Development of Occupational Interest Profiles for O*NET

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Executive Summary

The U.S. Department of Labor's (USDOL's) Office of Policy and Research has developed the Occupational Information Network (O*NET), a comprehensive system for collecting, organizing, describing, and disseminating data on occupational characteristics and worker attributes (see *O*NET Final Technical Report,* 1997). O*NET is the replacement for the *Dictionary of Occupational Titles* (*DOT*; U.S. Department of Labor, 1991b). O*NET includes the Content Model, a skills-based structure that serves as the framework for organizing the information describing the world of work presented within O*NET (see *Development of Prototype Occupational Information Network (O*NET) Content Model*, 1995). The Office of Policy and Research initiated several projects aimed at producing valid and reliable data covering a majority of the variables described in the O*NET Content Model. This report focuses on the effort to generate vocational interest information included in the Worker Characteristics domain of the model (see Figure 1). Inclusion of occupational interest information within O*NET will provide an important data set for career guidance and research. In December 1998, O*NET 98 was released, the first presentation of the O*NET data to the public. For more information, see O*NET 98 Viewer: User's Guide (U.S. Department of Labor, 1998).

Interests are defined as a sub-domain under Worker Characteristics in the O*NET Content Model. While the majority of data contained in the O*NET database was based on occupational analyst ratings, occupational interest ratings were not part of the analyst rating project. Therefore, to complete the O*NET database, it was necessary to obtain information on occupational interest profiles. This paper summarizes the research and methods by which these occupational interest data were developed.

This report describes the development of Occupational Interest Profiles (OIPs), an application of Holland's (1997) RIASEC work environments, for the 1172 Occupational Units (OUs) included in O*NET. Each OIP consists of six numerical scores in invariant order (R-I-A-S-E-C) indicating how descriptive and characteristic the OU is for each of the work environments. The OIPs are unique in vocational assessment and classification research, being the first effort to create full, numerical profiles, covering all six RIASEC environments. The OIPs will offer the advantage of numerically coded profiles and allow the researcher or vocational counselor to select the degree of profile specificity. That is, one- to six-category profiles can easily be obtained by specifying a particular cutoff level for the numerical profile. These high-point profiles can be used by counselors and clients to determine which interests are truly descriptive of an occupation's environment. The OIPs for the OUs can be matched with most U.S. vocational interest scales, yielding a direct link to O*NET for clients, counselors, and researchers.

Two time-honored occupational classification methods--empirical (discriminant analysis) and judgment (expert ratings) were used in the development of the OIPs. The empirical method was applied to both DOT occupations and OUs, and the judgment method was applied only to OUs. The reliability, validity, and economy of the methods were compared. On all criteria examined, the judgment method did at least as well as or better than the empirical method. Foremost, the empirical method failed the crucial test of generating OIPs. Discriminant analysis was very efficient in classifying an occupation (or OU) into one RIASEC category (assigning a primary code), but provided little or no information for the other five categories. In contrast, the judgment method generated a reasonable distribution of values across the work environments. The final OIPs, therefore, were generated using the judgment method, and their high point codes were compared with the empirical classification.

Overall, this OU classification, being the first rational-based RIASEC classification, possesses several intrinsic advantages. It is simple, involving at most elementary statistical techniques. It is understandable and easily replicated, and not dependent upon any particular set of predictor variables. Finally, it is economical, costing little to revise or extend to new occupational units.

The report also recommends cutoff values to be applied to the OIPs for the development of high point codes for an OU. The cutoff value chosen for profile development in the present report resulted in one- to three-letter RIASEC profiles. In closing, a brief discussion of future research for the OU classification is provided.

Development of Occupational Interest Profiles (OIPs) for O*NET
Final Project Report

1. Background

The U.S. Department of Labor's (USDOL's) Office of Policy and Research has developed the Occupational Information Network (O*NET), a comprehensive system for collecting, organizing, describing, and disseminating data on occupational characteristics and worker attributes (see *O*NET Final Technical Report,* 1998). O*NET is the replacement for the *Dictionary of Occupational Titles* (*DOT*; U.S. Department of Labor, 1991b). O*NET includes the Content Model, a skills-based structure that serves as the framework for organizing the information describing the world of work presented within O*NET (see *Development of Prototype Occupational Information Network (O*NET) Content Model*, 1995). The Office of Policy and Research initiated several projects aimed at producing valid and reliable data covering a majority of the variables described in the O*NET Content Model. This report focuses on the effort to generate vocational interest information included in the Worker Characteristics domain of the model (see Figure 1). Inclusion of occupational interest information within O*NET will provide an important data set for career guidance and research. In December 1998, O*NET 98 was released, the first presentation of the O*NET data to the public. For more information, see O*NET 98 Viewer: User's Guide (U.S. Department of Labor, 1998).

It is important to note that the Office of Policy and Research has also initiated several projects to develop career exploration and development tools in an effort to create more complete, flexible services. The career exploration tools will link directly to O*NET. For example, the interest measure being developed will enable users to link their results directly to the interest information provided in O*NET. These materials will allow individuals to use a variety of assessment information about themselves (e.g., vocational interests, skills, work values, education and experience) to explore careers either individually, with a career counselor, or in a group. Career exploration materials being developed include:

1. The **O*NET Interest Profiler**, which measures six broad vocational interest areas that coincide with the RIASEC model (Holland, 1997).

2. The **O*NET Ability Profiler**, which measures nine different abilities directly linked to job performance.

3. The **O*NET Work Importance Profiler**, which allows individuals to identify values that are important to them.

Most of these tools will be available in both automated and paper formats to meet the needs of clients.

The widespread adoption of Holland's (1985, 1997) theory of vocational personalities and work environments in existing inventories and career guidance systems made the Holland environmental classification suitable for inclusion in the O*NET Content Model. Use of Holland's theory will also enable private developers of interest measures to link their tools to O*NET data. Holland's classification is an ideal method for linking an individual's interests to the occupations in O*NET. This report describes the development of Occupational Interest Profiles (OIPs), an application of Holland's (1997) RIASEC work environments, for the 1,172 Occupational Units (OUs) included in O*NET. [1]

2. Holland's Model of Personality Types and Work Environments

Holland (1985, 1997) proposed that there are six personality types and six work environments: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C), referred to collectively as RIASEC. He further proposed that structural relations among the types and environments are best represented by a circular order of R-I-A-S-E-C (often called the hexagonal model). Holland's structural hypothesis specifies that types or environments more proximate are more similar than types that are more distant. As documented by Borgen (1986), the impact of Holland's proposal has had far reaching effects on vocational interest assessment. With the merger of Holland's and Strong's systems (Campbell & Holland, 1972), for example, the Strong Interest Inventory (Hansen & Campbell, 1985) has developed scales to assess the RIASEC types and has used Holland's model to organize assessment results and interpretations. New interest inventories, such as the Career Decision-Making Interest Survey (Harrington & O'Shea, 1993) and Career Assessment Inventory (Johansson, 1986), are based on Holland's RIASEC model. Major vocational assessment programs including American College Testing Program (Swaney, 1995) and United States Employment Service (U.S. Department of Labor, 1979) have either explicit scales to assess RIASEC types or methods to convert interest scale scores to Holland's system. With such widespread acceptance of Holland's RIASEC model in the United States, it is not surprising that researchers and practitioners have adopted his model and measures internationally (Rounds & Tracey, 1996). From this discussion, it is evident that O*NET occupations should be linked to RIASEC constructs because such a link would allow most U.S. vocational assessment programs the possibility of matching users' interests to O*NET occupations.

[1] A total of 1,122 O*NET OUs are included in O*NET 98. However, an additional 50 OUs exist which cover "all other" categories of jobs. For potential use in the future, OIPs were also developed for these 50 OUs.

3. Purpose and Goals

The goal of this project was to develop Occupational Interest Profiles (OIPs) based on Holland's (1985, 1997) theory of work personality and work environments, for the 1,172 Occupational Units (OUs) included in O*NET. Each OIP consists of six numerical scores in invariant order (R-I-A-S-E-C), reflecting the likelihood that an occupation has a particular RIASEC environment.

There are several advantages to this type of profile over categorical profiles such as three-letter codes in rank order used by Gottfredson and Holland (1996) and other occupational classifications such as American College Testing (Swaney, 1995) and the Career Decision-Making System (Harrington & O'Shea, 1993):

1. The numerical profile facilitates comparison with individuals' measured interest profiles when used in a computerized career-exploration system. Numerical profiles allow for the assessment of the degree of fit between the person and occupations.
2. The numerical profile can easily be converted into a categorical code. This is very important for manual career exploration systems, where focus is placed on the primary and secondary RIASEC codes so that the profile is manageable for the client.
3. The numerical profile allows for an adaptable system. For example, if subsequent data collection and research warrant a modification of cut-off scores used to define person-occupation similarity or to define classification into a RIASEC category, changes can be made quickly and accurately with a numeric system.
4. Numerical scores contain more information than categorical profiles and, therefore, are the preferred starting point for research studies (one major purpose of O*NET).

4. Methods of Developing OIPs Based on RIASEC Categories

Many researchers have classified occupations according to Holland's RIASEC model. Two methods have typically been used to assign RIASEC categories to occupations: A) the incumbent method, and B) the empirical method. A third method (judgment) has been used to augment the other methods. The methods themselves are not unique to vocational interest classification. They have been used with a variety of vocational constructs to develop occupational classifications (e.g., work values and occupational reinforcers--Minnesota Occupational Classification System; Dawis & Lofquist, 1984).

4.1. Incumbent Method

The incumbent method, championed by Holland (1997) in the early years and currently the preferred method for the Strong Interest Inventory (Harmon, Hansen, Borgen & Hammer, 1994), uses employees' RIASEC interest scores to code occupations. This method is closely tied to Holland's idea that the people in the environment are the environment. Essentially, the incumbent method involves administering a RIASEC measure to a representative sample of workers in an occupation, calculating mean

RIASEC scores, and assigning high-point codes, usually three letter codes, to the occupation based on these average RIASEC scores. The assignment of a three-letter Holland code to an occupation proceeds as follows: the RIASEC category with the highest score determines the first letter, the second highest score determines the second letter, and the third highest score determines the third letter. Another variation on this method is to assign RIASEC categories to occupational choices or aspirations in lieu of occupations, a method used by the American College Testing (Swaney, 1995). Holland (1997) believes that the RIASEC codes from the incumbent method are the criterion against which to judge other methods for assigning RIASEC codes to occupations.

If the goal is a comprehensive classification that includes all U.S. occupations, the incumbent method has drawbacks. One major disadvantage is the expense of collecting RIASEC data for large representative samples of employed adults. It becomes impractical to extend the Holland's occupation classification beyond several hundred occupations. To remedy this limitation, Gottfredson and Holland (Gottfredson, Holland & Ogawa, 1982; Gottfredson & Holland, 1989, 1996) used an empirical method to extend the RIASEC classification to all U.S. occupations.

4.2. Empirical Method

The empirical method uses occupational analysis data to assign RIASEC codes to a set of occupations. In 1982, Holland extended his classification to all *DOT* occupations. A discriminant function analysis was used to develop classification equations using DOL occupational analysis data on a developmental sample of *DOT* occupations that had been previously assigned single high-point RIASEC codes. These equations were then applied to the remaining *DOT* occupations to estimate the probability that each of the occupations belonged to each Holland category. Finally, each occupation in the *DOT* was assigned a three-letter Holland code by using the RIASEC category with the highest classificatory function scores to determine the first letter, the second highest function score to determine the second letter, and the third highest function score to determine the third letter. The resulting classification of all *DOT* occupations formed the first edition of the *Dictionary of Holland Occupational Codes* (*DHOC*; Gottfredson, Holland & Ogawa, 1982).

Although this empirical method achieved the goal of creating a comprehensive occupational classification, Gottfredson and Holland (1996) report that there are some limitations. Foremost, the ordering of RIASEC codes beyond the first letter may be arbitrary because some occupations have a strong resemblance only to one RIASEC environment and not to other environments. Furthermore, they report that the empirical procedures used to develop the classification may lead to arbitrary assignment of codes beyond the first letter, leading to less confidence in the ordering of the second- and third-letter RIASEC codes. Finally, they note that the occupational analysis data used to generate the *DHOC* is dated and sometimes unreliable, and for some occupations incomplete.

4.3. Judgment Method

The judgment method relies upon the direct rating of occupations by trained judges. That is, judges consider a description of each occupation and select the most appropriate RIASEC ordering for each. They may rate the appropriateness of each RIASEC category for each occupation, or perform some similar judgment task that yields an ordered code. The judgment method has been used to amend empirically developed RIASEC classifications. For example, Gottfredson and Holland (1996) used judgment ratings to obtain occupational profiles in those cases where the empirically derived profile was of questionable validity. Judgments also have been used to resolve cases where no clear RIASEC occupational code is available from empirical evidence (U.S. Department of Defense, 1994). Surprisingly, direct rating has not been used as a primary method of coding occupations.

5. Development of Occupational Interest Profiles (OIPs)

The present study used empirical and judgmental methods to assign numerical RIASEC profiles to O*NET occupations. Two approaches were used with the empirical method. The first approach (called the *DOT*-to-OU method), similar to Gottfredson and Holland's (1996) research on the *DHOC*, started with RIASEC coding of 12,748 *DOT* occupations using DOL occupational analysis data. (Note: These data were distinct from the DOL O*NET data to be discussed presently.) The *DOT* occupations were then linked by a crosswalk to their respective Occupational Units. Finally, average RIASEC profiles were computed for each OU.

The second empirical approach (called the empirical OU method) started with the Occupational Units and developed numerical RIASEC profiles for the Occupational Units using the Construct Ratings for 1,122 Occupational Units (1997). This method circumvents several limitations of the *DOT*-to-OU method: it uses recent occupational information collected on the OUs, rather than the *DOT* occupational analysis information and it begins directly with the focus of the study--the OU rather than translating the *DOT* occupations to OUs, thus avoiding the error associated with averaging values and collapsing occupations into units.

It was anticipated, however, that both of the empirical methods of developing occupational interest profiles for OUs might not accomplish the goal of producing a numerical profile for the RIASEC categories. Both methods use an empirical classification analysis--discriminant functions--to produce probabilities of group membership for each of the RIASEC categories. A primary goal of this statistical procedure is to identify the single group to which an object belongs (Pedhazur, 1982, p. 695). Therefore, it is very possible for the classification algorithm to yield substantial probabilities for only one category, rather than for the multiple categories needed to develop a numerical profile.

In order to avoid the possible limitations of the empirical approaches, an additional approach called the judgment OU method was used to generate numerical profiles. For this method, expert judges rated the OUs on how descriptive and characteristic they

were of each of the six RIASEC work environments. The judgment method was a feasible option for developing OIPs due to the much smaller number of OUs compared to the number of *DOT* occupations.

The following sections will describe in detail the three methods used to develop OIPs.

5.1. *DOT*-to-OU Classification

The purpose of the *DOT*-to-OU classification was to develop Occupational Interest Profiles (OIPs) for each of the 1,172 Occupational Units (OUs) using average *DOT* profile information. This method involved a discriminant analysis to determine (for each *DOT* occupation) the posterior probability associated with each of the six RIASEC categories. A posterior probability is the post-classification probability that, in this case, a particular occupation belongs to a particular classification category. A discriminant analysis is a statistical procedure whereby a smaller group of units (e.g., occupations) with known classification status can be used to classify a larger group of units (e.g., occupations) whose classification status is unknown.

Once posterior probabilities were obtained through the discriminant analysis, the *DOT* occupations were grouped into respective OUs by a crosswalk. Then, within each OU, the mean posterior probabilities were calculated. The order and magnitude of the posterior probabilities determined the specific OIP for each OU.

5.1.1 Formulating the Developmental Sample

The developmental sample was formulated by having three raters independently judge which one of the six Holland categories most appropriately characterized the work environment for each of 2,796 occupations, as well as provide a confidence judgment on a one-to-seven scale for each of these classifications. The goal of the developmental sample was to select a minimum of 150 occupations that were strong representatives of each RIASEC category. A criterion of 150 occupations per RIASEC category was designated as a lower bound for several reasons. First, from a practical point of view, the criterion was set at a level that could be achieved for the Artistic category, which had the fewest occupations in the *DOT*. Second, 150 occupations were judged to be sufficient for the statistical analyses to be conducted, allowing for accurate estimates of classification weights. The initial ratings were done on all 2,796 occupations included in the *Enhanced Guide to Occupational Exploration* (*EGOE*; Maze & Mayall, 1995). These occupations were a subset of the more than 12,000 occupations listed in the *Dictionary of Occupational Titles* (*DOT*; U.S. Department of Labor, 1991b). The *EGOE* is an expanded version of the Guide to Occupational Exploration (U.S. Department of Labor, 1979). The *EGOE* purports to cover occupations that are held by 95% of the U.S. workforce.

Raters underwent an extensive training to ensure familiarity with, and facility in using, the Holland coding scheme. After an overview of the project background and goals, training materials were reviewed and each rater prepared a summary of one of the RIASEC codes. These were discussed until the group reached a clear consensus on

the definitions of the Holland RIASEC codes. Raters then individually identified the first-letter high-point code for a list of 30 occupations from the *EGOE*. These ratings were compared and differences discussed. After raters reported confidence in their ability to rate occupations consistently, they were trained on the coding tasks.

The coding-task training for the ratings of the *DOT* was carried out in the following manner. Six raters formed three groups of three raters each, two of the raters belonging to two groups. Each group was assigned the occupations on every third page of the *EGOE*, with Group 1 beginning on page 30 (the beginning of the occupational descriptions), Group 2 on page 31, and Group 3 on page 32, yielding a total of approximately 933 occupations per group. For each assigned occupation, each rater indicated the RIASEC code judged most appropriate along with a confidence rating.

The accuracy of the initial subsets of *EGOE* ratings was checked. A Delphi procedure was employed in which the raters discussed among themselves the rationale for assigning a Holland category to each occupation. After discussion, raters then re-rated the occupations. This procedure was conducted at two points: 1) after the raters had rated the first 100 occupations, and 2) after raters had completed the second 100 occupations. Agreement rates reported for the first 100 ratings were: Group 1, 72%; Group 2, 92%; Group 3, 80%. For Groups 2 and 3, these rates reflected agreement after discussion; they did not report pre-discussion inter-rater agreement, and as a result, all three teams met again after their second 100 ratings. The reported initial agreement rates for the second 100 ratings were: Group 1 = 71%; Group 2 = 62%; Group 3 = 54%. After discussion, agreement rates increased to: Group 1 = 94%; Group 2 = 85%; Group 3 = 89%. Only the initial ratings (before discussion) were entered into the database for both the first and second hundred ratings. All three groups reported that the high rates of disagreement were due to the difficulty in distinguishing between Investigative and Realistic for engineering occupations. After the remainder of the 2,796 occupations were assigned RIASEC codes and confidence levels, the ratings were entered into the data base.

Tabulating the data revealed that three of three raters agreed on 2148 out of a total of 2,796 occupations, a 76.82% agreement rate. Two of three raters agreed on an additional 587 occupations, a 97.81% agreement rate. There was no agreement on 51 occupations.

Occupations were retained for the developmental sample when all three raters agreed on the appropriate classification at a confidence rating of four or greater. Table 1 provides a breakdown of these agreement frequencies by RIASEC category. Upon preliminary tabulation of the *EGOE* ratings, the criterion of 150 per RIASEC category had not been met for the Social and Artistic categories. In addition, the Investigative category (N = 146) was judged sufficiently close to not be problematic.

