assigned based on the score). However, when the subjects reported their satisfaction score, they were not privy to the team's actual performance. The best estimation that they had was their perceived performance of the team's product (SRP2). The judgment made about the quality of

the team's product was therefore one of the determinants in the team member's satisfaction level. Therefore, it is proposed that the causal relationship originates from SRP2 and extends to the level of Satisfaction. This line of reasoning is supported by some of the recent job performance and satisfaction literature as well as by some post hoc analyses of the data.

As expected, Satisfaction shared a significant amount of variance with SRP2 ($\Delta R^2 =$ 0.53, p<.001) after the effect of gender ($\Delta R^2 = 0.02$, p<.01) had been removed.   Of course, this shared variance does not prove that satisfaction is a function of perceived product performance. It just shows that the two variables are significantly related.   However, if the direction of causation does originate from SRP2 to Satisfaction, one would expect that the variance shared between SRP2 and the actual performance of the team (e.g. the portion of SRP2 which reflects the accurate interpretation of the·scoring guide with respect to the person's product) would overlap to a great extent with the variance shared between Satisfaction and the actual performance of the team. This shared variance would imply that the subjects used the scoring information in a similar way in determining these two variables and would support the contention that the direction of causality stemmed from product performance to Satisfaction.   In order to test if this relationship existed, two post-hoc hierarchical regressions were done entering the score received by the teams as the dependent variable. In the first analysis, after controlling for gender ($\Delta R^2 = 0.00$, ns), Satisfaction and Score shared incremental variance of less than 2% (p<.01) over that shared by SRP2 and score. In the second analysis, SRP2 and score shared approximately 1% incremental variance (p<.05) over that shared by Satisfaction and Score. Together, SRP2 and Satisfaction shared 11.6% of the variance with Score. As demonstrated by the two hierarchical analyses, the majority of the shared variance between Score and SRP2

overlaps with the majority of the variance shared between Score and Satisfaction. The large

overlap in shared variance implies that the subjects used the product scoring information available

to them in a similar manner when reporting their Satisfaction and SRP2 scores. Based on the

sequence of events, the most likely scenario in the use of the objective information in determining

satisfaction levels is that the individuals used the objective scoring information to determine their

perceived product performance (SRP2) as previously argued. The individuals' satisfaction level

was then determined by the perceived performance (SRP2) rather than the actual performance

because actual performance information was not available at the time the subjects reported their

level of satisfaction.

In accordance with the literature cited, the sequence of events, and the post-hoc analyses

done, it is very likely that the individual's perceived performance of the team's product influences

the satisfaction level of the individual. The alternative hypothesis is that Satisfaction influences

the perceived product performance (SRP2). There is approximately 53% shared variance

between SRP2 and Satisfaction scores. This amount of variance is significantly greater than the

10% accounted for by the correct use of performance information. That is, there is a significant

amount of shared variance between Satisfaction and SRP2 scores that is not entirely explained by

the subjects' use of performance information. There are two competing hypotheses that may

proposed to account for the difference. If we go back to the definition proposed for the SRP2

variable, the portion of this variable that represents the accurate interpretation of the performance

scoring guide to the team's product is accounted for. However, the error term has not. The large

portion of variance shared by SRP2 and Satisfaction not explained by the accurate use of

performance information may be attributed to the error term in SRP2. One possibility is that the

direction of causation extends entirely from the perceived performance variable to the level of satisfaction variable, in which case, the error term associated with SRP2 is encompassed in the satisfaction variable. Part of the shared variance between SRP2 and Satisfaction is likely a function of this error since it would be unrealistic to expect that Satisfaction would only pick-up the true criterion measure and be immune to the contamination evident in SRP2. The alternate argument is that the level of Satisfaction experienced by the individual would influence the error term of perceived performance. That is, the degree to which a subject was satisfied influenced how he or she perceived his/her team's performance. Although this is possible, in the case of SRP2, the subjects were asked very specifically about the performance of their product. It was therefore likely that the subjects tried to incorporate the scoring information available to them in their answer rather than relying on their satisfaction level. The principal direction of causation is therefore maintained to exist from SRP2 to Satisfaction.

SRP1

Up to this point, we have only considered SRP2, or perceived product performance. The other performance measure, SRP1, was a global evaluation of the team's performance. Although SRP1 and SRP2 were significantly correlated ($r = 0.44$, $p<.001$), the magnitude of the correlation indicates that SRP1 and SRP2 were measuring different aspects of perceived performance.