To meet the criterion level for the Artistic and Social categories, two steps were taken. First, three new raters independently re-rated the occupations that two of three original raters had agreed upon (Artistic, N = 13; Social, N = 63; see Table 2). Occupations that all three of the new raters agreed upon were then included in the sample. Second, one of the three raters searched the *DOT* for additional Artistic and Social occupations not listed in the *EGOE*. The two other raters then independently rated these occupations.

Those occupations with a three-out-of-three agreement level were added to the sample. As a result of these procedures, the frequencies for the Artistic and Social categories increased to 138 and 155, respectively.

As the final step in formulating the developmental sample, the Project Director reviewed all the *EGOE* occupations and deleted occupations that were not prototypical of the RIASEC category. These included 31 Realistic and 4 Investigative occupations. Table 3 shows the distribution of occupations by RIASEC category for the final developmental sample. The majority of coded *EGOE* occupations were judged to be Realistic.

5.1.2 Development of Classification Functions

The final developmental sample contained occupations assigned to one of the six Holland categories. The sample, therefore, was suitable for generating functions that could serve to classify the "unjudged" occupations (as well as those already judged) using the predictor variables common to all the occupations.

The full sample of occupations (N = 12,748) to be classified initially contained 67 predictor variables (U.S. Department of Labor, 1991b) within the following variable classes: worker functions, general educational development, aptitudes, temperaments, *GOE* codes, physical demands, and environmental conditions. A stepwise discriminant variable selection procedure was carried out on this set of variables to identify a smaller predictor set. The stepwise selection procedure considers the relative contribution of each variable with respect to overall discriminatory power of the model (as measured by Wilks' Lambda). The analysis was carried out using equal prior probabilities for each of the six classification categories—that is, the relative differences in sample sizes for each Holland category in the developmental sample were specified not to influence the probability of classification for the occupations. Based on the following observations, a decision was made to use the first seven identified stepwise variables.

- First, it is important to consider the classification error rate, which is the proportion of occupations in the developmental sample misclassified in a particular discriminant analysis. The first seven variables provided a parsimonious and easily interpretable model with an overall rate of error equal to .21. (That is, 21% of the occupations from the development sample were misclassified by the discriminant function). The error rate did not substantially improve with an increased number of stepwise-selected variables.

- Another important consideration was that the values of the average squared canonical correlation did not substantially increase with an increase in the number of predictor variables. The average squared canonical correlation is a measure indicating the degree of separation between categories in a discriminant analysis. Values of the average squared canonical correlation that are close to one indicate a high (and desirable) degree of separation among the occupational categories.

- Finally, substantive concerns were taken into account. In particular, the first seven variables formed a natural grouping in that six of the variables were *GOE* variables.

As shown in Table 4, seven variables were selected as predictors for the linear discriminant analysis:

1. *GOE* business detail
2. *GOE* artistic
3. verbal aptitude
4. *GOE* humanitarian
5. *GOE* scientific
6. *GOE* selling
7. *GOE* leading-influencing.

Table 5 shows the cross-classification error rates for the discriminant analysis of the *DOT* occupations. This table indicates how well the discriminant function classified the developmental sample. Entries along the diagonal represent frequencies of developmental sample occupations correctly classified by the function. An occupation is considered correctly classified when the category predicted by the discriminant function matches that occupation's developmental sample category. Entries in the off-diagonal portions of the table indicate frequencies of occupations incorrectly classified by the function. The bottom row of the table indicates the classification error rate—that is, the proportion of occupations in each Holland category that were misclassified by the function. In this analysis, the overall error rate and the error rates for the Investigative and the Social categories raised concerns about the assignment of the occupations to the RIASEC classifications. These error rates indicated that the available variables poorly discriminated between Investigative and Realistic categories and between Social and Enterprising categories.

5.1.3 Development of OIPs

The first step in the development of OIPs was to examine the set of six posterior probability values for each *DOT* occupation that resulted from the discriminant analysis. These posterior probabilities were values between zero and one, where values closer to one indicated a higher post-classification probability of membership in a particular RIASEC category. To link the occupations to Occupational Units, an O*NET *DOT*-to-OU crosswalk database was used (*Dictionary of Occupational Titles to Occupational*

Units Crosswalk; O*NET, 1996). The crosswalk contained 12,798 occupations that were linked to 1,169 OUs. Three OUs did not have *DOT* occupations linked to them. Once the *DOT* occupations had been grouped into OUs using the crosswalk, the mean posterior probabilities across RIASEC categories were computed for each OU (using the posterior probabilities previously derived for each occupation). Each OU then contained six mean probabilities—one for each of the RIASEC categories. These probabilities determined the specific high-point Holland profile for a particular OU.

Specifically, the largest probability was associated with the first-letter code, the second largest with the second-letter code, and so forth. Using the *DOT*-to-OU classification, two distinct profiles resulted for each OU: 1) a specific Occupational Interest Profile (OIP) containing mean posterior probabilities for each associated RIASEC category and 2) an ordered, RIASEC high-point coded profile.

When posterior probabilities had been obtained for the OUs using the *DOT*-to-OU method, an anticipated problem arose: A large proportion of the OUs exhibited extreme (either very high or very low) posterior probability values. With this method, the highest posterior probability (associated with one of the six RIASEC categories) in over 79% of the OUs was greater than .99, leaving a probability of .01 or less to be apportioned to the remaining categories. For a detailed breakdown of the percentages associated with the first-letter code see the first two columns of Table 6. Moreover, extremely low (and homogenous) probabilities were typically seen in the second through sixth profile positions of any particular OU, which raised reliability and validity concerns with that portion of the profile. This was particularly evident with Realistic occupations. In this case, the probabilities associated with categories other than Realistic were typically near-zero values. It was still possible to construct high-point profiles for all of the OUs, but the reliability and validity of the second through sixth Holland categories in the ordered profiles remained suspect.

5.1.4 Summary of the *DOT*-to-OU Method

In summary, the *DOT*-to-OU method produced Occupational Interest Profiles with classification error rates within the Investigative and Social categories that were unacceptably high. The OIPs were also found to be unreliable beyond the first-letter code. These results suggest that the *DOT*-to-OU OIPs may be unacceptable for counseling and research purposes in O*NET.

5.2. Empirical OU Classification

The second method of assigning Holland profiles to OUs--the empirical OU method--applied discriminant analysis to the Occupational Units directly. As in the *DOT*-to-OU method, the discriminant analysis was used to obtain posterior probabilities for the RIASEC categories for each OU. However, in this case the developmental sample and the units to be classified consisted of OUs rather than *DOT* occupations, so no crosswalk linkage or averaging was necessary.

5.2.1 Formulating the Development Sample

The developmental sample was derived from judgments made by three raters on the 1,172 OUs. Raters selected the Holland category they felt best described the work environment for each OU (as in the *DOT*-to-OU method), and also gave a confidence rating (on a one-to-seven scale) to each judgment. A criterion of 50 OUs per RIASEC category was decided upon. A Delphi procedure was again used to facilitate consistency in the ratings of the OUs. After tabulating the data, it was found that all three raters agreed on the most appropriate RIASEC category for 835 of the 1,172 Occupational Units, an agreement rate of 71.25%. Two of three raters agreed on an additional 297 OUs, an agreement rate of 96.59%. There was no inter-rater agreement on 40 OUs. Tables 7 and 8 show rater agreement frequencies for the occupations.

After preliminary tabulation, it was found that when using a confidence rating of four or greater, the Artistic and Social categories did not meet the criterion level of N = 50. Consequently, three raters performed a Delphi procedure using occupations on which two of three had agreed. In this procedure, each OU was reviewed and discussed. Each rater then independently re-rated the OU. Those OUs agreed upon by all three raters were added to the developmental sample. The final distribution of RIASEC OUs is as shown in Table 9.

5.2.2. Development of Classification Functions

The developmental sample, then, consisted of 828 Occupational Units, each with an associated RIASEC category. The full sample of OUs to be classified with discriminant functions consisted of 1,122 OUs containing measurements on 232 O*NET variables (Construct Ratings for 1,122 Occupational Units; O*NET, 1997). Fifty of the OUs, the "all other" groupings, did not have construct rating information and, therefore, were not included in the analysis. The O*NET variables came from the O*NET Content Model Analyst Database. The database contains information on the following domains and sub-domains: worker characteristics (abilities), worker requirements (basic skills, knowledges), occupational requirements (generalized work activities, work context). For a detailed description of the full O*NET content model, see *Development of Prototype Occupational Information Network (O*NET) Content Model* (Peterson, et. al., 1995).

As in the *DOT*-to-OU method, a stepwise variable selection routine was implemented to help identify a subset of variables for use in the discriminant analysis. This analysis, like the previous analysis, was carried out using equal prior probabilities. Table 10 shows the results from the stepwise variable selection for the first 25 steps. The complete set of stepwise-selected variables is shown in Appendix F. Inspection of the classification error rates using various numbers of the stepwise-selected variables, along with the incremental increase in the average squared canonical correlation, indicated that the first eight stepwise variables provided a nice balance of predictive accuracy and parsimony:

1. Interpret meaning of information for others

2. Therapy and counseling
3. Negotiation
4. Clerical
5. Fine arts
6. Science
7. Equipment and maintenance
8. Staffing organizational units.

Table 11 shows the cross-classification results from the discriminant analysis using these eight selected predictor variables. The diagonal elements of the table represent those OUs from the developmental sample that were correctly classified by the function, while the off-diagonal elements represent those occupations whose discriminant classification status differed from the developmental classification. Classification error rates for each Holland category are indicated in the bottom row of the table. In comparison to the *DOT*-to-OU method, the overall classification error rate for the empirical OU method was markedly lower (error rate = .09). In addition, the error rates for the individual RIASEC categories were uniformly low. The error rate for the Enterprising category, however, was slightly higher (error rate = .16) than the error rate for the other classes.

5.2.3. Development of OIPs

Once the posterior probabilities were obtained with the discriminant analysis, a high-point profile was constructed for each OU based on the ordered position of the RIASEC code associated with each probability. As with the *DOT*-to-OU method, two sets of profiles were constructed--one consisting of posterior probabilities and the second consisting of an ordered RIASEC code.

When the posterior probabilities for the empirical OU method were examined, extreme values were again encountered (as had occurred with the *DOT*-to-OU classification). Here, over 79% of the OUs exhibited a maximum posterior probability that was greater than .95, and the remaining probabilities for each OU remained uniformly low (near zero; see the third and fourth columns of Table 6 for a detailed breakdown of the percentages associated with the first-letter code). High-point profiles were constructed, but the extreme probability values raised the same reliability and validity concerns as reported for the *DOT*-to-OU classification.

5.1.4. Summary of Empirical OU Method

In summary, the empirical OU method had a low classification error rate, supporting the validity of the Occupational Interest Profiles. The empirical OU method was also much more economical (less time intensive to develop) than the *DOT*-to-OU method. Nevertheless, second- through sixth-position probability values for the Occupational Interest Profiles were too low to allow confidence in the ordering of the associated RIASEC categories. Since the probability values for five of six RIASEC categories were effectively zero, the information yielded from the empirical OU method is insufficient for developing the profiles desired for counseling and research purposes.

5.3. Judgment OU Classification

The third method for obtaining OU profiles--the judgment OU method--involved three trained raters who made judgments on the entire set of 1,172 Occupational Units. The raters judged the appropriateness of each Holland category for each OU. The mean rating across the three judges was then obtained for each of the six Holland categories for each OU. To facilitate comparison with the preceding methods, for which the obtained posterior probabilities were values between zero and one, the mean ratings were standardized by converting to proportions (which also range in value from zero to one). High-point Holland category profiles were obtained in a manner analogous to the previous methods, with the category associated with the highest proportion assigned to the first-letter code, the category associated with the second-highest proportion assigned to the second-position code, and so forth.

5.3.1. Development of Ratings

The instructions for the judges and the rating scale were as follows:

"Rate the Occupational Units on each of the RIASEC work environments using the following seven point scale. Ask yourself, 'How descriptive and characteristic is the Holland work environment of this Occupational Unit?'"

Not at all characteristic			Moderately characteristic			Extremely characteristic
1	2	3	4	5	6	7

Because this method relied exclusively on rating information, the degree to which the three raters agreed with each other was very important. To assess the degree of inter-rater agreement, rater-by-rater cross-classification tables were constructed using the obtained raw ratings. For each pair of raters, a separate cross-classification table was constructed for each of the six Holland categories. A sample cross-classification table illustrating the outcomes for the Investigative category as rated by rater 1 and rater 2 is shown in Table 12. Goodman-Kruskal's Gamma (Goodman & Kruskal, 1954) was computed for each of the 18 tables as a measure of inter-rater agreement that considers the proportion of concordant to discordant judgments. The mean values for Gamma are indicated in Table 13. Note that the overall mean value for Gamma was quite high (Gamma = .81), indicating a high degree of reliability in the ratings of the three judges.

5.3.2. Development of OIPs

The obtained mean RIASEC ratings were converted into proportions. Each mean rating was divided by the sum total of the ratings per OU, so ratings standardized to a sum of 1.00 across RIASEC categories. Once mean rating proportions were obtained, the development of profiles was initiated. First, the presence of tied mean-rating proportions within any particular OU needed to be eliminated. Tied ratings would present a problem because the final ordered profiles were to be dependent upon the

rank order of the obtained mean proportions. Ties within the first two positions (or three-way ties among the first three positions) were dealt with in a rational manner, with an expert judge (Project Director) making a decision as to the ordering of the tied categories. When ties occurred that did not involve the first position (e.g., second/third position ties, third/fourth position ties), they were resolved by ordering the tied categories in accordance with the Holland hexagonal model, always with respect to the first position category. For example, if the first (untied) category in a profile was Investigative, then the categories Realistic and Artistic would receive precedence if involved in a tie with other categories, because they are situated closer to the Investigative category in the Holland schema. If categories involved in a tie were equidistant from the first-letter code (e.g., if Artistic and Investigative were tied in the above scenario), then ties were resolved randomly. Using this set of rules, all ties were effectively eliminated.

As in the previous two methods, two sets of profiles were developed: 1) a specific Occupational Interest Profile (OIP) containing mean rating proportions for each associated RIASEC category, and 2) an ordered, RIASEC high-point profile. For the final version of the ordered RIASEC ranking, an ordered code consisting of only the most highly relevant RIASEC categories was desired. This would result in a concise yet descriptive profile for each OU. It was decided that only those code positions whose mean rating proportion was greater than .17 would be retained in the profile. This resulted in all profiles having three (or fewer) RIASEC categories, and at least a single Holland category. All 1,172 truncated profiles were then submitted to an expert reviewer (Project Director) for final screening. The reviewer approved all but six of the profiles. The six profiles that did not pass the screening were revised in accordance with the reviewer's judgment. These changes in high-point codes were: 21911J Financial Examiners from ES to EC, 32911 Medical Records Technicians from CR to C, 34002F Programming and Script Editors and Coordinators from EA to AE, 34002G Book Editors from AE (tied) to AE, 34058L Umpires, Referees, and Other Sports Officials from RCE to ESR, and 55328A Statistical Data Clerks from CE to C. In Appendix E, these six OUs with revised high-point codes are indicated by an asterisk following the OU. For a more detailed discussion of high-point codes, see section 8.2, Recommendations for Cutoff Values.

As shown in Table 14, the rating proportions that resulted from this method were much less extreme than the posterior probabilities obtained with either of the two preceding methods. The mean value for the highest average rating proportion was .31. Mean profile proportions for the remaining five positions were non-zero and non-homogenous, with the smallest mean proportion (in the sixth position) equal to .093.

5.3.3. Summary of Judgment OU Method

In summary, the judgment OU method led to Occupational Interest Profiles with rated proportions that were nontrivial and were distributed across the RIASEC categories. These OIPs, the first full profiles of Holland environmental categories, have the potential to be useful for both counseling and research purposes.

6. Comparison of OIP Classification Methods

To assess the three OIP classification methods, a wide variety of descriptive and comparative tasks were carried out. The mean and variation of the posterior probability (or proportion) values across OUs were computed and the results from each method compared. The distributions of the first-position probability or proportion values were also examined and compared. First-letter RIASEC codes were compared by cross-classifying each pair of methods and computing Cohen's Kappa (a measure of agreement between methods). Finally, external validity of each of the methods was assessed by comparing the obtained first-letter codes with two existing sets of profiles.

6.1. Comparison of Probabilities/Proportions Averaged over OUs

When the posterior probability levels for the two discriminant analysis methods were compared to the mean rating proportions for the judgment OU method, it was clear that the values obtained using the latter method were much less extreme. The two discriminant methods had mean first-position profile probabilities of nearly .95, while the judgment OU method exhibited a mean proportion of .31 for the same position. Also, mean profile proportions for the remaining five positions using the judgment OU method were (within particular OUs) much more evenly allocated. None of the means for these remaining positions approached zero. Table 14 shows the means and standard deviations for each profile position using each of the three outlined methods. Again, the larger mean proportions observed in the second through sixth position of the judgment OU method, relative to the other two methods, suggest that this method may lead to more reliable and valid profiles.

6.2. Distributional Comparison of First-Position Probabilities/Proportions

To compare the values obtained for the first-position probabilities and proportions, distributions of these values were examined. Table 6 contains distributional information for each of the three methods of determining profiles. Comparing the two discriminant analysis methods to the judgment OU method, over 85% of the first-position posterior probabilities using the discriminant methods are greater than .80, but this is true for none of the judgment OU proportions. With the judgment OU method, about 85% of the OUs have first-position probabilities between .25 and .40. Table 15 shows, for each method, the distribution of the first-position code across RIASEC categories. Overall, the distributions appear to be quite similar, with some distinction occurring in the judgment OU method identifying fewer Artistic OUs than either discriminant method, and more Conventional and Social OUs.

6.3. Cross-Classification of Methods

Cross-classification tables and values for Cohen's Kappa (Cohen, 1960) were also examined to assess the degree of agreement between each pair of methods with respect to the first-letter code (see Tables 16, 17, and 18). Cohen's Kappa is a measure of agreement between method pairs that involve unordered categories, with higher values indicating a higher level of agreement, and values above .70 considered acceptable. When the values of Kappa were compared, the highest degree of

agreement was between the judgment OU and the empirical OU methods (Kappa = .72). The degree of agreement between the judgment OU and *DOT*-to-OU methods, as well as between the *DOT*-to-OU and empirical OU methods was lower, with Kappa equal to .59 and .57, respectively. These results indicate that the *DOT*-to-OU method yields a much different ordering of the RIASEC categories than the empirical OU method and the judgment OU method.

6.4. External Validity

To assess external validity for the three methods, the level of agreement between the profiles from each method and each of two existing sets of profiles was compared. A representative sample of 36 OUs (six from each Holland category) was chosen, and to facilitate the comparison, the Iachan Agreement Index (Iachan, 1984a, 1984b) was computed using the first three letters of the ordered high-point code. The Iachan index uses a point system to weight particular match types between two ordered profiles. It can vary in value from zero to 28, with larger values of the index indicating a high degree of concordance between the two sets of profiles. For example, two ordered profiles with no elements in common would receive a score of zero on the index, two profiles with the same elements (but ordered distinctly) would receive a higher index score (e.g.,16), and two profiles with all elements in common and in identical order would receive the highest possible value of the index (i.e., 28). All combinations of presence and order are considered in computation of the index. The weightings that contribute to the index are shown in Table 19.