The low-moderate correlation between SRP1 and actual performance ($r_{SRP1/Score} = 0.20$, $p<.001$) implies that when team members were asked to evaluate SRP1, they implicitly assumed that performance encompassed other factors and allowed other subjective criteria to influence their report even though the team members knew that performance was determined solely by the

score on their bridge. One possible factor that the subjects may have incorporated into their

evaluation of overall performance is the satisfaction level that the team member experienced. It

has been long established in the personnel selection interview literature, that when a person is

asked to make an overall evaluation of another person, biases and irrelevant information are

incorporated into the decision decreasing the validity of the measure (Gatewood & Feild, 1994).

Furthermore, as discussed previously, self-evaluations tend to be inaccurate when the criteria is

not made explicit (e.g. it is not made clear to the person what aspects of performance should be

evaluated). Similarly, when the team members were asked to rate their team's overall

performance, the lack of specificity in the performance criteria allowed subjective information

such as the satisfaction level of the person to factor in his/her rating and decreased the validity of

this rating as an indicator of actual performance.

The sequence of events in the experiment also support the contention that SRP1 is

primarily a function of Satisfaction. Although an overall global rating of performance may

incorporate subjective information such as the member's satisfaction level, it would still be

expected that the subjects would make some attempt to incorporate the objective performance

information available to them. Since the best estimate the subjects had of their product's quality

was their perception of product performance (SRP2) based on their own interpretation of the

scoring guide, it was expected that any impact that the objective information had on the subject's

determination of SRP1 could be represented as a function of SRP2. A hierarchical regression

analysis entering gender ($\Delta R^2 = 0.00$, ns) on the first step, SRP2 ($\Delta R^2 = 0.20$, p<.001) on the

second step, and Score ($\Delta R^2 = 0.00$, ns) on the third step, supported the contention that any

impact that the objective scoring guide information (Score) had on the rating of overall performance (SRP1) was enveloped in the perception of product performance (SRP2).

In the previous section it was proposed that Satisfaction is a function of SRP2. If SRP1 is a function of SRP2, and Satisfaction is a also a function of SRP2, it stands to reason that some of the variance shared between SRP2 and SRP1 may also be shared between SRP2 and Satisfaction. In keeping with the contention that Satisfaction may influence SRP1, it is possible that SRP1 is a function of SRP2 indirectly through the variable of Satisfaction. A number of post-hoc regression analyses were done in order to ascertain if this relationship was probable. SRP1 was entered as the dependent variable. A hierarchical regression analysis entering gender ($\Delta R^2 = 0.00$, ns.), SRP2 ($\Delta R^2 = 0.20$, p<.001), and Satisfaction ($\Delta R^2 = 0.15$, p<.001) as the independent variables indicated that Satisfaction accounted for incremental variance in SRP1 scores over that explained by SRP2. A second hierarchical analysis entering gender ($\Delta R^2 = 0.00$, ns.), Satisfaction ($\Delta R^2 = 0.35$, p<.001) and SRP2 ($\Delta R^2 = 0.00$, ns.) indicated that the variance shared between SRP2 and SRP1 was completely enveloped in the variance shared between Satisfaction and SRP1. Therefore, it is proposed that SRP1 is primarily a function of Satisfaction (which, in turn, is a function of SRP2).

The above discussion provided support that the subjects used their interpretation of the objective performance information (SRP2) in a similar manner when determining Satisfaction and overall performance levels (SRP1). It was therefore proposed that a causal link extends from SRP2 through Satisfaction to SRP1. The influence of SRP2 via Satisfaction on SRP1 accounts for over half of the variance that Satisfaction and SRP1 share. However, there is still a significant amount of shared variance between Satisfaction and SRP1 ($\Delta R^2 = 0.15$, p<.001) that is not

specifically accounted for by the presence of SRP2. There are two competing hypotheses that may account for this additional shared variance.

First, the determination of overall performance (SRP1) may be, as argued previously, a function of the subjects' Satisfaction level (e.g. the part of Satisfaction that is not determined by SRP2). As discussed above, it is plausible that the subjects incorporated their satisfaction level into their overall evaluation of performance.   Alternatively, in accordance with arguments made earlier, the subjects' perception of overall performance (SRP1) may have influenced their satisfaction level. Although SRP1 was not an accurate representation of actual performance, and was likely derived to some degree from other unrelated criteria (e.g. Satisfaction), SRP1 represented the subjects' perceptions of their performance. It is therefore probable that this overall "feeling" of how well the team performed influenced the satisfaction level reported.   Thus although the primary direction of causation is still maintained to exist from Satisfaction to SRP1, it is proposed that reverse causality between these two variables also exists.

The Dependent Variables as a Function of Personality

SRP2. SRP2 was defined as the subjects' perception of product performance. That is, the performance criterion for this self-report was explicit. It was previously argued that since the criterion was well-defined, and that subjects could reasonably expect that their self-reports would be compared to the actual performance criterion, that subjects would focus their attention on the performance information available to them and thus minimize subjective influences on their report. It was therefore not expected that personal characteristics would have a consistent influence on the SRP2 scores independent of the actual score information. As expected, there were no

significant correlations between any of the independent variables and SRP2, which indicates that individual characteristics did not influence the pattern of SRP2 reports. In light of the previous contention that SRP2 reports were principally a function of the objective information made available to the subjects, it was not surprising that the personal characteristics of the subjects did not significantly influence the pattern of SRP2 values. This is not to discount the possibility that personal characteristics may have influenced how the subject interpreted the objective information.

In order to understand how individual characteristics influenced the accuracy of a subject's SRP2 score (as compared to actual performance), partial correlations (controlling for gender) were calculated between each of the personality variables and the accuracy measure (e.g. the absolute value of the difference between the standardized self-reports of product performance and the standardized score received for actual performance). Extraversion ($r = -0.15$, $p<.01$), Neuroticism ($r = 0.11$, $p<.05$), and Agreeableness ($r = -0.11$, $p<.05$) were significantly related to the team member's accuracy in evaluating the product. A stepwise regression analysis was done to further explore this relationship. The accuracy measure was entered as the dependent measure and the personality variables were entered as the independent variables. After controlling for gender ($\Delta R^2 = 0.00$, ns.), Extraversion ($\Delta R^2 = 0.02$, $p<.01$) was negatively related to the accuracy of the self-reported product variable. The effect of Neuroticism and Agreeableness on the accuracy of a person's evaluation of his/her team's product were enveloped in the effect of Extraversion on the accuracy variable. The overlap in Extraversion, Agreeableness, and Neuroticism (negative) may be indicative of a preference for groupwork. This may in turn suggest that the preference for social interaction influences the evaluation of team performance.

Satisfaction. Extraversion (r = 0.19, p<.01), Agreeableness (r = 0.14, p<.05), and Conscientiousness (r = 0.11, p<.05), were all significantly correlated with Satisfaction, and Neuroticism showed a tendency to be related to Satisfaction (r = -0.10, p<.10). The relationships between Extraversion and Satisfaction, and Agreeableness and Satisfaction were in keeping with the definitions of these personality factors.   A person who scores high on the factor of Extraversion may be thought of as sociable and as preferring large groups and gatherings to solitude (Costa & McCrae, 1992). Thus, it would be expected that a person with a high degree of Extraversion would be more likely to be satisfied with his or her group, and would view the group process in a positive light.   People scoring high on the factor of Agreeableness tend to look for the best in others (Costa & McCrae, 1992) and would therefore tend to derive satisfaction from interaction with others. The variance shared by Agreeableness and Satisfaction was completely enveloped in the variance shared by Extraversion and Satisfaction. That is, Extraversion explained incremental variance in Satisfaction ($\Delta R^2 = 0.02$, p<.01) over that explained by Agreeableness ($\Delta R^2 = 0.02$, p<.01), however, Agreeableness did not incrementally contribute variance to Satisfaction ($\Delta R^2 = 0.00$, ns.) once Extraversion had been considered. This implies that the variance in satisfaction due to personal characteristics may be operationalized as the degree to which a person displays Extraversion.

The tendency of Neuroticism to be related to Satisfaction was not surprising. People scoring high on Neuroticism are prone to instability, anxiety and low self-esteem (Costa & McCrae, 1992). Therefore, the tendency for Neuroticism to be negatively related to Satisfaction ($r_{Neuro/Sat} = -0.10$, p<.10), may be indicative of a Neurotic person's unease with working in a

group. However, the impact of Neuroticism on Satisfaction was not significant. Neuroticism may therefore be affect Satisfaction indirectly. The magnitude of the variance shared between Extraversion and Satisfaction did not change when the effect of Neuroticism was removed from consideration (e.g. entered on a preceding step of the regression analysis). Thus, Extraversion and Neuroticism affect Satisfaction in fundamentally different ways.

The relationship between Conscientiousness and Satisfaction was not expected. However, it could be argued that Conscientious people always "try their best" and therefore exhibit a tendency to be more Satisfied in general. A step-wise regression analysis was performed in order to further understand the underlying relationships among these variables. Satisfaction was entered as the dependent variable. After controlling for gender ($\Delta R^2 = 0.02$, $p<.01$), Extraversion ($\Delta R^2 = 0.03$, $p<.001$) was the only variable that contributed unique variance to the level of Satisfaction. The high inter-correlations between Extraversion and Agreeableness ($r = 0.48$, $p<.001$), Extraversion and Neuroticism ($r = -0.45$, $p<.001$), and Extraversion and Conscientiousness ($r = 0.36$, $p<.001$), partially explains why these three factors appear to disappear in significance once Extraversion is considered. However, it appears that certain personality factors, most notably the factors of Extraversion and Agreeableness, do influence satisfaction levels to some degree.