Table 20 shows the mean and standard deviations for the Iachan Agreement Index when each of the three profile development methods was compared with 1) the Office of Employment Statistics (OES) Holland coded profiles (Gottfredson & Holland, 1996), and 2) the Strong Interest Inventory profiles (Harmon, Hansen, Borgen & Hammer, 1994). The mean agreement values for the judgment OU method are fairly strong (and the highest of the three methods). This provides evidence supporting the convergence of judgment and incumbent approaches to developing interest classifications.

As an additional check on the external validity of the three classification methods, the three-letter profiles that resulted from the ordered posterior probabilities or proportions were compared with the profiles of the OES. Note that the OES categorizes its units slightly differently, so a one-to-one unit matching was not possible. Instead, those OUs that did not share a corresponding OES code were not considered in the comparison, and, likewise, those OES units without a corresponding OU were omitted. It was found that, when comparing the revised judgment OU codes to those of the OES, 83.3% paired units matched on the first-letter code, 26.8% matched on both first- and second-letter codes, and 12.5% matched on all three positions. When the *DOT*-to-OU method was compared to the OES, 73.5% of the unit pairs matched on the first-letter code, 18.6% matched on the first and second letters, and 5.7% matched on all three positions. Likewise, when the empirical OU method was compared to the OES, 78.6%

of the paired units matched on the first-letter code, 23.9% matched on the first and second letters, and 11.9% matched on all three positions. Overall, this comparison indicated that the judgment OIP fit the Holland OES slightly better than the empirical methods.

6.5. First-Letter Code Check of Judgment OIPs

Before evaluating the structural validity of this OU classification, the empirical OU classification information was used to check the first-letter code of judgment OIPs. Although the discriminant analyses used in the empirical methods generated profiles of questionable overall reliability, they did perform very well with respect to classification of the first-letter (primary) code of the OUs. Recall that the overall classification error rate for the empirical OU method was .09. Therefore, a decision was made to compare the first-letter codes of the profiles attained by the judgment OU to those attained by the empirical OU classification. A total of 241 OUs differed on their first-letter code. The occupations were then re-rated by the three judgment OU raters by means of a Delphi procedure, whereby the entire high-point coding for each discrepant profile was discussed, then independently re-rated by each of the three raters. Mean rating proportions across raters were again computed, and these values supplanted the existing proportions for these particular OUs in the judgment OU data. Ordered high-point RIASEC profiles were recomputed using these revised proportions (with ties resolved in the same manner as previously described). Appendix B shows the raw ratings from which the proportions were based. Appendix C shows the raw ratings averaged over raters. Appendix D shows the mean rating proportions, and Appendix E shows the derived high-point Holland code based on the .17 cutoff. For titles of the OUs, see Appendix A.

7. Structural Validity Evidence for Judgment OU Classification

An important step in the development of the OIPs was to examine the structural validity evidence for the judgment OU classification. That is, it was important to assess the degree to which the obtained results were in accordance with the Holland theoretical model. To do this, several geometric models were fit to the OU data.

7.1. Multidimensional Scaling

Multidimensional scaling (MDS) allows one to view categories (as represented in data) as a spatial configuration, where distances between the categories in the representation correspond to perceived psychological distances. The Holland model proposes that distances between the RIASEC categories can be geometrically represented by a hexagonal structure, with each category occupying a single vertex, and with the categories exhibiting RIASEC ordering.

To carry out the scaling of the judgment OU data, the proportions were first re-expressed as a square matrix of inter-category Euclidean distances, with row and column headings of the matrix representing the RIASEC categories. Next, a non-metric multidimensional scaling model was fit to this matrix. A monotonic (rank-order preserving) transformation of the data was used. The obtained spatial configuration in

two dimensions is shown in Figure 2. Here, the six categories form a circular configuration whose order roughly accords with the Holland model. Note that the Realistic category pulls slightly away from the other five Holland categories. Two-dimensional MDS models were also fit to the *DOT*-to-OU and empirical OU data. The obtained two-dimensional configurations are shown in Figures 3 and 4. The two-dimensional configurations for the empirical methods are less clearly interpretable in terms of the Holland circular-order model than is the judgment OU method configuration. In fact, Holland's model does not fit either of these scaling configurations.

7.2. Randomization Test for Circular Structure

To investigate whether a circular model might be appropriate for the OU data, a more exact hypothesis test was carried out, proposed by Hubert, Golledge & Costanzo (1981) and Hubert, Gollege, Costanzo & Gale (1985), using the matrix of Euclidean distances computed from the proportion data, and where the matrix rows and columns were ordered in accordance with Holland's theory (i.e., the RIASEC ordering). This method allowed for a test of whether the distance matrix could be considered to have circular structure by comparing the ordered data matrix (Table 21) to a chosen matrix known to exhibit circular structure (Table 22). The null hypothesis tested was that the ordered matrix was merely a random permutation of the distance matrix entries and did not exhibit a specific, in this case, circular structure. The null-hypothesis of non-circular structure was rejected with the judgment OU data ($\underline{p} < .005$). However, the null hypothesis could not be rejected using the *DOT*-to-OU method or the empirical OU method data ($\underline{p} < .16$ and $\underline{p} < .25$, respectively). These results suggest that a circular structure might well be appropriate for the judgment OU data, but is probably not appropriate for the *DOT*-to-OU or empirical OU data.

7.3. Circular Scaling

Hubert, Arabie, and Meulman (1997) also propose a method of fitting a circular structure to data by an algorithm that involves optimal permutations and successive averaging. With this circular modeling, distances between the scaled objects are represented as distances along the arc of a circular structure. When the model was fit to the judgment OU matrix of inter-category Euclidean distances, it accounted for 97.2% of the data variance—a very good fit.

7.4. K-Means Clustering

As a final check on the theoretical validity of the judgment OU classification, a k-means cluster analysis was carried out on the (standardized) judgment OU proportion data. This clustering algorithm seeks a partitioning of the OUs to maximize the ratio of between-groups to within-groups variability for any chosen number of clusters, k. K-means clustering also provides a descriptive profile for each of the resulting clusters. Initially, k = 2 clusters were chosen to explore the structure of the OUs. The two clusters here separate into "Realistic, non-Social" OUs versus "Social, non-Realistic" OUs, as indicated by the k-means cluster profile plots in Figure 5. When k = 6 clusters

were chosen, the resulting six profiles, as shown in Figure 6, are easily identifiable as the six distinct RIASEC categories.

7.5. Summary

The geometric models discussed above suggest that the data resulting from the judgment OU classification were indeed consistent with the geometric structure of the Holland theoretical model, strongly supporting the validity of this classification.

8. Conclusion and Final Recommendations

8.1. Occupational Interest Profiles

The present report describes the development and evaluation of three RIASEC-based Occupational Unit classifications--*DOT*-to-OU classification, empirical OU classification, and judgment OU classification. Of these three OU classifications and methods of generating OIPs, the results of this study clearly indicate that the judgment OU classification is superior to the two empirical OU classifications for counseling and research purposes. Our conclusion is based on several observations.

First, the judgment OU classification, compared to the two empirical OU classifications, yields a reasonable set of numeric profile values for counseling and research. This is important because a primary goal of the project was to develop numerical profiles consisting of multiple Holland categories. Numerical OU profiles facilitate comparisons with clients' measured interest profiles and allow for an adaptable and manageable classification that can be readily converted into a variety of categorical systems.

Second, the judgment OU classification, compared to the two empirical OU classifications, provides a more reliable RIASEC profile, a vital characteristic of an occupational classification used in counseling and research. Classifying OUs into a single RIASEC category (which the extreme values of the empirical classifications provided) would offer little information of interest and would inadequately differentiate the OUs from one another. Also, with the empirical classifications, the homogeneous nature of the positions two through six in the OIP code (all values typically near zero) raised questions about the reliability and validity of the order of the Holland RIASEC category associated with those positions. In contrast, the proportion values resulting from the judgment OU classification exhibited a sufficient degree of heterogeneity (i.e., mean proportion values for each position were distinct enough to suggest they clearly belonged in different positions), so issues of reliability with respect to the resulting ordered profiles were much less of a concern relative to either of the empirical classifications.

Third, the judgment OU classification, compared to the two empirical OU classifications, provides a more valid representation of Holland's model. When matching interest profiles to occupational profiles for counseling and research purposes, it becomes important to demonstrate that occupational classification profiles have a similar structure compared to the interest profile data. A series of evaluations of the structural

properties of the OU classification data showed that Holland's RIASEC circular-order model has a good fit to the judgment OU classification data. Thus, the research evidence supports the structural validity of the judgment OU classification.

Finally, the judgment OU classification also possesses several intrinsic advantages. It is simple, involving at most elementary statistical techniques, and classification of the OUs was based upon direct judgment, rather than estimation based on a smaller set of direct judgments as in the empirical classifications. It is easily understandable and replicable, and independent of a particular set of predictor variables one has available. It also has an advantage over strictly ordinal classifications by providing a quantitative profile for each OU.

8.2. Recommendations for Cutoff Values

In the development of the OIPs, it was important that a mechanism was available for obtaining ordered codes with any chosen degree of descriptiveness, to more specifically suit the needs of users. Cutoff values for the mean proportion ratings were chosen as this mechanism. These cutoff values determined the number of Holland category
positions that would appear in any particular OIP, and were defined as the minimum allowable mean rating proportion for the RIASEC categories. That is, categories of an occupation that were associated with rating proportions lower than this cutoff level were not included in the profile of that occupation.

The proportion cutoff values for determining the number of Holland categories appearing in the ordered profile were determined by finding a value (in this case, a proportion equal to .17) that resulted in "reasonable distribution" of one-, two-, and three-letter codes. The primary advantage of the .17 cutoff is that it allows all six RIASEC categories the possibility of defining an OIP. It is entirely plausible, however, that a researcher or other user of the OIPs may desire some greater degree of OU descriptiveness—say, perhaps, a higher percentage of OUs exhibiting three-letter codes, or all of the OUs exhibiting a four-letter code. A greater degree of descriptiveness is easily attained by simply choosing a more lenient (smaller) cutoff value, or a cutoff value of zero if the full six-letter profile is desired.

With the application of a cutoff value, a variable high-point code system was generated. An assumption of the variable high-point coding system is that not all OUs are best described with a traditional three-letter code. A variable high-point coding system assumes that some OUs are best described by one, two, or three RIASEC environments. In the present case, a .17 cutoff value was applied generating high-point profiles ranging from one to three RIASEC codes. A one-letter code indicated that this RIASEC environment highly described the OU, and that none of the other RIASEC environments were highly or moderately descriptive. A two-letter code indicated that the first letter was most descriptive of the OU and the second letter was less descriptive, yet still a salient aspect of the OU environment. A three-letter code

indicated that the three ordered RIASEC categories were needed to sufficiently describe the OU environment, and that a one- or two-letter code was insufficient.

8.3. Further Research

A direction of future research holding particular promise involves further consideration of the O*NET content model variables (used in the empirical OU classification). Recall that these variables involve worker characteristics (e.g., abilities, values, interests), worker requirements (e.g., basic skills, knowledge), occupational requirements (e.g., generalized work activities), among other domains. These data are particularly useful in relation to the Holland schema. They suggest the possibility of discriminating between work environments that are adjacent, alternate, and opposite with respect to the Holland model. Future research, for example, could focus on particular variables that tend to discriminate between adjacent occupational categories--Social and Enterprising occupations, or specific variables that distinguish between opposite occupational categories--Realistic and Social.

A second direction would be to consider data involving worker transition or mobility patterns within and among OUs. The validity of the OUs as integral units involving transferable skills, as well the validity of the associated Holland occupational category descriptors of those OUs could be investigated by examining frequency of worker occupational changes between all pairs of a set of chosen occupations. If the OUs could be said to form groups involving transferable skills, it would be reasonable to expect that workers (particularly of a specified Holland type) would tend to transfer within these groups. Similarly, it might be expected that when workers move between OUs, they would move to OUs of similar RIASEC typology. Data of this sort would also lend itself well to geometric modeling, in addition to more conventional analyses.

Both of these directions would certainly do much to strengthen the foundation of the classification system outlined in this study, as well as to suggest refinements, improvements, and alternate directions of inquiry.

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Tables

Table 1

Agreement Frequencies (with All Three Raters in Agreement) for *DOT* Occupations by Holland Occupational Classification (HOC) and Confidence Ratings

HOC	No CR	CR≥3	CR≥4	CR≥5	CR≥6	CR=7
R	1202	1186	1148	1049	904	735
I	163	160	146	104	74	30
A	65	65	64	51	42	16
S	108	106	95	75	56	24
E	305	303	290	231	153	65
C	305	303	286	236	166	53
Total	2148	2123	2029	1746	1395	923

Note. CR refers to Confidence Rating, which was assigned by raters on a 1-7 scale indicating how confident they were about their Holland code choice for each occupation. "No CR" indicates the number of agreements without regard to confidence ratings.

Table 2

Agreement Frequencies (Two out of Three Raters) for *DOT* Occupations by Holland Occupational Classification (HOC)

HOC	*N*	P
R	174	29.6
I	104	17.7
A	13	2.2
S	63	10.7
E	119	20.3
C	114	19.4
Total	587	100.0

Note. P equals percent.

Table 3

Agreement Frequencies for the *DOT* Occupations by Holland Occupational Classification (HOC) for Final Developmental Sample

HOC	*N*	P
R	1117	52.5
I	142	6.7
A	138	6.5
S	155	7.3
E	290	13.6
C	286	13.4
Total	2128	100.0

Note. P equals percent.

Table 4

Selection Summary of the Stepwise Discriminant for the *DOT*-to-OU Method

Step	Variable entered	Wilks' Lambda	ASCC
1	*GOE* business detail	.253	.149
2	*GOE* artistic	.075	.290
3	Verbal aptitude	.033	.400
4	*GOE* humanitarian	.016	.498
5	*GOE* scientific	.010	.566
6	*GOE* selling	.007	.617
7	*GOE* leading-influencing	.003	.666
8	E temperament	.002	.679
9	P temperament	.002	.687
10	D temperament	.002	.691
11	Clerical perception aptitude	.002	.694
12	*GOE* accommodating	.002	.696
13	*GOE* physical performing	.002	.698
14	Spatial perception aptitude	.001	.701
15	Specific vocational preparation	.001	.704
16	Math	.001	.709
17	I temperament	.001	.711
18	Reason	.001	.713
19	Things worker function	.001	.714
20	People worker function	.001	.715
21	Noise working conditions	.001	.716
22	Numerical aptitude	.001	.718
23	*GOE* protective	.001	.719
24	data worker function	.001	.719
25	T temperament	.001	.720
26	Color discrimination aptitude	.001	.720
27	Language	.001	.721
28	R temperament	.001	.722
29	Stooping physical demand	.001	.722
30	Talking physical demand	.001	.723
31	V temperament	.001	.724
32	S temperament	.001	.724

Table 4 (continued)

Selection Summary of the Stepwise Discriminant for the *DOT*-to-OU Method

Step	Variable Entered	Wilks' Lambda	ASCC
33	J temperament	.001	.725
34	depth percep. physical demand	.001	.725
35	near acuity physical demand	.001	.725
36	*GOE* industrial	.001	.726
37	General learning ability	.001	.726
38	eye-hand coordination aptitude	.001	.727
39	Radiation work environment	.001	.727
40	toxic caus. chem. work environ.	.001	.727
41	Fingering	.001	.728
42	Color vision	.001	.728

Note. ASCC = average squared canonical correlation.

Table 5

Discriminant Cross-Classification (Frequency and Percent) of *DOT* Occupations

Developmental Classification	Posterior Classification R	I	A	S	E	C	Total *N* Percent
R	**1068**	12	23	4	6	4	1117
	95.61	1.07	2.06	0.36	0.54	0.36	100.00
I	35	**82**	0	0	25	0	142
	24.65	57.75	0.00	0.00	17.61	0.00	100.00
A	12	0	**122**	0	3	1	138
	8.70	0.00	88.41	0.00	2.17	0.72	100.00
S	18	1	2	**88**	39	7	155
	11.61	0.65	1.29	56.77	25.16	4.52	100.00
E	16	0	0	0	**274**	0	290
	5.52	0.00	0.00	0.00	94.48	0.00	100.00
C	23	0	2	0	28	**233**	286
	8.04	0.00	0.70	0.00	9.79	81.47	100.00
Total *N*	1172	95	149	92	375	245	2128
Percent	55.08	4.46	7.00	4.32	17.62	11.51	100.00
Error Rate	0.04	0.42	0.12	0.43	0.06	0.19	0.21

Table 6

Posterior Probability (or Rated Proportion) Frequencies and Percents for First-letter Code of OUs by Classification Method

Posterior prob. (or proportion)	Classification Method					
	DOT-to-OU		Empirical OU		Judgment OU	
	f	P	f	P	f	P
p > 0	1169	100.0	1122	100.0	1172	100.0
p > 0.10	1169	100.0	1122	100.0	1172	100.0
p > 0.25	1169	100.0	1122	100.0	1005	85.8
p > 0.40	1166	99.7	1120	99.8	7	0.6
p > 0.60	1103	94.5	1081	96.3	0	0.0
p > 0.80	998	85.4	998	88.9	0	0.0
p > 0.95	933	79.8	890	79.3	0	0.0
p > 0.99	925	79.1	769	68.5	0	0.0

Note. The Judgment OU method used rated proportions.

Table 7

Agreement Frequencies (with All Three Raters in Agreement) for Occupational Units by Holland Occupational Classification (HOC) and Confidence Ratings

HOC	No CR	CR≥3	CR≥4	CR≥5	CR≥6	CR=7
R	542	542	534	514	482	449
I	63	63	60	52	37	22
A	30	30	29	27	21	15
S	50	49	48	36	27	20
E	73	73	69	56	40	27
C	77	76	76	71	52	34
Total	835	833	816	756	659	567

Note. CR refers to Confidence Rating, which was assigned by raters on a 1-7 scale indicating how confident they were about their Holland code choice for each OU. "No CR" indicates the number of agreements without regard to confidence ratings.

Table 8

Agreement Frequencies for Occupational Units by Holland Occupational Classification (HOC) (Two out of Three Raters)

HOC	*N*	P
R	106	35.7
I	51	17.2
A	7	2.3
S	54	18.2
E	64	21.5
C	54	18.2
Total	297	100.0

Note. P equals percent.

Table 9

Agreement Frequencies for Occupational Units by Holland Occupational Classification (HOC) for Final Developmental Sample

HOC	*N*	P
R	534	64.5
I	60	7.2
A	34	4.1
S	55	6.6
E	69	8.3
C	76	9.2
Total	828	100.0

Note. P equals percent.