SRP1. SRP1 was found to correlate significantly with Extraversion ($r = 0.17$, $p<.001$), Neuroticism ($r = -0.14$, $p<.01$), and Agreeableness ($r = 0.12$, $p<.05$). The factors of Conscientiousness ($r = 0.10$, $p<.10$) and Openness to Experience ($r = 0.10$, $p<.10$) also showed tendencies to be related to SRP1. As discussed above, the correlations between Agreeableness and SRP1, and Extraversion and SRP1 were not found to significantly differ from the correlations

between Agreeableness and Satisfaction, and Extraversion and Satisfaction ($t = 0.2$, $p = $ ns.) implying that Agreeableness and Extraversion influenced Satisfaction and SRP1 in a similar manner. Given the previously hypothesized relationship between SRP1 and Satisfaction, it is possible that Agreeableness and Extraversion influenced Satisfaction directly and SRP1 indirectly via Satisfaction.

The negative relationship between Neuroticism and SRP1 was in accordance with the definition for the factor of Neuroticism. People scoring high on the factor of Neuroticism would be expected to view their performance in a negative light especially when the performance measure is subjective. Thus, Neuroticism is proposed to negatively affect the report of SRP1. In previous sections, it was suggested that there is dual causality between SRP1 and Satisfaction. It was also suggested that Neuroticism may impact Satisfaction indirectly. Thus, it is proposed that Neuroticism impacts SRP1 directly and Satisfaction indirectly via SRP1.

The relationship found between Openness to Experience and SRP1, and Conscientiousness and SRP1 are mysterious. One might expect that Openness to Experience would influence Satisfaction (and thus indirectly affect SRP1), however, this relationships was statistically insignificant. There is no readily available logical reason that the relationship between Openness to Experience and SRP1 should exist. However, given the relatively low magnitude of the correlation, it is possible that this relationship attained significance on chance alone. That is, it is possible that this relationship would not be replicable on a different sample. The relationship between Conscientiousness and SRP1 may be a "side-effect" (e.g. due to the relationship between SRP1 and Satisfaction) of the relationship between Conscientiousness and Satisfaction established in the previous section.

The Relationship Between the Self-Reported Dependent Measures and all other Variables

Together

In the previous sections, the relationships among and between the independent and

dependent variables were examined. However, in order to truly understand the nature of the self-

reported performance and satisfaction measures, these variables need to be examined as a function

of both the individuals' characteristics (e.g. personality) and the other group experience variables

(e.g. performance and satisfaction measures).

SRP2

SRP2 was the group members' perception of product performance. This variable was

proposed to consist of two parts: the correct interpretation of the scoring information as it applied

to the group's product (e.g. "Score") and the error associated with this interpretation. When

SRP2 was investigated as a function of the independent variables, none of the independent

variables, with the exception of gender, were found to significantly relate to SRP2. This implies

that personal characteristics (as defined by personality) did not systematically influence reports of

SRP2. This was shown again when SRP2 was investigated as a function of all possible variables

(e.g. "Score", and the personality variables). After controlling for gender ($\Delta R^2 = 0.03$, p<.01),

"Score" was the only variable that shared significant variance with SRP2 ($\Delta R^2 = 0.10$, p<.001). a

significant influence on the interpretation of the product information.

Gender was used as control variable so that the results may be generalized to the

population. However, in the case of SRP2, Gender seems to be a significant factor in explaining

the variance in SRP2 scores. A stepwise regression analysis was done entering Gender with the independent variables. "Score" was found to share the most variance with SRP2 ($\Delta R^2 = 0.11$, p<.001). Gender shared incremental variance ($\Delta R^2 = 0.02$, p<.01) in the SRP2 scores over that provided by "Score".   Upon examination of the male and female subsamples, it was determined that females reported significantly (p<.01) lower self-reports of performance (M = 2.7) than did their male counterparts (M = 3.1). However, the actual performance of the group (e.g. "Score") to which the individual belonged did not significantly differ between the sexes ($M_{female} = 6.9$, versus $M_{male} = 6.6$, F(1, 354) = 0.24, p = ns.). This implied that females may have been harsher, or more conservative, or less optimistic than their male counterparts when estimating their performance scores. These "outlooks" (e.g. optimism, conservatism) may be argued to derive from personality characteristics. It was thus surmised that gender could possibly be masking the effect of personality characteristics (e.g. through shared variance between gender and some personality factors) in the interpretation of scores. A stepwise regression analysis was done removing the gender variable from consideration to ascertain if personality characteristics would be relevant contributors to the SRP2 scores. Again, once the effect of "Score" was considered, no other variables contributed significantly to the variance in SRP2 scores. When only the independent variables were considered (e.g. minus gender and "score"), no variable contributed to the SRP2 score variance. Therefore, SRP2 appears to be primarily a function of the objective information available to the subjects with respect to their product although gender seems to be a moderator of how that information is reported. The tendency for females to under-report accomplishments when compared to their male counterparts is not new. It has been established in the job analysis literature that females tend to under-report their duties and responsibilities. Since

in this study, the female tendency to report conservatively on performance was not linked to any personality factors, it may be surmised that this tendency is partly derived from social conditioning factors.

Satisfaction

In the previous sections, Satisfaction was found to share a significant amount of variance with the independent variables of Extraversion and Gender (R^2 = 0.06, p<.001). Satisfaction was also found to share a significant amount of variance with the two self-reported performance measures (SRP1 and SRP2) and "Score" (ΔR^2 = 0.63, p<.001 after the effect of gender was removed). A post-hoc hierarchical regression analysis was done in order to explore these effects simultaneously. Satisfaction was entered as the dependent variable. After the effect of gender was removed, Extraversion, SRP1, SRP2, and "Score" were entered simultaneously on the next step. The remaining dependent and independent variables were then entered on the third step using a stepwise method of analysis in order to ascertain whether there were other variables which would help explain the variance in Satisfaction over and above those entered on the second step. Extraversion, SRP1, SRP2, and Score explained 63.4% of the variance in the Satisfaction score. In sum, it is plausible that a person's Teamwork Satisfaction level is a function of a person's level of Extraversion, and the perceived success of the team.

The above analysis assumed that Satisfaction could be expressed as a function of the other secondary dependent variables. As discussed previously, however, the stronger causal relationship between SRP1 and Satisfaction is likely to originate from Satisfaction and extend to SRP1. In addition, the effect of "Score" on the Satisfaction level of a person was previously

argued to be enveloped in the SRP2 variable. The regression analysis was therefore rerun to take into account the relationships previously established. Satisfaction was again entered as the dependent variable. The effect of gender was removed on the first step ($\Delta R^2 = 0.02$, p<.01). SRP2 ($\Delta R^2 = 0.53$, p<.001), Neuroticism ($\Delta R^2 = 0.02$, p<.001), and Extraversion ($\Delta R^2 = 0.01$, p<.05) were found to contribute incremental shared variance to the Satisfaction scores. Neuroticism could be expected to influence Satisfaction scores from a logical perspective. Neuroticism includes such facets as anxiety, self-consciousness, depression, and angry hostility (Costa & McCrae, 1992) which would negatively affect a person's outlook in most situations, especially those which include interaction with other people. In a previous section, it was suggested that Neuroticism impacted Satisfaction via SRP1. Once SRP1 was removed from consideration, Neuroticism became a significant contributor to the variance in Satisfaction. This suggests that SRP1 does impact Satisfaction to some degree.

As previously discussed, Extraversion is likely to positively influence a person's satisfaction level because Extraverted people enjoy interpersonal interaction.

When the effect of gender on Satisfaction was considered, it was shown to contribute significantly to the variance in Satisfaction levels. Further analysis comparing the means of the two subgroups indicated that Females were significantly less Satisfied with the group experience than their male counterparts ($M_{female} = 21.0$ versus $M_{male} = 22.5$, $F(1, 354) = 6.9$, p<.01). Since Satisfaction has been shown to be influenced by personality factors, this gender discrepancy in Satisfaction levels may have been masking additional personality influences. Thus, the stepwise regression analysis was redone entering Satisfaction as the dependent variable, and all of the variables that were argued to have possible causal influence on Satisfaction (e.g. all of the

independent variables and SRP2) with the exception of gender. When SRP1 was not considered

to be causal to the Satisfaction level (e.g. SRP1 was not included), the variables found to

contribute significantly to the variance in the Satisfaction level again were SRP2 ($\Delta R^2 = 0.55$,

p<.001), Neuroticism ($\Delta R^2 = 0.02$, p<.001), and Extraversion ($\Delta R^2 = 0.01$, p<.05). When SRP1

was included in the equation, the variables found to be causal to the Satisfaction level were SRP2

($\Delta R^2 = 0.55$, p<.001), SRP1 ($\Delta R^2 = 0.09$, p<.001), and Neuroticism ($\Delta R^2 = 0.01$, p<.01). The

effect of Extraversion likely disappeared because of its interaction with the other variables.