Table 10

Selection Summary for 25 Steps of the Stepwise Discriminant Analysis for Empirical OU Method

Step	Variable entered	Wilks' Lambda
1	Generalized Work Activities: interpret meaning of info for others (GWD11)	.335
2	Knowledges: therapy and counseling (KNEO2)	.158
3	Cross-functional skills: negotiation (CSA04)	.076
4	Knowledges: clerical (KNA02)	.037
5	Knowledges: fine arts ((KNG03)	.021
6	Basic Skills: science (BSC06)	.015
7	Cross-Functional Skills: equipment maintenance (CSC10)	.011
8	Generalized Work Activities: staffing organization units (GWD32)	.009
9	Knowledges: sales and marketing (KNAO4)	.008
10	Work Context: keeping or regaining balance (WDB41F)	.007
11	Cross-functional skills: idea generation (CSB05)	.006
12	Knowledges: legal, government, and jurisprudence(KNH02)	.006
13	Knowledges: economics and accounting (KNA03)	.005
14	Knowledges: medicine and dentistry (KNE01)	.005
15	Generalized Work Activities: assisting & caring for others (GWD15)-	.004
16	Work Context: importance of exactness (WCC24)	.004
17	Generalized Work Activities: est./maintain interpersonal relationships (GWD14)	.004
18	Generalized Work Activities: comm. w/persons outside organization(GWD13)	.003
19	Knowledges: sociology and anthropology (KND06)	.003
20	Generalized Work Activities: scheduling work and activities (GWB25)	.003
21	Generalized Work Activities: making decisions & solving problems (GWB21)	.003
22	Work Context: persuade someone to a course of action (WCA21B)	.003
23	Abilities: originality (ABA22)	.003
24	Cross-functional Skills: solution appraisal (CSB08)	.002
25	Work Context: bending or twisting the body (WCB41H)	.002

Note. ASCC = average squared canonical correlation. In parentheses are variable labels from construct ratings for 1122 occupational units (1997).

Table 11

Discriminant Cross-Classification (Frequency and Percent) of OUs from Empirical OU Method

	Posterior Classification						
Developmental Classification	R	I	A	S	E	C	Total *N* Percent
R	**498**	6	8	7	7	7	533
	93.43	1.13	1.50	1.31	1.31	1.31	100.00
I	0	**56**	0	3	0	1	60
	0.00	93.33	0.00	5.00	0.00	1.67	100.00
A	0	0	**30**	0	0	4	34
	0.00	0.00	88.24	0.00	0.00	11.76	100.00
S	2	1	0	**52**	0	0	55
	3.64	1.82	0.00	94.55	0.00	0.00	100.00
E	0	1	2	1	**58**	7	69
	0.00	1.45	2.90	1.45	84.06	10.14	100.00
C	1	0	0	1	4	**70**	76
	1.32	0.00	0.00	1.32	5.26	92.11	100.00
Total *N*	501	64	40	64	69	89	827
Percent	60.58	7.74	4.84	7.74	8.34	10.76	100.0
Error Rate	0.07	0.07	0.12	0.05	0.16	0.08	0.09

Table 12

Illustration of the Cross-Classification of Investigative Category for Rater 1 and Rater 2

	Rater 2							
Rater 1	1	2	3	4	5	6	7	Total *N* Total %
1	**0** 0.00	33 2.82	0 0.00	0 0.00	0 0.00	0 0.00	0 0.00	33 2.82
2	0 0.00	**362** 30.89	11 0.94	1 0.09	0 0.00	0 0.00	0 0.00	374 31.91
3	1 0.09	207 17.66	**61** 5.20	14 1.19	6 0.51	0 0.00	0 0.00	289 24.66
4	0 0.00	92 7.85	65 5.55	**35** 2.99	13 1.11	1 0.09	0 0.00	206 17.58
5	1 0.09	10 0.85	17 1.45	48 4.10	**23** 3.33	6 0.51	0 0.00	105 8.96
6	0 0.00	0 0.00	3 0.26	19 1.62	39 3.33	**12** 1.02	2 0.17	75 6.40
7	0 0.00	0 0.00	0 0.00	7 0.60	11 0.94	37 3.16	**35** 2.99	90 7.68
Total *N* Total %	2 0.17	704 60.07	157 13.40	124 10.58	92 7.85	56 4.78	37 3.16	1172 100.00

Statistic	Value	ASE
Gamma	.886	.011
Pearson Correlation	.835	.010
Spearman Correlation	.765	.014

Note. ASE is the asymptotic standard error.

Table 13

Summary Statistics for Inter-Rater Agreement

Mean Gamma (Across Holland Categories) by Rater

Rater 1/Rater 2	.804
Rater 2/Rater 3	.827
Rater 1/Rater 3	.809

Mean Gamma (Across Raters) by Holland Occupational Classification

R	I	A	S	E	C
.863	.827	.809	.880	.764	.651

Note. Overall Mean Gamma = .813

Table 14

Means and Standard Deviations of Probabilities (or Rated Proportions) for Holland High-Point Codes by Method

Code	*DOT*-to-OU		Empirical OU		Judgment OU	
	M	*SD*	*M*	*SD*	*M*	*SD*
First	0.939	0.137	0.947	0.117	0.310	0.053
Second	0.055	0.123	0.044	0.098	0.200	0.027
Third	0.005	0.030	0.007	0.025	0.157	0.025
Fourth	0.001	0.009	0.002	0.009	0.131	0.017
Fifth	0.000	0.003	0.000	0.002	0.108	0.015
Sixth	0.000	0.000	0.000	0.000	0.093	0.011

Note. The Judgment OU method used rated proportions.

Table 15

Frequency and Percent Distributions of OU First-letter Code

		R	I	A	S	E	C
DOT-to-OU	f	690	77	72	62	181	87
	P	59.1	6.6	6.2	5.3	15.5	7.4
Empirical OU	f	563	140	54	117	126	122
	P	50.2	12.5	4.8	10.4	11.2	10.9
Judgment OU	f	680	90	48	79	135	140
	P	58.0	7.7	4.1	6.7	11.5	11.9

Table 16

Cross-Classification Table (Frequency and Percent) of Empirical OU and *DOT*-to-OU First-letter Codes

	Empirical OU Code						
DOT-to-OU Code	R	I	A	S	E	C	Total *N* Total %
R	**518**	38	4	20	43	29	652
	46.29	3.40	0.36	1.79	3.84	2.59	58.27
I	9	**60**	0	5	2	0	76
	0.80	5.36	0.00	0.45	0.18	0.00	6.79
A	23	0	**43**	1	3	2	72
	2.06	0.00	3.84	0.09	0.27	0.18	6.43
S	4	6	0	**50**	0	0	60
	0.36	0.54	0.00	4.47	0.00	0.00	5.36
E	4	34	6	33	**73**	24	174
	0.36	3.04	0.54	2.95	6.52	2.14	15.55
C	4	1	1	7	5	**67**	85
	0.36	0.09	0.09	0.63	0.45	5.99	7.60
Total *N*	562	139	54	116	126	122	1119
Total %	50.22	12.42	4.83	10.37	11.26	10.90	100.00

Note. Kappa = .59

Table 17

Cross-Classification (Frequency and Percent) of Judgment OU and Empirical OU First-letter Codes

	Judgment OU code						
Empirical OU code	R	I	A	S	E	C	Total *N* Total %
R	**539**	0	3	8	6	7	563
	48.04	0.00	0.27	0.71	0.53	0.62	50.18
I	50	**72**	0	4	4	10	140
	4.46	6.42	0.00	0.36	0.36	0.89	12.48
A	11	0	**37**	0	3	3	54
	0.89	0.00	3.30	0.00	0.27	0.27	4.81
S	19	10	1	**60**	16	11	117
	1.69	0.89	0.09	5.35	1.43	0.98	10.43
E	16	3	2	2	**87**	16	126
	1.43	0.27	0.18	0.18	7.75	1.43	11.23
C	12	2	5	1	16	**86**	122
	1.07	0.18	0.45	0.09	1.43	7.66	10.87
Total *N*	647	87	48	75	132	133	1122
Total %	57.66	7.75	4.28	6.68	11.76	11.86	100.00

Note. Kappa = .72

Table 18

Cross-Classification (Frequency and Percent) of Judgment OU and *DOT*-to-OU First-letter Codes

	Judgment OU code						
DOT-to-OU code	R	I	A	S	E	C	Total *N* Total %
R	**591**	8	2	17	49	23	690
	50.56	0.68	0.17	1.45	4.19	1.97	59.02
I	30	**43**	1	1	1	1	77
	2.57	3.68	0.09	0.09	0.09	0.09	6.59
A	30	0	**36**	2	4	0	72
	2.57	0.00	3.08	0.17	0.34	0.00	6.16
S	18	3	0	**37**	2	2	62
	1.54	0.26	0.00	3.17	0.17	0.17	5.30
E	6	34	8	20	**75**	38	181
	0.51	2.91	0.68	1.71	6.42	3.25	15.48
C	4	1	1	2	3	**76**	87
	0.34	0.09	0.09	0.17	0.26	6.50	7.44
Total *N*	679	89	48	79	134	140	1169
Total %	58.08	7.61	4.11	6.76	11.46	11.98	100.00

Note. Kappa = .57

Table 19

Iachan (1984a, 1984b) Agreement Index Weights

Occupation 2 RIASEC Code	Occupation 1 RIASEC Code: First letter match	Second letter match	Third letter match	No match
First letter	22	10	4	0
Second letter	10	5	2	0
Third letter	4	2	1	0

Note. Iachan, R. (1984a). A family of differentiation indices. *Psychometrika, 49*, 217-222. Iachan, R. (1984b). A measure of agreement for use with Holland's classification system. *Journal of Vocational Behavior, 24*, 133-141.

Table 20

Comparison Among Methods for RIASEC Coding of Occupational Units using Iachan Agreement Index

	OES		Strong	
	M	*SD*	*M*	*SD*
Method				
DOT-to-OU	18.53	8.18	18.26	8.24
Empirical OU	20.75	7.23	19.86	7.70
Judgment OU	23.28	4.55	23.11	4.51
OES			23.26	3.98

Note. Iachan agreement index varies from 0 to 28. Strong refers to the RIASEC classification of occupations based on the General Occupational Theme scores from the Strong Interest Inventory (Harmon, Hansen, Borgen, & Hammer, 1994, pp. 377-383). OES occupations came from Gottfredson and Holland's (1996, pp. 632-649) RIASEC coding of the OES.

Table 21

Matrix of Euclidean Distances Computed from Judgment OU Proportion Data

	R	I	A	S	E	C
R	0.00	0.17	0.19	0.19	0.17	0.14
I	0.17	0.00	0.07	0.08	0.09	0.09
A	0.19	0.07	0.00	0.07	0.08	0.10
S	0.19	0.08	0.07	0.00	0.06	0.09
E	0.17	0.09	0.08	0.06	0.00	0.07
C	0.14	0.09	0.10	0.09	0.07	0.00

Table 22

Matrix Exhibiting Circular Structure

	R	I	A	S	E	C
R	0	1	2	3	2	1
I	1	0	1	2	3	2
A	2	1	0	1	2	3
S	3	2	1	0	1	2
E	2	3	2	1	0	1
C	1	2	3	2	1	0

Figures

Figure 1

O*NET Content Model

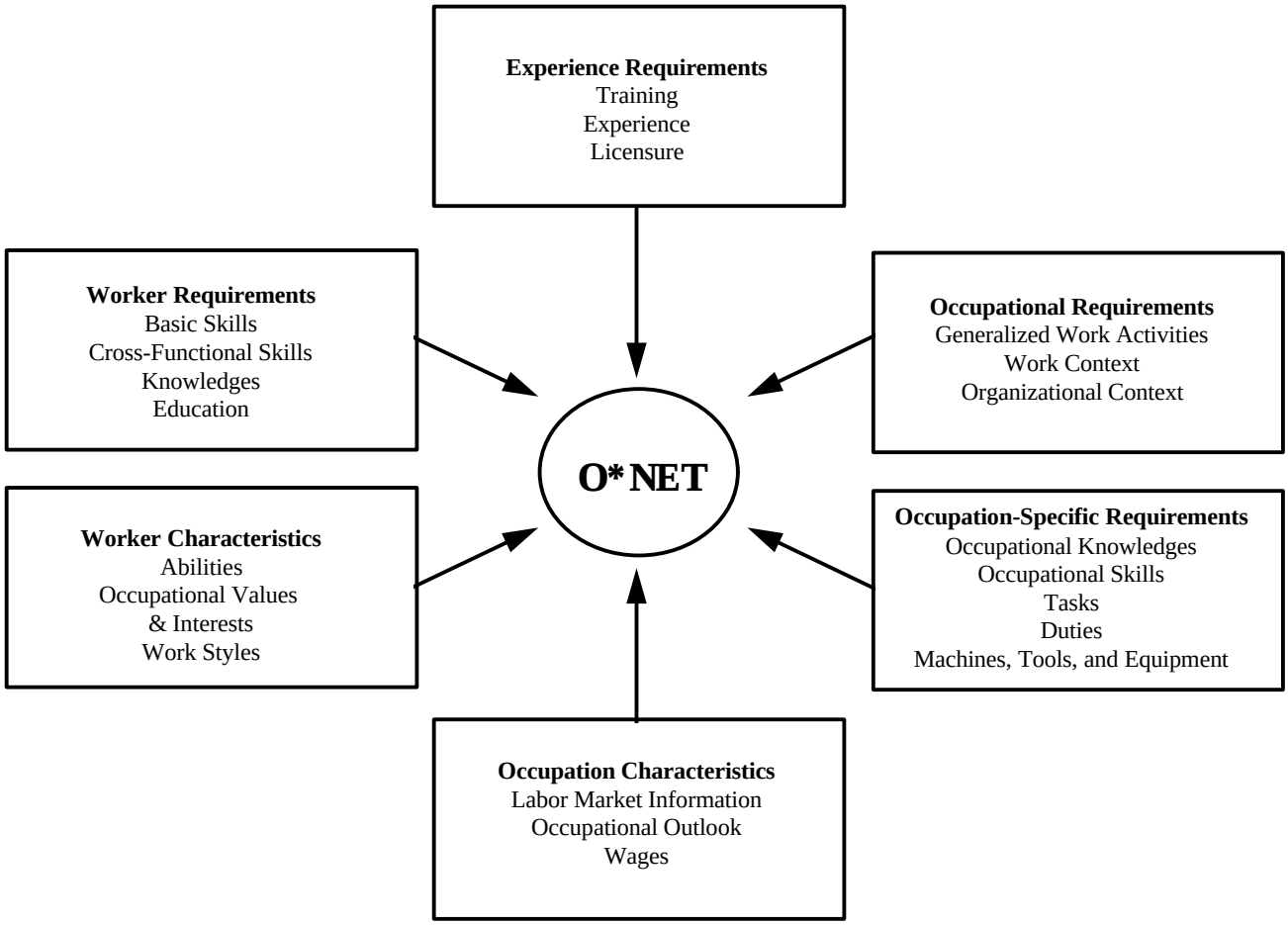
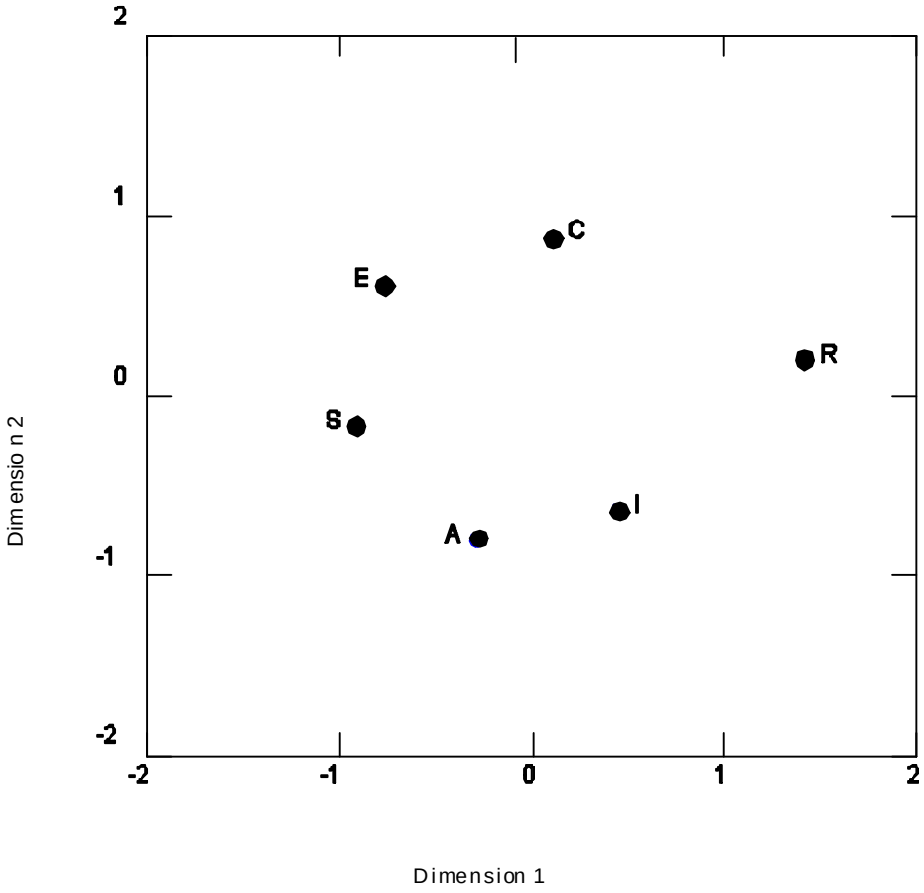


Figure 2

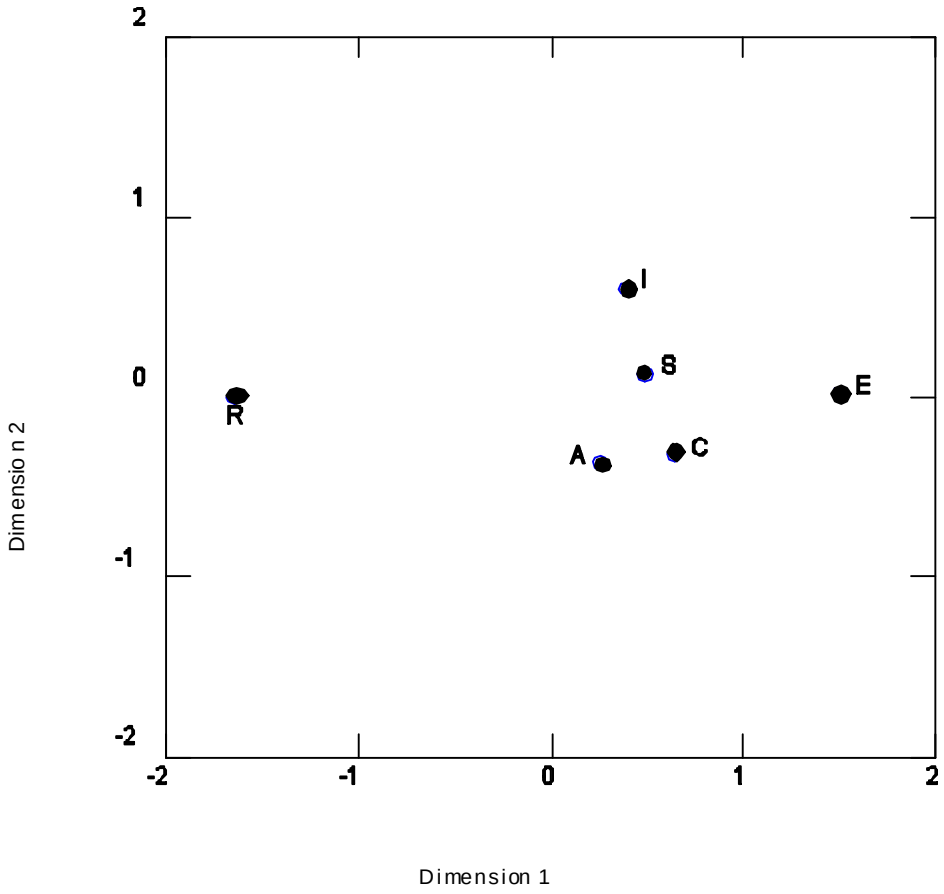
Multidimensional Scaling Solution for Judgment OU Method