In the previous analyses, the factors of Extraversion and Neuroticism seem to exchange

places of importance in the determination of Satisfaction. This is most likely because of the high

inter-correlation between the two variables, or, in non-statistical terms, the likelihood that people

scoring high on the factor of Extraversion (e.g. enjoying interpersonal interaction) are also those

people who tend to be emotionally stable (e.g. have high self-esteem, are confident about

themselves and are not scared to interact with others).

The previous regression equations removed the effect of gender in order to ascertain

whether other personality characteristics underlie the Satisfaction variable. Since gender was not

found to "mask" the influence of any of the personality variables, the model presented in the

overview section will use the relationships established when gender was removed on the first step

so that the model is more generalizable to the population as a whole. The gender difference in

Satisfaction appears to be a function of the gender difference encountered in the SRP2 variable.

SRP1

Self-reported overall performance (SRP1) appeared to be significantly and primarily

related to the independent variable of Extraversion ($\Delta R^2 = 0.03$, p<.001). SRP1 was also found

to share significant variance with the dependent variable, Satisfaction ($\Delta R^2 = 0.35$, p<.001).

However, in previous sections, it was suggested that Extraversion impacted SRP1 indirectly as a

function of Satisfaction. Neuroticism was hypothesized to impact SRP1 directly. The reason that

Neuroticism did not appear in the regression equation once Extraversion was considered is likely

because of the high correlation between the two variables and the similarity of their role in

determining a person's self-report of performance (note that these two variables do not appear to

impact Satisfaction in a similar manner). In the regression analysis exploring the effects of the

independent and other dependent variables simultaneously, after the effect of gender was removed

($\Delta R^2 = 0.00$, ns.), the level of individual Satisfaction ($\Delta R^2 = 0.35$, p<.001) and Neuroticism (Δ

$R^2 = 0.01$, p<.05) were the only two variables which accounted for significant variance in the

SRP1 score. This is in accordance with the suggestion that Extraversion impacts SRP1 via its

relationship with Satisfaction.

Longevity

The variable "Longevity" (e.g. the propensity of the person to continue working as part of

the team) was found to be significantly correlated with all of the other outcome variables (Table

3). From a logical standpoint, one could reasonably surmise that "Longevity would be determined

by the person's experience working in his/her group. This would, in turn, be contingent on the

person's satisfaction level with the group and the perception that a person had of his group's

performance. Both SRP2 and Longevity ($\Delta R^2 = 0.22$, p<.001 after controlling for gender), and

Satisfaction and Longevity ($\Delta R^2 = 0.50$, p<.001, after gender is considered) shared a significant

amount of variance. When both Satisfaction and SRP2 were considered simultaneously as a

function of Longevity, the majority of the variance in Longevity attributed to SRP2 was enveloped in that accounted for by Satisfaction. That is, SRP2 only contributed 1% to the variance in Longevity once Satisfaction was considered. Therefore, it appears that Satisfaction is the primary determinant in the propensity of the group members to work together in the future. SRP2 apparently impacts Longevity primarily as a function of Satisfaction.

Summary and Implications

This study set out to answer several questions with respect to the relationships among team member personality, satisfaction, self-reported performance, and actual team performance. The results of this study have been discussed in detail in the preceding sections. In this section, the answer to each question will be summarized and implications for managers will be suggested.

The degree to which self-reports of performance are indicative of actual performance

The relationship between self-reports of performance and actual performance were found to range from low to moderate. Self-reported performance measures of the team members will reflect the actual performance of the team to the degree that they ask about specific performance criteria rather than general performance levels. The accuracy of these reports will increase if comparative information regarding the performance expectations of management are made clear.

The relationships among the measures of self-reported performance and satisfaction

The team member's perception of how well the team is performing according to specific performance criteria will influence the satisfaction level of that team member. In turn, the

satisfaction level of the team member is likely to influence global evaluations of the team's performance.

Specific performance questions are likely to yield actual performance information. However, performance questions addressing more general aspects of performance are likely to be indicative of the person's satisfaction level rather than the team's performance.

The impact of personality on self-reported performance, self-reported performance accuracy, and satisfaction

Personality has little effect on reports of performance if the performance criteria in the question are specific. However, if the performance criteria are not specified, reports of performance are more susceptible to the influence of team member personality characteristics. More specifically, a person's level of Neuroticism is negatively related to self-reports of global performance, and the factors of Extraversion and Agreeableness are positively related to reports of general performance levels via their relationship with Satisfaction.

High scores on the factors of Extraversion or Agreeableness are associated with less accurate product evaluations. Neuroticism has a positive relationship with product evaluation accuracy

The impact of personality, satisfaction, and self-reported performance on team longevity

Satisfaction is not necessarily related to actual performance, however, it is strongly related to the person's propensity to remain part of the team. In fact, the results of this study indicate that the team member's satisfaction level is the primary determinant of his/her propensity to work

together as part of the team in the future. Thus, when selecting longer term teams, factors affecting the team member's potential satisfaction level should be considered in addition to those factors which potentially improve performance.

Inter-relationships of personality, self-reported performance, satisfaction and longevity - Groundwork for a model

The relationships among the variables in this study established in the above sections may be summarized in the form of a model (Figure 1). This section will first briefly describe the model diagrammed in Figure 1 and will then explore caveats and implications of the model. Note that arguments relating the variables will not be reintroduced from the above sections.

All of the personality factors were significantly inter-correlated. The highest correlations existed between Extraversion and Agreeableness ($r = 0.48$, $p<.001$) and Extraversion and Neuroticism ($r = -0.45$, $p<.001$). As a result of these high inter-correlations among the independent variables, it was sometimes difficult to surmise which independent variable was truly responsible for variance in the dependent variables. In previous sections, some of these problems were addressed. The model proposed relating the individual level variables attempts to discern the main effects. Therefore, not all of the relationships discovered will be included, however, it was attempted to establish those that are in accordance with logic and theory.

SRP2, or the perception of the team's product quality, was found to be primarily a function of the objective information available to the subjects with respect to the product.

Satisfaction was found to be a positive function of a person's perception of his/her group's product quality (SRP2), and his/her level of Extraversion. Satisfaction was hypothesized to have

a reciprocal relationship with SRP1 - that is, the level of Satisfaction impacted how the individual perceived his/her overall performance, and the manner in which the individual perceived his/her overall performance impacted the level of Satisfaction experienced. The primary direction of causation, however, was argued to originate from Satisfaction to SRP1. SRP1 was also a function (negative) of one's level of Neuroticism.

The propensity of the group to work together in the future was primarily a function of Satisfaction, although the perception of product quality (product quality was the primary determinant of the grade, or reward, received) was also influential.

Limitations of the Model.   All of the Big Five personality factors were highly inter-correlated. Although the NEO-FFI as a test of the Big Five has been shown to retain the five factor structure of the more intensive NEO-PI test in student populations (Schmit & Ryan, 1994), the high inter-correlations imply that the factors are not independent. The inter-correlations found in this sample do not resemble the magnitude nor the patterns of the inter-correlations reported in the NEO-PI-R manual (Costa & McCrae, 1992). The integrity of the NEO-FFI instrument may not be an optimal measure of the actual Big Five factors. The model derived from this study should therefore be confirmed using the more extensive NEO-PI test.

The particularly high inter-correlations among the factors of Agreeableness, Neuroticism, and Extraversion made it difficult to discern the underlying dynamics of these variables on the secondary independent and dependent variables.

Implications for Management

1.   In order for self-reports of performance to be useful, performance criteria should be made clear prior to the project, and specific performance benchmarks should be defined so that the team members have relevant comparitive information from which to evaluate their performance.

2.   The level of Satisfaction that is reported by the team members is likely an indication of how the team members think that they are performing. To the degree that the team members understand exactly what the performance expectations are, queries of team member Satisfaction may be preliminary indicators of the team's anticipated performance. Dissatisfied team members may indicate the need for management intervention.

3.   If management can determine the levels of Extraversion, Agreeableness, and Neuroticism of team members, these variables may be used to "temper" the self-reports of performance provided by the team members in order to get a more accurate indications of the team's actual performance.

4.   The gender of the team members influence the reports of product performance. Women tend to be more critical of their team's performance than men.

5.   Given the importance of Satisfaction levels on the group's propensity to work together in the future, this may imply that members of longer term teams need to have adequate levels of Extraversion, Agreeableness, and be sufficiently Emotionally stable to exist in on-going groups.

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Table 1 - Relationship Among the Independent Variables at the Individual Level - Controlled for Gender

	1	2	3	4	5	Mean (Fem.)	Mean (Male)	N: M/F
1. Conscientiousness	1.00					36.4 (5.8)	33.0 (6.6)	305/75
2. Extraversion	0.36**	1.00				31.5 (6.5)	31.2 (6.0)	305/75
3. Neuroticism	-0.40**	-0.46**	1.00			21.3 (8.6)	18.1 (7.9)	305/75
4. Agreeableness	0.33**	0.50**	-0.42**	1.00		34.1 (6.6)	31.9 (6.0)	305/75
5. Openness to Exp	0.16**	0.35**	-0.31**	0.22**	1.00	30.8 (6.4)	28.4 (6.6)	305/75