Note. Stress = .052 and VAF = .972

Figure 3

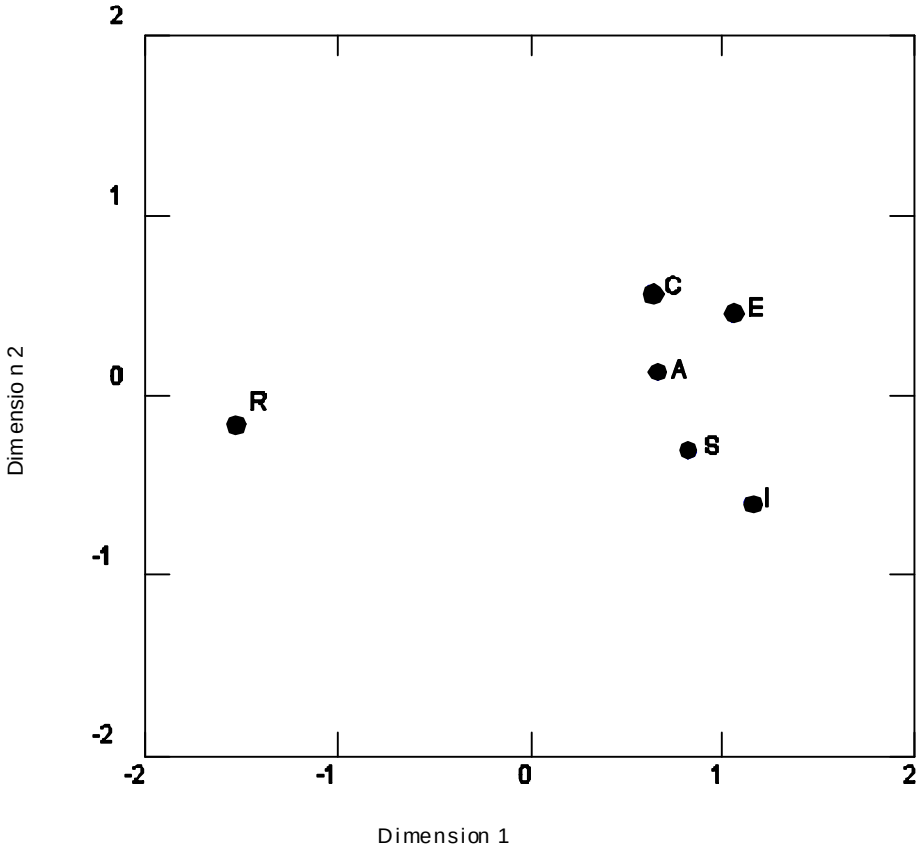
Multidimensional Scaling Solution for DOT-to-OU Method



Note. Stress = .018 and VAF = .999

Figure 4

Multidimensional Scaling Solution for Empirical OU Method



Note. Stress = .014 and VAF = .999

Figure 5

***K*-Means Cluster Profile Plots for Judgment OU Data (*K*=2)**

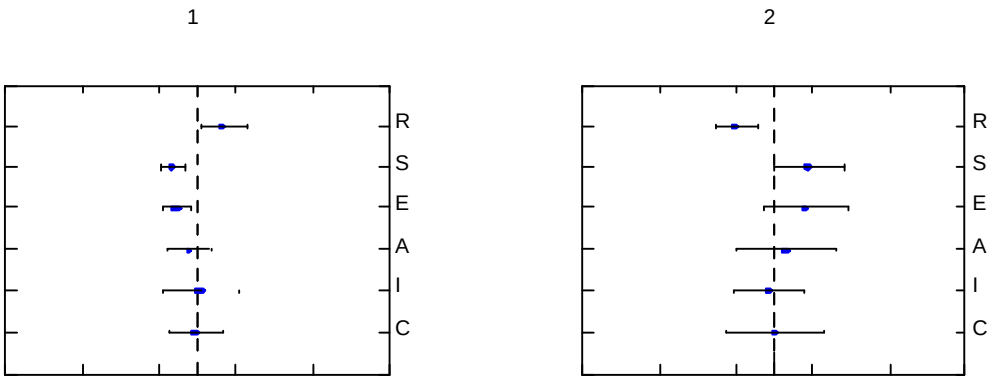
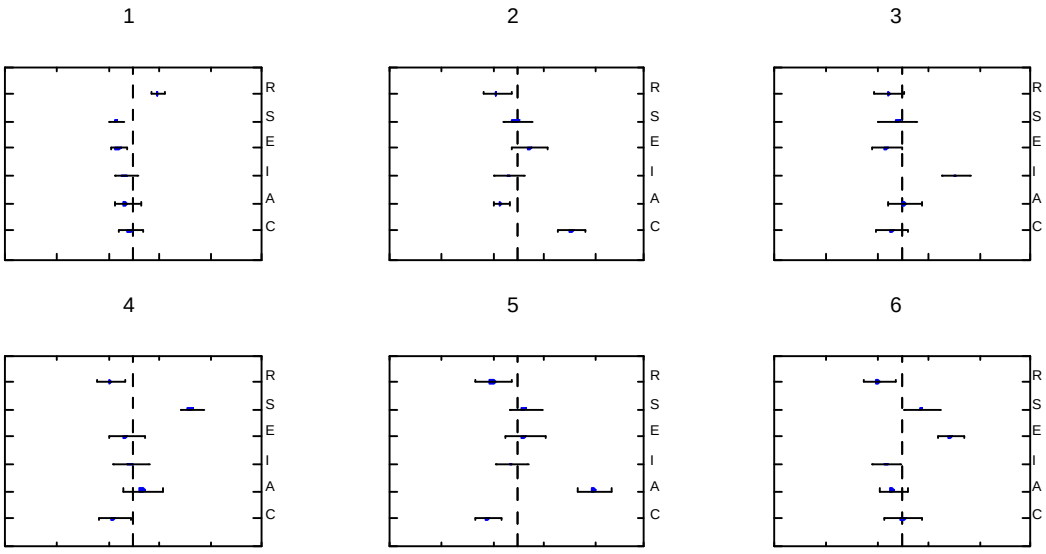


Figure 6

***K*-Means Cluster Profile Plots for Judgment OU Data (*K*=6)**



APPENDICES

Titles of the Occupational Units

*Note. Titles with an * are "all other" OUs not included in O*NET 98.*

Appendix A

OU	Title
13002A	Treasurers, Controllers, and Chief Financial Officers
13002B	Financial Managers, Branch or Department
13005A	Human Resources Managers
13005B	Training and Development Managers
13005C	Labor Relations Managers
13005E	Employee Assistance Specialists
13008	Purchasing Managers
13011A	Advertising and Promotions Managers
13011B	Sales Managers
13011C	Marketing Managers
13011D	Fundraising Directors
13014A	Property Officers and Contract Administrators
13014B	Administrative Services Managers
13017A	Engineering Managers
13017B	Natural Sciences Managers
13017C	Computer and Information Systems Managers
15002	Postmasters and Mail Superintendents
15005A	College and University Administrators
15005B	Educational Program Directors
15008A	Nursing Directors
15008B	Medical and Health Services Managers
15011A	Land Leasing and Development Managers
15011B	Property, Real Estate, and Community Association Managers
15011C	Property Records Managers
15014	Industrial Production Managers
15017A	Landscaping Managers
15017B	Construction Managers
15021A	Mining Superintendents and Supervisors
15021C	Oil and Gas Drilling and Production Superintendents
15023A	Transportation Managers
15023B	Communications Managers
15023C	Utilities Managers
15023D	Storage and Distribution Managers
15026A	Lodging Managers
15026B	Food-Service Managers
15031	Nursery and Greenhouse Managers
15032	Lawn Service Managers
19005A	Government Service Executives
19005B	Private Sector Executives
19999A	Amusement and Recreation Establishment Managers
19999B	Social and Community Service Managers
19999C	Association Managers and Administrators
19999D	Customer Service and Service Establishment Managers
19999E	Gambling Establishment Managers
19999F	Security Managers
19999G	* All Other Managers And Administrators
21102	Underwriters
21105	Credit Analysts

Appendix A

OU	Title
21108	Loan Officers and Counselors
21111	Tax Preparers
21114A	Accountants
21114B	Auditors
21114C	Data Processing Auditors
21117	Budget Analysts
21199B	Financial Counselors
21199D	* All Other Financial Specialists
21199J	* All Other Management Support Workers
21302	Wholesale and Retail Buyers, Except Farm Products
21305A	Purchasing Agents and Buyers, Farm Products
21308A	Purchasing Agents and Contract Specialists
21308B	Procurement Engineers
21308C	Price Analysts
21502	Claims Takers, Unemployment Benefits
21505	Special Agents, Insurance
21508	Employment Interviewers, Private or Public Employment Service
21511A	Job and Occupational Analysts
21511B	Employer Relations and Job Development Specialists
21511C	Employee Relations Specialists
21511D	Employee Training Specialists
21511E	Personnel Recruiters
21511F	Labor Relations Specialists
21902	Cost Estimators
21905	Management Analysts
21908A	Construction and Building Inspectors
21908B	Elevator Inspectors
21911A	Public Health Officers and Inspectors
21911B	Environmental Compliance Inspectors
21911C	Immigration and Customs Inspectors
21911D	Licensing Examiners and Inspectors
21911E	Industrial and Occupational Safety and Health Inspectors
21911F	Equal Opportunity Representatives and Officers
21911H	Government Property Inspectors and Investigators
21911J	Financial Examiners
21911K	Aviation Inspectors
21911L	Pressure Vessel Inspectors
21911M	Public Transportation Inspectors
21911N	Marine Cargo Inspectors
21911P	Coroners
21911R	Agricultural Inspectors
21911T	Radiation-Protection Specialists
21914	Tax Examiners, Collectors, and Revenue Agents
21917	Assessors
21921	Claims Examiners, Property and Casualty Insurance
21999A	Computer Security Specialists
21999B	Legislative Assistants
21999C	Executive Secretaries and Administrative Assistants

Appendix A

OU	Title
21999D	Land Leasing and Permit Agents
21999F	Meetings and Convention Planners
21999G	Grant Coordinators
21999H	Customs Brokers
21999J	* All Other Management Support Workers
22102	Aerospace Engineers
22105A	Ceramic Engineers
22105B	Metallurgists
22105C	Welding Engineers
22105D	Materials Engineers
22108	Mining Engineers, Including Mine Safety
22111	Petroleum Engineers
22114	Chemical Engineers
22117	Nuclear Engineers
22121	Civil Engineers, Including Traffic
22123	Agricultural Engineers
22126A	Electrical Engineers
22126B	Electronics Engineers, Except Computer
22127	Computer Engineers
22128	Industrial Engineers, Except Safety
22132A	Industrial Safety and Health Engineers
22132B	Fire-Prevention and Protection Engineers
22132C	Product Safety Engineers
22135	Mechanical Engineers
22138	Marine Engineers
22197	Production Engineers
22199	* All Other Engineers
22302	Architects, Except Landscape and Marine
22305	Marine Architects
22308	Landscape Architects
22311A	Cartographers and Photogrammetrists
22311B	Surveyors
22502	Civil Engineering Technicians
22505A	Electronics Engineering Technicians
22505B	Calibration and Instrumentation Technicians
22505C	Electrical Engineering Technicians
22508	Industrial Engineering Technicians and Technologists
22511	Mechanical Engineering Technicians and Technologists
22514A	Architectural Drafters
22514B	Electronic Drafters
22514C	Civil Drafters
22514D	Mechanical Drafters
22517	Estimators and Drafters, Utilities
22521A	Surveying Technicians
22521B	Mapping Technicians
22599A	Sound Engineering Technicians
22599B	Metallurgical Technicians
22599C	Aerospace Engineering Technicians

Appendix A

OU	Title
22599D	Agricultural Engineering Technicians
22599E	Chemical Engineering Technicians
22599F	Laser Technicians
22599G	* All Other Engineering And Related Technicians And Technologists
24102A	Physicists
24102B	Astronomers
24105	Chemists, Except Biochemists
24108	Atmospheric and Space Scientists
24111A	Geologists
24111B	Geophysicists
24199A	Geographers
24199B	Environmental Scientists
24199C	Materials Scientists
24302A	Foresters
24302B	Soil Conservationists
24302C	Wood Technologists
24302D	Range Managers
24302E	Park Naturalists
24305A	Animal Scientists
24305B	Plant Scientists
24305C	Food Scientists
24305D	Soil Scientists
24308A	Biochemists
24308B	Biologists
24308C	Biophysicists
24308D	Botanists
24308E	Microbiologists
24308F	Geneticists
24308G	Physiologists and Cytologists
24308H	Zoologists
24308J	Toxicologists
24311	Medical Scientists
24502A	Biological and Agricultural Technologists
24502B	Artificial Breeding Technicians
24502C	Biological and Agricultural Technicians
24502D	Biology Specimen Technicians
24505A	Chemical Technicians
24505B	Food Science Technicians
24505C	Assayers
24505D	Textile Science Technicians
24505E	Environmental Science Technicians
24508A	Nuclear Equipment Operation Technicians
24508B	Nuclear Monitoring Technicians
24511B	Geological Data Technicians
24511E	Geological Sample Test Technicians
24599A	Meteorological Technicians
24599B	Criminalists and Ballistics Experts
24599C	Scientific Helpers

Appendix A

OU	Title
25102	Systems Analysts, Electronic Data Processing
25103A	Database Administrators
25103B	Geographic Information System Specialists
25104	Computer Support Specialists
25105	Computer Programmers
25111	Programmers- Numerical, Tool, and Process Control
25199A	Data Communications Analysts
25302	Operations and Systems Researchers and Analysts, Except Computer
25312	Statisticians
25313	Actuaries
25315	Financial Analysts, Statistical
25319A	Mathematicians
25319B	Weight Analysts
25319C	* All Other Mathematical Scientists
25323	Mathematical Technicians
27102A	Economists
27102B	Market Research Analysts
27105	Urban and Regional Planners
27108A	Developmental Psychologists
27108C	Experimental Psychologists
27108D	Educational Psychologists
27108E	Social Psychologists
27108G	Clinical Psychologists
27108H	Counseling Psychologists
27108J	Industrial-Organizational Psychologists
27199A	Political Scientists
27199B	Sociologists
27199C	Anthropologists
27199D	Linguistic Scientists
27199E	Historians
27199F	Intelligence Specialists
27199G	Genealogists
27199H	Archeologists
27302	Social Workers, Medical and Psychiatric
27305A	Community Organization Social Workers
27305B	Social Workers
27305C	Probation and Correctional Treatment Specialists
27307	Residential Counselors
27308	Human Services Workers
27311	Recreation Workers
27502	Clergy
27505	Directors, Religious Activities and Education
27599	* All Other Religious Workers
28102	Judges and Magistrates
28105	Adjudicators, Hearings Officers, and Judicial Reviewers
28108	Lawyers
28302	Law Clerks
28305	Paralegals and Legal Assistants

Appendix A

OU	Title
28308	Title Searchers
28311	Title Examiners and Abstractors
28399	* All Other Legal Assistants And Technicians, Except Clerical
31114	Nursing Instructors- Postsecondary
31117	Graduate Assistants, Teaching
31202	Life Sciences Teachers- Postsecondary
31204	Chemistry Teachers- Postsecondary
31206	Physics Teachers- Postsecondary
31210	Social Science Teachers- Postsecondary
31212	Health Specialties Teachers- Postsecondary
31216	English and Foreign Language Teachers- Postsecondary
31218	Art, Drama, and Music Teachers- Postsecondary
31222	Engineering Teachers- Postsecondary
31224	Mathematical Sciences Teachers- Postsecondary
31226	Computer Science Teachers- Postsecondary
31299	* All Other Postsecondary Teachers
31303	Teachers, Preschool
31304	Teachers, Kindergarten
31305	Teachers, Elementary School
31308	Teachers, Secondary School
31311A	Special Education Vocational Training Teachers
31311B	Teachers- Emotionally Impaired, Mentally Impaired, and Learning Disabled
31311C	Teachers- Physically, Visually, and Hearing Impaired
31311D	Special Education Evaluators
31311E	Parent Instructors, Child Development and Rehabilitation
31314	Teachers and Instructors, Vocational Education and Training
31317	Instructors, Nonvocational Education
31321	Instructors and Coaches, Sports and Physical Training
31323	Farm and Home Management Advisors
31399	* All Other Teachers And Instructors
31502A	Librarians
31502B	Library Research Workers
31505	Technical Assistants, Library
31508	Audio-Visual Specialists
31511A	Curators
31511B	Archivists
31511C	Museum Research Workers
31511D	Museum Technicians and Conservators
31511E	Craft Demonstrators
31514	Vocational and Educational Counselors
31517A	Public Health Educators
31517B	Vocational Rehabilitation Coordinators
31517C	Laboratory Managers
31517D	Instructional Coordinators
31521	Teacher Aides, Paraprofessional
32102A	Doctors Of Medicine (MD)
32102B	Doctors Of Osteopathy (DO)
32102E	Psychiatrists

Appendix A

OU	Title
32102F	Anesthesiologists
32102J	Surgeons
32102U	Pathologists
32105A	Oral Pathologists
32105B	Dentists
32105D	Orthodontists
32105F	Prosthodontists
32105G	Oral and Maxillofacial Surgeons
32108	Optometrists
32111	Podiatrists
32113	Chiropractors
32114A	Veterinary Scientists
32114B	Veterinarians
32114C	Veterinary Inspectors
32199	* All Other Health Diagnosing And Treating Practitioners
32302	Respiratory Therapists
32305	Occupational Therapists
32308	Physical Therapists
32311A	Manual Arts Therapists
32311B	Corrective Therapists
32314	Speech-Language Pathologists and Audiologists
32317	Recreational Therapists
32399A	Exercise Physiologists
32399B	Orientation and Mobility Therapists
32502	Registered Nurses
32505	Licensed Practical Nurses
32508	Emergency Medical Technicians
32511	Physician's Assistants
32514	Opticians, Dispensing and Measuring
32517	Pharmacists
32518	Pharmacy Technicians
32521	Dietitians and Nutritionists
32523	Dietetic Technicians
32902	Medical and Clinical Laboratory Technologists
32905	Medical and Clinical Laboratory Technicians
32908	Dental Hygienists
32911	Medical Records Technicians
32913	Radiation Therapists
32914	Nuclear Medicine Technologists
32919	Radiologic Technologists
32921	Radiologic Technicians
32923	Electroneurodiagnostic Technologists
32925	Cardiology Technologists
32926	Electrocardiograph Technicians
32928	Surgical Technologists and Technicians
32931	Psychiatric Technicians
32996A	Health Service Coordinators
32996B	Transplant Coordinators