* $p<.05$ ** $p<.01$

For "mean" columns, standard deviation is given in brackets

M=male, F=female

Table 2 - Relationship Among the Dependent Variables at the Individual Level - Controlled for gender

	SRP1	SRP2	Satisfaction	Longevity
SRP2	0.44**	1.00		
Satisfaction	0.59**	0.74**	1.00	
Longevity	0.44**	0.46**	0.71**	1.00
Group Score	0.20**	0.32**	0.33**	0.11*

*$p<.05$ **$p<.01$

N ranged from 372 to 375

Table 3 - Relationship Between the Independent and Dependent Variables at the Individual Level
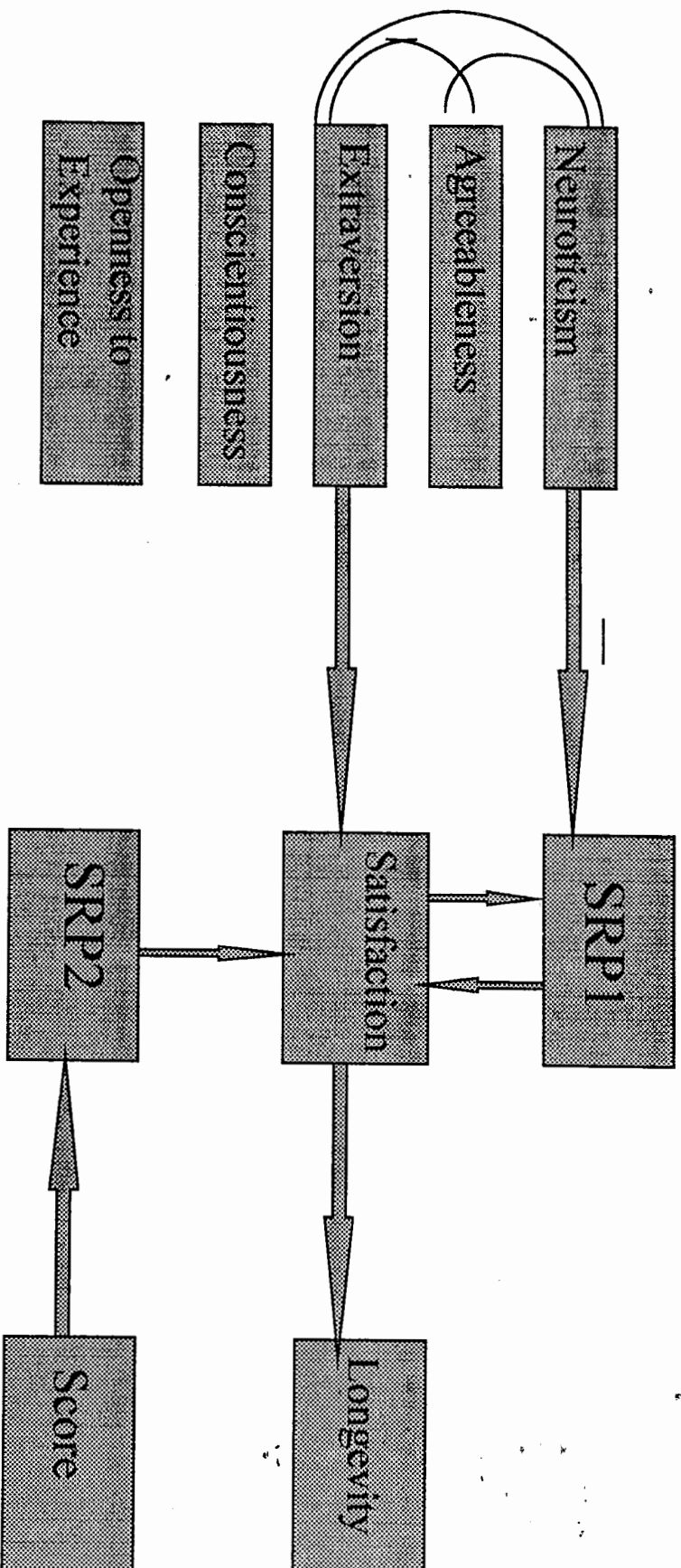
- Controlled for gender

	SRP1	SRP2	Satisfaction	Longevity
Conscientiousness	0.10	0.00	0.11*	0.07
Extraversion	0.17**	0.08	0.19**	0.13*
Neuroticism	-0.15**	0.06	-0.10*	-0.07
Agreeableness	0.13*	0.03	0.14**	0.08
Openness to Exp	0.11*	0.03	0.05	0.08

*p<.05 **p<.01

N ranged from 372 to 375

Figure 1 - Preliminary Model Relating the Big Five to Performance Measures

* All Arrows denote postive relationships unless otherwise indicated

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