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OU	Title
32996C	Occupational Health and Safety Specialists
32999A	Orthotists and Prosthetists
32999B	Pheresis Technicians
32999C	Optometric and Ophthalmic Technicians
32999D	Audiometrists
32999E	Dialysis Technicians
34002A	Columnists, Critics, and Commentators
34002B	Poets and Lyricists
34002C	Creative Writers
34002D	Editors
34002E	Managing Editors
34002F	Programming and Script Editors and Coordinators
34002G	Book Editors
34002H	Readers
34002J	Caption Writers
34002L	Copy Writers
34002M	Dictionary Editors
34005	Technical Writers
34008	Public Relations Specialists and Publicity Writers
34011	Reporters and Correspondents
34014	Broadcast News Analysts
34017	Announcers, Radio and Television
34021	Announcers, Except Radio and Television
34023A	Professional Photographers
34023B	Photographers, Scientific
34026	Camera Operators, Television and Motion Picture
34028B	Broadcast Technicians
34028C	Transmitter Engineers
34032	Film Editors
34035A	Painters and Illustrators
34035B	Sketch Artists
34035C	Graphic Designers
34035D	Cartoonists and Animators
34035E	Sculptors
34038A	Fashion Designers
34038B	Commercial and Industrial Designers
34038C	Set Designers
34038D	Exhibit Designers
34038E	Art Directors
34038F	Floral Designers
34041	Interior Designers
34044	Merchandise Displayers and Window Trimmers
34047A	Music Directors
34047B	Music Arrangers and Orchestrators
34047C	Singers
34047E	Composers
34047F	Prompters
34051	Musicians, Instrumental

Appendix A

OU	Title
34053A	Dancers
34053B	Choreographers
34056A	Actors and Performers
34056B	Extras/Stand-Ins
34056D	Amusement Entertainers
34056E	Equestrian Performers
34056F	Producers
34056G	Directors- Stage, Motion Pictures, Television, and Radio
34056H	Program Directors
34056J	Talent Directors
34056K	Technical Directors/Managers
34058A	Coaches and Scouts
34058B	Athletic Trainers
34058C	Professional Athletes
34058E	Motor Racers
34058F	Jockeys and Sulky Drivers
34058G	Horse Riders/Exercisers
34058L	Umpires, Referees, and Other Sports Officials
39002	Airplane Dispatchers and Air Traffic Controllers
39005	Traffic Technicians
39008	Radio Operators
39011	Funeral Directors and Morticians
39014	Embalmers
39999A	Interpreters and Translators
39999B	Agents and Business Managers of Artists, Performers, and Athletes
39999C	City Planning Aides
39999D	Studio, Stage, and Special Effects Technicians
39999E	Taxidermists
39999G	Polygraph Examiners
39999H	* All Other Professional, Paraprofessional, And Technical Workers
41002	First-Line Supervisors and Manager/Supervisors- Sales and Related Workers
43002	Sales Agents and Placers, Insurance
43008	Sales Agents, Real Estate
43011	Appraisers, Real Estate
43014A	Sales Agents, Securities and Commodities
43014B	Sales Agents, Financial Services
43017	Sales Agents, Selected Business Services
43021	Travel Agents
43023A	Site Leasing and Promotion Agents
43023B	Sales Agents, Advertising
43099A	Sales Representatives, Service
43099B	Fund Raisers and Solicitors
49002	Sales Engineers
49005A	Sales Representatives, Agricultural
49005B	Sales Representatives, Chemical and Pharmaceutical
49005C	Sales Representatives, Electrical/Electronic
49005D	Sales Representatives, Mechanical Equipment and Supplies
49005F	Sales Representatives, Medical

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OU	Title
49005G	Sales Representatives, Instruments
49008	Sales Representatives, Except Retail and Scientific and Related Products and Services
49011	Salespersons, Retail
49014	Salespersons, Parts
49017	Counter and Rental Clerks
49021	Stock Clerks, Sales Floor
49023A	Cashiers, General
49023B	Cash Accounting Clerks
49026	Telemarketers, Door-To-Door Sales Workers, News and Street Venders, and Other Related Workers
49032A	Demonstrators and Promoters
49032B	Models
49999A	Merchandise Appraisers and Auctioneers
49999B	Home Furnishings Estimators
49999C	Sales Consultants
49999D	* All Other Sales And Related Workers
51002A	First-Line Supervisors, Customer Service
51002B	First-Line Supervisors, Administrative Support
53102	Tellers
53105	New Accounts Clerks
53108	Transit Clerks
53114	Credit Authorizers
53117	Credit Checkers
53121	Loan and Credit Clerks
53123	Adjustment Clerks
53126	Statement Clerks
53128	Brokerage Clerks
53302	Insurance Adjusters, Examiners, and Investigators
53305	Insurance Appraisers, Auto Damage
53311	Insurance Claims Clerks
53314	Insurance Policy Processing Clerks
53502	Welfare Eligibility Workers and Interviewers
53505	Investigators, Clerical
53508	Bill and Account Collectors
53702	Court Clerks
53705	Municipal Clerks
53708	License Clerks
53802	Travel Clerks
53805	Reservation and Transportation Ticket Agents
53808	Hotel Desk Clerks
53902	Library Assistants and Bookmobile Drivers
53905	Teacher Aides and Educational Assistants, Clerical
53908	Advertising Clerks
53911	Proofreaders and Copy Markers
53914	Real Estate Clerks
55102	Legal Secretaries
55105	Medical Secretaries
55108	Secretaries, Except Legal and Medical

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OU	Title
55302A	Stenotype Operators
55302B	Stenographers
55305	Receptionists and Information Clerks
55307	Typists, Including Word Processing
55314	Personnel Clerks, Except Payroll and Timekeeping
55317	Correspondence Clerks
55321	File Clerks
55323	Order Clerks- Materials, Merchandise, and Service
55326	Procurement Clerks
55328A	Statistical Data Clerks
55328B	Medical Record Clerks
55332	Interviewing Clerks, Except Personnel and Social Welfare
55335	Customer Service Representatives, Utilities
55338A	Bookkeeping and Accounting Clerks
55338B	Financial Processing and Recording Clerks
55341	Payroll and Timekeeping Clerks
55344	Billing, Cost, and Rate Clerks
55347	General Office Clerks
56002	Billing, Posting, and Calculating Machine Operators
56005	Duplicating Machine Operators
56008	Mail Machine Operators, Preparation and Handling
56011	Computer Operators, Except Peripheral Equipment
56014	Peripheral Electronic Data Processing Equipment Operators
56017	Data Entry Keyers, Except Composing
56021	Data Keyers, Composing
56099	* All Other Office Machine Operators
57102	Switchboard Operators
57105	Directory Assistance Operators
57108	Central Office Operators
57111	Telegraph and Teletype Operators
57199	* All Other Communications Equipment Operators
57302	Mail Clerks, Except Mail Machine Operators and Postal Service
57305	Postal Mail Carriers
57308	Postal Service Clerks
57311A	Couriers and Messengers
58002	Dispatchers- Police, Fire, and Ambulance
58005	Dispatchers- Except Police, Fire, and Ambulance
58008	Production, Planning, and Expediting Clerks
58011	Transportation Agents
58014	Meter Readers, Utilities
58017	Weighers, Measurers, Checkers, and Samplers- Recordkeeping
58021	Marking Clerks
58023	Stock Clerks- Stockroom, Warehouse, or Storage Yard
58026	Order Fillers, Wholesale and Retail Sales
58028	Shipping, Receiving, and Traffic Clerks
58099A	Engineering Clerks
58099B	Transportation Maintenance Clerks
58099C	* All Other Material Recording, Scheduling, And Distributing Workers

Appendix A

OU	Title
59999	* All Other Clerical And Administrative Support Workers
61002A	Municipal Fire Fighting and Prevention Supervisors
61002B	Forest Fire Fighting and Prevention Supervisors
61005	Police and Detective Supervisors
61008	Housekeeping Supervisors
61099A	Chefs and Head Cooks
61099B	First-Line Supervisors/Managers of Food Preparation and Serving Workers
61099C	First-Line Supervisors/Managers of Hospitality and Personal Service Workers
61099D	Janitorial Supervisors
61099E	* All Other Service Supervisors And Manager/Supervisors
62031	Housekeepers, Private Household
62041	Child Monitors, Private Household
62061	Personal Attendants, Private Household
63002A	Fire Inspectors
63002B	Fire Investigators
63005	Forest Fire Inspectors and Prevention Specialists
63008A	Municipal Fire Fighters
63008B	Forest Fire Fighters
63011A	Police Detectives
63011B	Police Identification and Records Officers
63014A	Police Patrol Officers
63014B	Highway Patrol Pilots
63017	Correction Officers and Jailers
63021	Parking Enforcement Officers
63023	Bailiffs
63026	United States Marshals
63028A	Criminal Investigators and Special Agents
63028B	Child Support, Missing Persons, and Unemployment Insurance Fraud Investigators
63032	Sheriffs and Deputy Sheriffs
63035	Detectives and Investigators, Except Public
63038	Railroad and Transit Police and Special Agents
63041	Fish and Game Wardens
63044	Crossing Guards
63047	Guards and Watch Guards
63099B	Recreational Area Guards and Patrollers
63099C	Animal Control Workers
63099D	Automatic Teller Machine Servicers
63099E	* All Other Protective Service Workers
65002	Hosts and Hostesses- Restaurant, Lounge or Coffee Shop
65005	Bartenders
65008A	Waiters/Waitresses
65008B	Wine Stewards/Stewardesses
65011	Food Servers, Outside
65014	Dining Room and Cafeteria Attendants, and Bartender Helpers
65017	Counter Attendants- Lunchroom, Coffee Shop, or Cafeteria
65021	Bakers, Bread and Pastry
65023	Butchers and Meat Cutters

Appendix A

OU	Title
65026	Cooks, Restaurant
65028	Cooks, Institution or Cafeteria
65032	Cooks, Specialty Fast Food
65035	Cooks, Short Order
65038A	Food Preparation Workers
65038B	Kitchen Helpers
65041	Combined Food Preparation and Service Workers
65099A	Vending Machine Attendants
65099B	Food Order Expediters
66002	Dental Assistants
66005	Medical Assistants
66008	Nursing Aides, Orderlies, and Attendants
66011	Home Health Aides
66014	Psychiatric Aides
66017	Physical and Corrective Therapy Assistants and Aides
66021	Occupational Therapy Assistants and Aides
66023	Ambulance Drivers and Attendants, Except Emergency Medical Technicians
66097	Health Equipment Service Workers
66099A	Morgue Attendants
66099B	Patient Transporters
66099D	Phlebotomists
67002	Maids and Housekeeping Cleaners
67005	Janitors and Cleaners, Except Maids and Housekeeping Cleaners
67008	Pest Controllers and Assistants
67011	Elevator Operators
67099	* All Other Cleaning And Building Service Workers
68002	Barbers
68005A	Hairdressers, Hairstylists, and Cosmetologists
68005B	Make-Up Artists, Theatrical and Performance
68005C	Electrologists
68008	Manicurists
68014A	Amusement and Recreation Attendants
68014B	Gambling Dealers and Attendants
68017A	Travel Guides
68017B	Tour Guides and Escorts
68021	Ushers, Lobby Attendants, and Ticket Takers
68023	Baggage Porters and Bellhops
68026	Flight Attendants
68028	Transportation Attendants, Except Flight Attendants and Baggage Porters
68032A	Bath and Restroom Attendants
68032B	Costumers and Wardrobe Specialists
68035	Personal and Home Care Aides
68038	Child Care Workers
68041	Funeral Attendants
69999A	Passenger Service Representatives
69999B	Personal Attendants
69999D	Social Escorts
69999E	* All Other Service Workers

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OU	Title
72002A	First-Line Supervisors and Manager/Supervisors - Agricultural Crop Workers
72002B	First-Line Supervisors and Manager/Supervisors - Animal Husbandry Workers
72002C	First-Line Supervisors and Manager/Supervisors - Animal Care Workers, Except Livestock
72002D	First-Line Supervisors and Manager/Supervisors - Landscaping Workers
72002E	First-Line Supervisors and Manager/Supervisors - Horticultural Workers
72002F	First-Line Supervisors and Manager/Supervisors - Logging Workers
72002G	First-Line Supervisors and Manager/Supervisors - Fishery Workers
73002	Fallers and Buckers
73005	Choke Setters
73011	Logging Tractor Operators
73099A	Tree, Log, and Brush Cutters
73099B	Log Sorters, Markers, Movers, and Debarkers
73099C	Rigging Slingers and Chasers
73099D	Cruisers
73099E	* All Other Timber Cutting And Related Logging Workers
79002A	Forest and Conservation Workers
79002B	Forester Aides
79005	Nursery Workers
79008	Log Graders and Scalers
79011	Graders and Sorters, Agricultural Products
79015	Animal Breeders
79016	Animal Trainers
79017A	Animal Caretakers, except Farm
79017B	Farriers
79017C	Animal Groomers and Bathers
79017D	Aquarium Tank Attendants
79021	Farm Equipment Operators
79030B	Gardeners and Groundskeepers
79033	Pruners
79036	Sprayers/Applicators
79041	Laborers, Landscaping and Groundskeeping
79806	Veterinary Assistants
79855	General Farmworkers
79856	Farmworkers, Food and Fiber Crops
79858	Farmworkers, Farm and Ranch Animals
79999A	Weed, Disease, and Insect Control Inspectors
79999B	Irrigation Workers
79999C	Horticultural Specialty Growers
79999D	Farmers
79999E	Commercial Fishery Workers
79999F	Hunters and Trappers
79999G	Aqua-Culturists
79999H	Sponge and Seaweed Gatherers
79999J	Gamekeepers
79999K	Agricultural Crop Farm Managers
79999L	Livestock Production Managers
79999M	Fish Hatchery Managers

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OU	Title
79999N	Yard Workers, Private Household
79999P	* All Other Agricultural, Forestry, Fishing, And Related Workers
81002	First-Line Supervisors and Manager/Supervisors- Mechanics, Installers, and Repairers
81005A	First-Line Supervisors and Manager/Supervisors- Construction Trades Workers
81005B	First-Line Supervisors and Manager/Supervisors- Extractive Workers
81008	First-Line Supervisors and Manager/Supervisors- Production and Operating Workers
81011	First-Line Supervisors and Manager/Supervisors- Transportation and Material Moving Machine and Vehicle Operators
81017	First-Line Supervisors and Manager/Supervisors- Helpers, Laborers, and Material Movers, Hand
83002A	Materials Inspectors
83002B	Mechanical Inspectors
83002C	Precision Devices Inspectors and Testers
83002D	Electrical and Electronic Inspectors and Testers
83005A	Production Inspectors, Testers, Graders, Sorters, Samplers, Weighers
83005B	Construction Checkers
83008A	Railroad Inspectors
83008C	Motor Vehicle Inspectors
83008D	Freight Inspectors
83099E	* All Other Inspectors, Testers And Related Occupations
85112	Machinery Maintenance Mechanics, Textile Machines
85113	Machinery Maintenance Mechanics, Sewing Machines
85116A	Marine Maintenance Machinists
85116B	Marine Engine Mechanics
85116C	Marine Services Technicians
85118	Machinery Maintenance Mechanics, Water or Power Generation Plant
85119A	Machinery Maintenance Mechanics
85119B	Machinery Maintenance Repairers
85119C	* All Other Machinery Maintenance Mechanics
85123A	Manufacturer's Service Representatives and Technicians
85123B	Millwrights
85126	Refractory Materials Repairers, Except Brick Masons
85128A	Machinery Maintenance Servicers
85128B	Oilers
85132	Maintenance Repairers, General Utility
85302A	Automotive Master Mechanics
85302B	Automotive Specialty Technicians
85305A	Automotive Glass Installers and Repairers
85305B	Automotive Body Repairers
85305C	Truck and Trailer Body Repairers
85305D	Automotive Body Repair Estimators
85308	Motorcycle Mechanics and Repairers
85311A	Diesel Engine Mechanics
85311B	Diesel Engine Erectors and Fitters
85314	Mobile Heavy Equipment Mechanics, Except Engines
85317	Rail Car Repairers
85321	Farm Equipment Mechanics

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OU	Title
85323A	Airframe-and-Power-Plant Mechanics
85323B	Aircraft Body and Bonded Structure Repairers
85326	Aircraft Engine Specialists
85328A	Motorboat Mechanics
85328B	Small Engine Mechanics
85502	Central Office and PBX Installers and Repairers
85505	Frame Wirers, Central Office
85508	Telegraph and Teletype Installers and Maintainers
85511	Signal or Track Switch Maintainers
85514	Radio Mechanics
85599A	Communication Equipment Mechanics, Installers, and Repairers
85599B	Telecommunications Facility Examiners
85599C	Sound Technicians
85702	Telephone and Cable Television Line Installers and Repairers
85705	Data Processing Equipment Repairers
85708	Electronic Home Entertainment Equipment Repairers
85711A	Electric Home Appliance and Power Tool Repairers
85711B	Home Appliance Installers
85714A	Electric Motor and Switch Assemblers and Repairers
85714B	Battery Repairers
85714C	Transformer Repairers
85714D	Electrical Parts Reconditioners
85717A	Electronics Mechanics and Technicians
85717B	Test Card and Circuit Board Repairers
85721	Powerhouse, Substation, and Relay Electricians
85723	Electrical Powerline Installers and Repairers
85726	Station Installers and Repairers, Telephone
85728A	Aircraft Electricians
85728B	Ground Transportation Electricians
85799	* All Other Electrical And Electronic Equipment Mechanics, Installers, And Repairers
85902A	Heating and Air Conditioning Mechanics
85902B	Refrigeration Mechanics
85905	Precision Instrument Repairers
85908	Electromedical and Biomedical Equipment Repairers
85911	Electric Meter Installers and Repairers
85914	Camera and Photographic Equipment Repairers
85917	Watchmakers
85921A	Keyboard Instrument Repairers and Tuners
85921B	Stringed Instrument Repairers and Tuners
85921C	Reed or Wind Instrument Repairers and Tuners
85921D	Percussion Instrument Repairers and Tuners
85923	Locksmiths and Safe Repairers
85926	Office Machine and Cash Register Servicers
85928A	Valve and Regulator Repairers
85928B	Meter Mechanics
85928C	Mechanical Door Repairers
85928D	Utilities Representatives

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OU	Title
85932	Elevator Installers and Repairers
85935	Riggers
85938	Installers and Repairers- Manufactured Buildings, Mobile Homes, and Travel Trailers
85944	Gas Appliance Repairers
85947	Coin and Vending Machine Servicers and Repairers
85951	Bicycle Repairers
85953	Tire Repairers and Changers
85956A	Textile Menders
85956C	Hand Weavers
85998	Product Repairers
85999A	Hand and Portable Power Tool Repairers
85999B	Pump Installers and Servicers
85999C	Blacksmiths
85999D	Gunsmiths
85999E	Automobile Wreckers
85999F	Divers
85999G	* All Other Mechanics, Installers, And Repairers
87102A	Construction Carpenters
87102B	Rough Carpenters
87102C	Tank Builders and Coopers
87102D	Carpenter Assemblers and Repairers
87102E	Boat Builders and Shipwrights
87102F	Ship Carpenters and Joiners
87105	Ceiling Tile Installers and Acoustical Carpenters
87108	Drywall Installers
87111	Tapers
87114	Lathers
87121	Brattice Builders
87202A	Electricians
87202C	Electrical Utility Trouble Shooters
87302	Brick Masons
87305B	Stone Masons
87308	Hard Tile Setters
87311	Concrete and Terrazzo Finishers
87314	Reinforcing Metal Workers
87317	Plasterers and Stucco Masons
87402A	Painters, Construction and Maintenance
87402B	Paperhangers
87502A	Pipe Fitters
87502B	Plumbers
87505	Pipelaying Fitters
87508	Pipelayers
87511	Septic Tank Servicers and Sewer Pipe Cleaners
87602	Carpet Installers
87605	Floor Layers, Except Carpet, Wood, and Hard Tiles
87608	Floor Sanding Machine Operators
87702	Air Hammer Operators

Appendix A

OU	Title
87705	Pile Driving Operators
87708	Paving, Surfacing, and Tamping Equipment Operators
87711	Highway Maintenance Workers
87714A	Rail-Track Laying and Maintenance Equipment Operators
87714B	Rail-Track Maintenance Workers
87714C	Railroad Brake Repairers
87802	Insulation Workers
87808	Roofers
87811	Glaziers
87814	Structural Metal Workers
87817	Fence Erectors
87899A	Construction Installation Workers
87899B	Window Treatment Installers
87899C	Swimming Pool Installers and Servicers
87899D	Construction Workers, Except Trade
87899E	Concrete and Asphalt Cutting and Drilling Machine Operators
87899F	Conduit Mechanics
87899G	Hydraulic Jack Setters and Operators
87899H	Pipeline Maintenance Workers
87899J	Sign Erectors
87899K	Ornamental Iron Workers
87899L	Housemovers
87899M	* All Other Construction Trades Workers
87902A	Construction Drillers
87902B	Well and Core Drill Operators
87905	Blasters and Explosives Workers
87908	Rock Splitters, Quarry
87911	Rotary Drill Operators, Oil and Gas Extraction
87914	Derrick Operators, Oil and Gas Extraction
87917	Oil and Gas Well-Sounding-Device and Fishing-Tool Operators
87921	Roustabouts
87923	Roof Bolters
87941	Continuous Mining Machine Operators
87943	Mine Cutting and Channeling Machine Operators
87949A	Mining Machine Operators and Tenders
87949B	Oil and Gas Well-Pumping and Blending-Equipment Operators
87989A	Miners, Petroleum, and Gas Extractive Workers
87989B	* All Other Extractive Workers, Except Helpers
87999	* All Other Construction And Extractive Workers, Except Helpers
89102	Tool and Die Makers
89105	Precision Instrument Makers
89108	Machinists
89111	Tool Grinders, Filers, Sharpeners, and Other Precision Grinders
89114A	Model Makers, Metal and Plastic
89114B	Patternmakers, Metal and Plastic
89117	Precision Layout Workers, Metal
89121	Shipfitters
89123A	Jewelers

Appendix A

OU	Title
89123B	Silversmiths
89126C	Model and Mold Makers, Jewelry
89126E	Bench Workers, Jewelry
89126K	Pewter Casters and Finishers
89128	Precision Etchers and Engravers, Hand or Machine
89132	Sheet Metal Workers
89135	Boilermakers
89199	* All Other Precision Metal Workers
89302A	Patternmakers and Model Makers, Wood
89302C	Jig Builders
89305	Woodworking Layout Workers
89308	Wood Machinists
89311	Cabinetmakers and Bench Carpenters
89314	Furniture Finishers
89397A	Custom Precision Woodworkers, Musical Instruments
89397B	Custom Precision Woodworkers
89398	Standard Precision Woodworkers
89502A	Fabric and Apparel Patternmakers
89502B	Embroidery Patternmakers and Designers
89502D	Hat Patternmakers
89505A	Shop and Alteration Tailors
89505B	Custom Tailors
89508	Upholsterers
89511	Shoe and Leather Workers and Repairers- Precision
89514	Spotters, Dry Cleaning
89517	Pressers, Delicate Fabrics
89521	Precision Dyers
89599A	Rug Repairers
89599B	Fur Garment Workers
89599C	Fabricators, Canvas and Net Products
89599D	Hat Makers and Repairers
89599E	Fur Dressers
89599F	* All Other Precision Textile, Apparel, And Furnishings Workers
89702	Hand Compositors and Typesetters
89705	Job Printers
89706	Paste-Up Workers
89707	Electronic Pagination System Operators
89712	Photoengravers
89713	Camera Operators
89715	Scanner Operators
89717	Strippers
89718	Platemakers
89719A	Dot Etchers
89719B	Electronic Masking System Operators
89721	Bookbinders
89799A	Precision Printing Workers
89799B	Electrotypers and Stereotypers
89802	Slaughterers and Butchers

Appendix A

OU	Title
89805	Bakers, Manufacturing
89808	Food Batchmakers
89899	* All Other Precision Food And Tobacco Workers
89902	Precision Foundry Mold and Core Makers
89905A	Precision Mold and Pattern Casters, Except Nonferrous Metals
89905B	Precision Pattern and Die Casters, Nonferrous Metals
89905C	Stone Cutters and Carvers
89905D	Glass Blowers, Molders, Benders, and Finishers
89905F	Potters
89908A	Patternmakers and Model Makers, Except Wood
89908B	Cutters and Layout Workers
89908C	Model and Mold Makers
89908D	Exhibit Builders
89911A	Precision Painters
89911B	Silk Screen Process Decorators
89911C	Engravers/Carvers
89911D	Etchers
89911E	Tracers and Letterers
89911G	Gilders
89914A	Photographic Retouchers and Restorers
89914B	Photographic Reproduction Technicians
89914C	Photographic Hand Developers
89914D	Film Laboratory Technicians
89917A	Precision Lens Grinders and Polishers
89917D	Optical Instrument Assemblers
89921	Precision Dental Laboratory Technicians
89923	Medical Appliance Makers
89926A	Gem and Diamond Workers
89999A	Color Matchers and Dye Formulators
89999B	Wig Makers
89999C	* All Other Precision Workers
91102	Sawing Machine Tool Setters and Set-Up Operators, Metal and Plastic
91105	Lathe and Turning Machine Tool Setters and Set-Up Operators, Metal and Plastic
91108	Drilling and Boring Machine Tool Setters and Set-Up Operators, Metal and Plastic
91111	Milling and Planing Machine Setters and Set-Up Operators, Metal and Plastic
91114A	Grinding, Honing, Lapping, and Deburring Machine Set-Up Operators
91114B	Buffing and Polishing Set-Up Operators
91117	Machine Tool Cutting Operators and Tenders, Metal and Plastic
91302	Punching Machine Setters and Set-Up Operators, Metal and Plastic
91305	Press and Press Brake Machine Setters and Set-Up Operators, Metal and Plastic
91308	Shear and Slitter Machine Setters and Set-Up Operators, Metal and Plastic
91311	Extruding and Drawing Machine Setters and Set-Up Operators, Metal and Plastic
91314	Rolling Machine Setters and Set-Up Operators, Metal and Plastic
91317	Forging Machine Setters and Set-Up Operators, Metal and Plastic
91321	Machine Forming Operators and Tenders, Metal and Plastic
91502	Numerical Control Machine Tool Operators and Tenders, Metal and Plastic
91505	Combination Machine Tool Setters and Set-Up Operators, Metal and Plastic

Appendix A

OU	Title
91508	Combination Machine Tool Operators and Tenders, Metal and Plastic
91702	Welding Machine Setters and Set-Up Operators
91705	Welding Machine Operators and Tenders
91708	Soldering and Brazing Machine Setters and Set-Up Operators
91711	Soldering and Brazing Machine Operators and Tenders
91714	Metal Fabricators, Structural Metal Products
91902	Plastic Molding and Casting Machine Setters and Set-Up Operators
91905	Plastic Molding and Casting Machine Operators and Tenders
91908	Metal Molding, Coremaking, and Casting Machine Setters and Set-Up Operators
91911	Metal Molding, Coremaking, and Casting Machine Operators and Tenders
91914	Foundry Mold Assembly and Shakeout Workers
91917	Electrolytic Plating and Coating Machine Setters and Set-Up Operators, Metal and Plastic
91921	Electrolytic Plating and Coating Machine Operators and Tenders, Metal and Plastic
91923	Nonelectrolytic Plating and Coating Machine Setters and Set-Up Operators, Metal and Plastic
91926	Nonelectrolytic Plating and Coating Machine Operators and Tenders, Metal and Plastic
91928	Heating Equipment Setters and Set-Up Operators, Metal and Plastic
91932	Heat Treating, Annealing, and Tempering Machine Operators and Tenders, Metal and Plastic
91935	Furnace Operators and Tenders
91938	Heaters, Metal and Plastic
92197	* All Other Metal And Plastic (Cut,Form, Fabricate Or Process) Machine Setters And Set-Up Operators
92198	* All Other Metal And Plastic (Cut,Form, Fabricate Or Process) Machine Operators And Tenders
92302	Sawing Machine Setters and Set-Up Operators
92305	Head Sawyers
92308	Sawing Machine Operators and Tenders
92311	Woodworking Machine Setters and Set-Up Operators, Except Sawing
92314	Woodworking Machine Operators and Tenders, Except Sawing
92512	Offset Lithographic Press Setters and Set-Up Operators
92515	Letterpress Setters and Set-Up Operators
92519	* All Other Printing Press Setters And Set-Up Operators
92522A	Design Printing Machine Setters and Set-Up Operators
92522B	Marking and Identification Printing Machine Setters and Set-Up Operators
92524	Screen Printing Machine Setters and Set-Up Operators
92525	Bindery Machine Setters and Set-Up Operators
92529A	Embossing Machine Set-Up Operators
92529B	Casting Machine Set-Up Operators
92529C	Plate Finishers
92529D	Engraver Set-Up Operators
92529E	* All Other Printing Related Setters And Set-Up Operators
92541	Typesetting and Composing Machine Operators and Tenders
92543	Printing Press Machine Operators and Tenders
92545	Photoengraving and Lithographing Machine Operators and Tenders
92546	Bindery Machine Operators and Tenders

Appendix A

OU	Title
92549	* All Other Printing, Binding, And Related Machine Operators And Tenderers
92702	Textile Machine Setters and Set-Up Operators
92705	Textile Machine Operators and Tenders- Winding, Twisting, Knitting, Weaving, and Cutting
92708	Extruding and Forming Machine Operators and Tenders, Synthetic or Glass Fibers
92711	Textile Draw-Out Machine Operators and Tenders
92714	Textile Bleaching and Dyeing Machine Operators and Tenders
92717	Sewing Machine Operators, Garment
92721	Sewing Machine Operators, Non-Garment
92723	Shoe Sewing Machine Operators and Tenders
92726	Laundry and Drycleaning Machine Operators and Tenders, Except Pressing
92728	Pressing Machine Operators and Tenders- Textile, Garment, and Related Materials
92902A	Electronic Semiconductor Processors
92902B	Electronic Semiconductor Wafer Etchers and Engravers
92902C	Electronic Semiconductor Test and Development Technicians
92902D	Electronic Semiconductor Crystal-Growing Technicians and Equipment Operators
92902E	Electronic Semiconductor Sawyers, Abraders, and Polishers
92902G	Electronic Semiconductor Wafer Breakers, Mounters, and Packagers
92905	Motion Picture Projectionists
92908	Photographic Processing Machine Operators and Tenders
92911	Tire Building Machine Operators
92914	Paper Goods Machine Setters and Set-Up Operators
92917	Cooking Machine Operators and Tenders, Food and Tobacco
92921	Roasting, Baking, and Drying Machine Operators and Tenders, Food and Tobacco
92923	Furnace, Kiln, Oven, Drier, or Kettle Operators and Tenders
92926	Boiler Operators and Tenders, Low Pressure
92928	Cooling and Freezing Equipment Operators and Tenders
92932	Dairy Processing Equipment Operators, Including Setters
92935	Chemical Equipment Controllers and Operators
92938	Chemical Equipment Tenders
92941A	Fiber Product Cutting Machine Setters and Set-Up Operators
92941B	Stone Sawyers
92941D	Glass Cutting Machine Setters and Set-Up Operators
92944	Cutting and Slicing Machine Operators and Tenders
92947	Painters, Transportation Equipment
92951	Coating, Painting, and Spraying Machine Setters and Set-Up Operators
92953	Coating, Painting, and Spraying Machine Operators and Tenders
92956	Cementing and Gluing Machine Operators and Tenders
92958	Cleaning, Washing, and Pickling Equipment Operators and Tenders
92962	Separating, Filtering, Clarifying, Precipitating, and Still Machine Operators and Tenders
92965	Crushing, Grinding, Mixing, and Blending Machine Operators and Tenders
92968	Extruding, Forming, Pressing, and Compacting Machine Setters and Set-Up Operators
92971	Extruding, Forming, Pressing, and Compacting Machine Operators and Tenders
92974	Packaging and Filling Machine Operators and Tenders

Appendix A

OU	Title
92997	* All Other Machine Setters And Set-Up Operators
92998	* All Other Machine Operators And Tenders
93102B	Aircraft Structure Assemblers, Precision
93102C	Aircraft Systems Assemblers, Precision
93102D	Aircraft Rigging Assemblers
93105	Machine Builders and Other Precision Machine Assemblers
93108	Fitters, Structural Metal- Precision
93111A	Electromechanical Equipment Assemblers- Precision
93111B	Electromechanical Technicians
93114	Electrical and Electronic Equipment Assemblers- Precision
93117	Watch, Clock, and Chronometer Assemblers, Adjusters, and Calibrators-Precision
93197A	Musical Instrument Makers, Metalworking
93197C	* All Other Precision Assemblers
93902	Machine Assemblers
93905A	Battery Assemblers
93905B	Electronic Components Assemblers
93905C	Electric Motor Assemblers
93905D	Electrical Components Assemblers
93908	Coil Winders, Tapers, and Finishers
93914A	Welders, Production
93914B	Welders and Cutters
93914C	Welder-Fitters
93917A	Solderers
93917B	Brazers
93921	Pressers, Hand
93923B	Sewers, Hand
93926B	Rock Splitters
93926D	Glass Cutters and Finishers
93926E	Cutters and Trimmers, Hand
93928	Portable Machine Cutters
93932	Carpet Cutters, Diagrammers, and Seamers
93935	Cannery Workers
93938	Meat, Poultry, and Fish Cutters and Trimmers- Hand
93941	Metal Pourers and Casters, Basic Shapes
93944A	Mold Makers, Hand
93944D	Molding and Casting Workers
93947B	Bakery and Confectionery Decorating Workers
93947E	Hand Painting, Coating, or Decorating Workers
93951A	Pantograph Engravers
93951B	Etchers, Hand
93951C	Printers, Hand
93951D	Engravers, Hand
93953	Grinding and Polishing Workers, Hand
93956	Assemblers and Fabricators- Except Machine, Electrical, Electronic, and Precision
93997	Intermediate Hand Workers
93998	Elemental Hand Workers
93999	* All Other Hand Workers

Appendix A

OU	Title
95002A	Water Treatment Plant and System Operators
95002B	Water Treatment Plant Attendants
95005A	Gas Processing Plant Operators
95005B	Gas Distribution Plant Operators
95008	Chemical Plant and System Operators
95011	Petroleum Pump System Operators
95014	Petroleum Refinery and Control Panel Operators
95017	Gaugers
95021	Power Generating Plant Operators, Except Auxiliary Equipment Operators
95023	Auxiliary Equipment Operators, Power
95026	Power Reactor Operators
95028	Power Distributors and Dispatchers
95032	Stationary Engineers
95099	* All Other Plant And System Operators
97102A	Truck Drivers, Heavy
97102B	Tractor-Trailer Truck Drivers
97105	Truck Drivers, Light- Including Delivery and Route Workers
97108	Bus Drivers
97111	Bus Drivers, School
97114	Taxi Drivers and Chauffeurs
97117	Driver/Sales Workers
97199	* All Other Motor Vehicle Operators
97302	Railroad Conductors and Yardmasters
97305	Locomotive Engineers
97308	Rail Yard Engineers, Dinkey Operators, and Hostlers
97311	Locomotive Firers
97314	Subway and Streetcar Operators
97317A	Train Crew Members
97317B	Railroad Yard Workers
97399A	On-Track Mobile Equipment Operators
97399B	Railroad Control Tower Switching and Car Retarding Operators
97502A	Ship and Boat Captains
97505	Mates- Ship, Boat, and Barge
97508	Pilots, Ship
97511	Motorboat Operators
97514	Able Seamen
97517	Ordinary Seamen and Marine Oilers
97521	Ship Engineers
97702B	Commercial Airplane Pilots
97702C	Small Aircraft Pilots
97702D	Flight Instructors
97702E	Flight Navigators
97702H	Flight Engineers
97702J	Commercial Helicopter Pilots
97802	Bridge, Lock, and Lighthouse Tenders
97805	Service Station Attendants
97808	Parking Lot Attendants
97899A	Airport Utility Workers

Appendix A

OU	Title
97899B	* All Other Transportation And Related Workers
97902	Longshore Equipment Operators
97905	Tank Car and Truck Loaders
97908	Oil Pumpers, Except Well Head
97911	Well Head Pumpers
97914	Main Line Station Engineers
97917	Gas Pumping Station Operators
97921	Gas Compressor Operators
97923A	Excavating and Loading Machine Operators
97923B	Aerial Tram Tenders
97926	Dragline Operators
97928	Dredge Operators
97932	Loading Machine Operators, Underground Mining
97935	Shuttle Car Operators
97938	Grader, Bulldozer, and Scraper Operators
97941	Hoist and Winch Operators
97944	Crane and Tower Operators
97947	Industrial Truck and Tractor Operators
97951	Conveyor Operators and Tenders
97953	Pump Operators
97956	Operating Engineers
97989A	* All Other Material Moving Equipment Operators
97989B	Irradiated-Fuel Handlers
98102	Helpers- Mechanics and Repairers
98311	Helpers- Brick and Stone Masons, and Hard Tile Setters
98312	Helpers- Carpenters and Related Workers
98313	Helpers- Electricians and Powerline Transmission Installers
98314	Helpers- Painters, Paperhangers, Plasterers, and Stucco Masons
98315	Helpers- Plumbers, Pipefitters, and Steamfitters
98319	* Helpers- All Other Construction Trades Workers
98323	Helpers- Extractive Workers
98502	Machine Feeders and Offbearers
98702	Stevedores, Except Equipment Operators
98705	Refuse and Recyclable Material Collectors
98799A	Grips and Set-Up Workers, Motion Picture Sets, Studios, and Stages
98799B	Freight, Stock, and Material Movers, Hand
98902A	Packers and Packagers, Hand
98905	Vehicle Washers and Equipment Cleaners
98999A	Production Laborers
98999B	Production Helpers
99003	* Military Personnel

Appendix B

Raw Ratings for Each Holland Category for Three Raters

Note. The number following the RIASEC category refers to the rater. For example, R1 = rater one's rating of the Realistic category, C2 = rater two's rating of the Conventional category, and A3 = rater three's rating of the Artistic category.

Appendix B

OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
1	13002A	2	3	2	4	7	6	2	3	2	3	7	5	2	3	2	4	7	6
2	13002B	2	3	2	4	7	5	2	3	2	4	7	5	1	2	2	3	6	4
3	13005A	2	3	3	6	6	5	2	2	2	4	7	3	1	3	3	5	6	4
4	13005B	2	2	2	6	6	5	2	4	2	5	7	3	1	3	3	5	6	4
5	13005C	2	3	2	5	6	5	2	3	2	5	7	3	1	2	2	6	6	5
6	13005E	2	3	2	6	6	5	2	4	3	7	5	3	1	3	3	6	5	4
7	13008	2	3	2	4	3	6	2	3	4	5	7	6	1	2	3	4	7	4
8	13011A	2	3	6	4	6	3	2	3	6	4	4	3	2	4	7	4	6	5
9	13011B	2	2	3	4	7	5	2	2	2	3	7	6	1	2	2	4	7	6
10	13011C	2	2	4	4	6	5	3	2	2	2	7	6	1	2	3	4	6	6
11	13011D	1	2	2	5	6	4	2	2	3	5	7	4	1	2	3	5	6	5
12	13014A	2	3	2	3	7	5	3	2	2	3	6	7	4	2	2	4	6	6
13	13014B	2	3	2	4	6	6	2	3	2	4	7	6	2	2	2	4	6	6
14	13017A	5	6	3	3	6	4	6	4	2	3	7	5	4	5	2	2	6	5
15	13017B	3	6	2	4	6	3	5	6	4	3	5	3	5	7	2	3	6	4
16	13017C	3	6	2	2	5	6	6	5	2	3	7	4	4	4	2	4	6	7
17	15002	3	2	2	4	6	5	3	3	2	5	6	4	4	2	3	4	7	6
18	15005A	2	5	3	4	6	5	3	5	3	6	7	4	1	4	3	4	6	5
19	15005B	2	4	3	7	6	4	2	4	4	6	5	2	2	5	4	7	6	3
20	15008A	3	5	2	6	5	4	3	5	3	6	7	4	3	5	2	6	6	5
21	15008B	2	4	2	4	7	3	2	4	4	6	5	3	2	4	3	6	7	5
22	15011A	3	3	2	4	7	6	2	3	2	3	7	6	2	2	2	5	7	6
23	15011B	4	3	2	3	7	5	3	2	2	2	5	7	3	1	2	4	7	6
24	15011C	3	3	2	4	6	5	2	3	2	4	6	5	3	2	2	2	7	5
25	15014	4	4	2	3	7	6	5	2	2	3	7	5	2	2	2	3	6	7
26	15017A	5	3	2	2	6	5	3	2	3	2	7	4	5	2	3	3	6	5
27	15017B	6	3	2	2	6	5	6	2	2	3	7	5	5	2	2	3	6	5
28	15021A	5	3	1	2	6	5	5	2	2	3	7	5	6	2	2	4	6	4
29	15021C	5	4	2	2	6	6	6	2	2	3	7	5	5	2	2	4	6	5
30	15023A	4	3	1	2	6	6	4	2	2	3	7	6	3	2	2	3	6	6
31	15023B	2	3	6	5	7	5	3	2	3	4	7	5	4	4	3	3	7	5
32	15023C	5	2	1	2	6	5	4	2	2	3	7	5	4	2	2	4	6	5
33	15023D	5	2	1	2	6	5	4	2	2	3	7	5	3	2	2	4	6	6
34	15026A	3	1	2	5	6	5	3	2	2	4	7	5	3	2	2	5	6	5
35	15026B	3	2	2	4	6	4	4	2	2	5	6	4	4	2	2	5	7	6
36	15031	6	3	3	4	6	5	6	3	2	2	7	4	5	3	3	4	6	4
37	15032	6	2	2	3	7	5	6	2	2	3	7	4	5	2	2	4	6	6
38	19005A	2	3	2	4	6	6	2	4	3	5	7	5	2	2	2	6	7	6
39	19005B	3	4	2	4	7	6	3	4	3	4	7	5	2	2	2	5	7	6
40	19999A	3	2	4	5	7	5	3	2	3	3	7	5	2	2	4	5	6	5
41	19999B	2	3	4	7	6	4	3	3	4	6	5	3	3	3	5	7	6	4
42	19999C	2	3	2	4	7	6	2	2	2	4	7	5	2	2	2	4	6	5
43	19999D	4	2	2	5	7	5	2	2	2	4	7	5	2	2	2	5	6	5
44	19999E	4	3	2	4	7	6	4	2	3	2	7	5	3	2	3	4	7	5
45	19999F	6	2	1	4	6	5	5	2	2	3	7	4	4	3	2	5	6	5
46	19999G	3	2	2	5	7	6	5	2	3	4	7	6	2	2	2	5	6	5
47	21102	2	5	2	3	6	7	4	3	2	2	5	7	2	4	2	4	4	7

Appendix B

OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
48	21105	2	4	1	3	6	7	4	3	2	2	5	7	2	3	2	4	4	7
49	21108	2	3	2	6	7	5	2	3	3	5	6	4	3	2	2	5	7	4
50	21111	2	3	1	3	6	7	4	3	2	2	5	7	3	2	2	4	4	7
51	21114A	2	4	1	3	5	7	3	4	2	2	5	7	3	3	2	3	4	7
52	21114B	2	4	1	3	6	7	4	5	2	3	6	7	3	3	2	3	5	7
53	21114C	3	5	2	2	5	7	6	5	2	3	4	7	4	3	2	3	4	7
54	21117	3	3	2	4	6	7	4	3	2	3	5	6	4	3	2	2	6	7
55	21199B	2	3	3	6	5	4	2	3	3	6	5	3	3	2	2	7	4	5
56	21199D	2	3	1	4	6	6	4	3	2	3	5	7	2	2	2	4	5	6
57	21302	2	5	2	4	7	6	4	2	3	4	5	7	2	2	3	4	7	5
58	21305A	5	4	2	3	7	5	5	2	2	2	6	7	4	2	2	4	6	4
59	21308A	3	3	2	4	7	5	5	3	2	2	7	6	3	2	2	4	7	5
60	21308B	5	5	2	3	4	6	5	5	2	2	5	6	5	5	1	2	4	6
61	21308C	3	5	2	2	4	6	4	5	2	2	4	6	4	5	2	2	4	7
62	21502	2	3	2	5	4	6	2	3	2	6	5	5	3	2	2	6	4	7
63	21505	2	3	1	5	7	4	4	2	2	3	7	6	3	2	2	5	7	5
64	21508	2	3	3	6	5	4	2	2	2	6	5	4	3	2	2	6	5	4
65	21511A	2	6	2	4	5	5	3	6	2	4	4	5	3	6	2	4	4	7
66	21511B	2	3	2	6	6	4	2	3	2	7	5	4	3	2	2	6	6	4
67	21511C	3	2	2	7	6	4	2	4	3	7	4	3	2	2	2	6	4	4
68	21511D	3	2	3	6	7	4	2	3	3	7	5	4	2	2	2	6	5	4
69	21511E	4	4	3	6	7	3	2	3	3	5	7	4	2	2	2	6	6	4
70	21511F	4	3	2	6	7	4	2	3	2	7	6	4	2	2	2	5	6	4
71	21902	4	3	2	3	5	6	3	3	2	5	5	6	3	3	2	3	6	7
72	21905	2	5	2	4	7	5	3	7	2	3	5	6	4	6	2	4	6	7
73	21908A	5	5	2	3	4	6	5	6	3	2	4	6	6	4	2	2	4	7
74	21908B	5	4	2	3	4	6	6	4	2	3	3	5	6	3	2	2	4	7
75	21911A	4	6	2	4	4	3	2	5	3	7	4	4	2	5	2	4	4	5
76	21911B	5	6	2	2	3	4	5	7	2	2	4	6	4	5	2	3	4	6
77	21911C	5	4	2	3	5	6	5	4	2	4	5	6	3	4	2	3	5	7
78	21911D	4	3	1	2	4	5	2	2	2	3	4	7	5	2	2	4	4	6
79	21911E	4	3	2	5	4	5	4	4	2	5	5	5	4	2	2	6	5	6
80	21911F	2	3	2	6	6	4	2	2	3	5	6	4	2	2	2	6	5	4
81	21911H	2	4	2	4	6	5	3	3	2	4	5	5	3	3	2	5	7	4
82	21911J	2	3	2	5	6	4	2	4	3	5	6	4	3	4	2	5	7	4
83	21911K	6	5	2	3	4	5	5	5	2	2	4	4	6	5	2	2	3	4
84	21911L	6	3	2	1	3	3	6	2	2	3	4	7	5	3	2	2	3	6
85	21911M	4	5	2	4	5	4	4	3	2	4	6	4	4	3	2	4	6	5
86	21911N	5	3	2	3	4	6	5	3	2	3	5	6	5	2	2	3	4	7
87	21911P	5	6	2	3	4	5	3	7	2	3	4	5	5	5	2	3	3	4
88	21911R	6	5	2	3	3	4	6	5	2	3	3	4	6	5	2	2	3	4
89	21911T	6	4	2	2	3	4	4	5	2	3	3	5	6	4	2	2	3	6
90	21914	2	4	1	3	7	6	3	2	2	2	5	7	3	2	2	2	4	6
91	21917	3	4	1	3	7	6	3	2	2	2	5	7	3	3	2	2	3	6
92	21921	2	3	2	3	2	5	2	3	2	4	5	6	2	2	2	3	5	7
93	21999A	4	6	3	3	3	5	5	6	2	2	2	4	5	6	2	2	3	4
94	21999B	2	5	3	4	5	5	2	4	3	4	6	6	2	4	3	4	6	5
95	21999C	3	4	2	3	5	7	3	2	2	4	5	7	2	2	3	4	6	6

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
96	21999D	4	2	3	4	6	5	2	2	2	3	5	7	3	2	3	4	6	4
97	21999F	4	2	3	4	5	7	3	2	2	4	7	5	2	2	3	4	6	4
98	21999G	3	4	2	6	5	6	3	2	2	5	7	4	2	2	2	4	6	5
99	21999H	3	4	2	3	6	7	4	2	2	3	4	7	3	2	2	4	5	6
100	21999J	3	3	2	4	5	6	3	2	2	3	5	7	2	2	2	4	5	5
101	22102	6	7	5	2	3	3	7	6	2	2	3	4	6	7	3	2	3	5
102	22105A	6	7	4	2	3	3	7	6	2	2	3	4	6	6	4	2	2	4
103	22105B	5	7	3	1	3	4	7	6	2	2	3	4	5	6	3	2	2	4
104	22105C	6	6	3	3	2	3	6	6	3	2	2	4	7	6	2	2	3	3
105	22105D	5	7	4	2	3	2	7	5	2	2	3	4	5	6	2	2	2	4
106	22108	7	7	3	2	4	3	7	6	2	3	3	4	5	6	2	2	4	5
107	22111	7	6	2	3	3	3	6	5	3	3	3	4	7	6	2	2	4	3
108	22114	6	7	3	3	3	4	5	6	3	3	3	4	6	7	2	2	3	3
109	22117	5	7	3	2	3	5	7	6	2	2	3	3	5	7	3	2	2	4
110	22121	7	6	3	3	3	4	6	5	3	3	3	4	7	6	3	2	3	4
111	22123	6	6	2	3	3	4	5	6	3	3	3	4	7	6	2	2	3	4
112	22126A	6	7	3	3	4	4	7	6	2	2	4	3	6	6	2	2	2	4
113	22126B	6	7	4	3	3	4	7	6	2	2	5	3	6	7	2	2	2	4
114	22127	6	7	3	2	4	6	7	6	2	2	3	4	6	6	2	2	3	5
115	22128	4	5	3	3	6	3	5	5	2	3	6	4	5	6	2	4	6	5
116	22132A	4	6	2	4	5	4	4	6	2	4	5	4	4	5	2	4	6	4
117	22132B	5	6	2	4	5	4	3	6	2	4	5	4	4	6	2	3	5	5
118	22132C	5	6	2	3	3	4	5	6	2	3	3	4	5	6	2	3	4	4
119	22135	7	6	3	3	3	4	6	5	3	3	3	4	7	5	2	2	4	3
120	22138	6	5	2	3	3	4	5	6	3	2	2	4	7	6	2	2	3	4
121	22197	5	6	4	3	2	3	5	6	3	2	2	4	6	7	3	2	3	4
122	22199	6	7	4	2	4	3	7	5	2	2	3	4	6	6	2	2	2	5
123	22302	5	5	6	3	4	4	5	5	6	2	4	3	6	5	7	4	4	3
124	22305	6	5	4	2	2	3	5	6	4	2	4	3	7	5	4	3	4	4
125	22308	6	5	6	3	3	4	6	5	6	3	4	3	6	5	6	3	4	3
126	22311A	5	5	7	2	3	6	4	5	3	2	2	5	5	4	3	2	2	6
127	22311B	4	6	3	3	5	4	4	6	3	4	5	4	5	7	2	2	6	4
128	22502	6	5	2	2	3	4	6	5	3	2	2	4	7	6	2	2	3	4
129	22505A	7	6	3	2	3	5	7	5	2	2	3	3	7	5	3	3	3	4
130	22505B	7	5	4	2	3	5	7	4	2	2	3	5	6	5	3	3	3	5
131	22505C	7	6	3	2	4	3	7	4	2	2	3	3	6	5	3	3	3	4
132	22508	3	6	2	4	3	5	4	6	3	2	2	5	3	6	2	2	3	5
133	22511	7	6	3	2	2	4	6	6	3	2	2	4	7	6	2	2	3	3
134	22514A	6	4	5	3	3	2	7	3	3	2	2	6	5	4	5	2	2	4
135	22514B	6	5	3	2	2	5	6	5	3	2	2	5	7	5	3	2	2	6
136	22514C	6	4	5	3	4	2	7	3	3	2	2	6	5	4	3	2	2	6
137	22514D	6	5	4	2	2	5	6	4	3	2	2	5	7	4	3	2	2	6
138	22517	4	5	2	2	2	6	5	4	2	2	2	6	5	4	2	2	3	6
139	22521A	6	5	4	2	3	5	7	4	3	2	3	6	6	4	2	2	2	5
140	22521B	5	4	3	2	2	7	6	4	2	2	2	5	5	3	3	2	2	7
141	22599A	6	4	6	2	4	3	7	3	5	2	4	4	6	5	4	2	3	4
142	22599B	6	5	2	2	2	4	6	6	3	2	2	4	6	5	2	2	4	5
143	22599C	5	6	2	2	2	4	5	6	3	2	2	4	6	7	2	2	3	4

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
144	22599D	7	6	5	2	3	4	6	3	3	2	2	7	6	4	4	2	2	4
145	22599E	5	6	2	2	2	4	5	6	3	2	2	4	5	6	2	2	3	4
146	22599F	5	6	2	2	2	4	5	6	3	2	2	4	5	6	2	2	3	4
147	22599G	6	6	3	2	3	4	7	5	2	2	2	4	6	5	2	2	2	4
148	24102A	5	7	4	2	2	5	5	7	3	2	2	5	5	7	4	2	2	4
149	24102B	5	7	4	2	2	4	6	7	3	2	2	5	5	7	4	2	2	4
150	24105	6	7	3	2	2	5	6	7	3	2	2	4	6	7	3	2	2	5
151	24108	5	7	4	4	3	3	6	7	2	3	3	4	6	7	3	2	2	4
152	24111A	6	7	4	2	2	3	6	7	2	2	3	4	6	7	3	2	2	5
153	24111B	5	7	4	2	3	4	6	7	2	2	3	4	6	7	3	2	2	4
154	24199A	5	6	3	2	2	3	6	7	2	2	3	4	5	7	4	2	2	4
155	24199B	6	7	3	2	2	3	5	7	2	2	3	4	5	7	3	2	2	4
156	24199C	5	7	3	2	2	3	6	7	2	2	3	4	6	7	3	2	2	4
157	24302A	6	6	2	2	3	3	6	5	3	2	2	3	7	6	2	3	4	3
158	24302B	6	6	2	2	2	4	5	6	3	2	2	4	5	6	2	2	3	4
159	24302C	5	6	2	2	2	3	5	6	3	2	2	4	5	6	2	2	3	4
160	24302D	6	7	2	2	2	3	5	6	3	2	2	3	5	6	2	2	3	4
161	24302E	5	4	3	6	4	2	5	4	4	5	3	2	5	4	3	6	3	3
162	24305A	5	7	2	3	3	4	6	7	2	2	4	3	6	7	3	2	2	4
163	24305B	5	7	2	2	3	4	6	7	2	2	4	4	6	7	3	2	2	4
164	24305C	5	7	3	2	3	4	7	6	2	2	4	4	6	7	3	2	2	4
165	24305D	6	7	2	2	3	3	6	7	2	2	3	4	6	7	3	2	2	4
166	24308A	5	7	3	2	2	3	5	7	2	2	2	4	5	7	4	2	2	4
167	24308B	5	7	3	2	2	3	5	7	3	2	3	4	5	7	4	2	2	4
168	24308C	5	7	3	2	2	4	5	7	3	2	3	4	5	7	4	2	2	4
169	24308D	6	7	3	2	2	3	5	7	2	2	3	3	5	7	4	2	2	4
170	24308E	6	7	2	2	2	3	6	7	2	2	2	3	5	7	3	2	2	4
171	24308F	5	7	3	3	2	3	6	7	2	2	2	3	4	7	4	2	2	4
172	24308G	5	7	3	2	2	3	6	7	2	2	2	3	5	7	3	2	2	4
173	24308H	5	7	2	3	2	3	6	7	2	2	2	3	4	7	4	2	2	4
174	24308J	5	7	3	4	3	3	5	7	2	3	2	3	4	7	4	2	2	4
175	24311	6	7	3	4	4	3	4	6	2	5	4	3	4	6	4	4	2	4
176	24502A	5	6	2	2	2	3	4	6	4	2	2	3	5	6	2	2	3	3
177	24502B	6	7	2	2	3	3	7	3	2	2	2	4	6	4	2	2	2	4
178	24502C	6	6	2	2	3	4	7	3	2	2	2	4	6	4	2	3	2	4
179	24502D	6	5	3	2	3	2	7	2	2	2	2	5	6	5	4	4	2	4
180	24505A	6	5	2	2	2	4	6	5	3	2	2	4	7	6	2	2	2	4
181	24505B	6	5	2	2	2	4	6	6	3	2	2	4	7	5	2	2	3	4
182	24505C	6	5	2	2	2	4	6	5	2	2	2	3	7	5	2	2	3	4
183	24505D	6	6	3	2	3	3	7	2	2	2	2	4	6	4	2	2	2	4
184	24505E	6	6	2	2	2	3	5	6	2	2	2	3	6	7	2	2	3	4
185	24508A	7	5	2	3	3	3	7	3	2	2	2	2	6	4	2	2	2	4
186	24508B	6	5	2	2	2	3	6	4	2	2	2	3	7	6	2	2	2	3
187	24511B	6	5	2	2	3	6	7	3	2	2	2	4	6	4	2	2	2	5
188	24511E	6	4	2	2	2	3	6	5	2	2	2	3	7	5	2	2	2	4
189	24599A	5	6	2	2	2	3	5	6	2	2	2	3	5	6	2	2	2	4
190	24599B	5	7	2	2	4	6	5	7	2	3	4	6	6	4	2	2	2	5
191	24599C	6	5	2	2	3	5	7	5	2	2	3	6	5	5	2	2	2	5

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
192	25102	4	6	3	2	4	7	7	6	2	2	3	4	3	5	2	2	3	4
193	25103A	4	6	3	3	2	5	3	5	2	4	4	4	5	6	2	3	3	4
194	25103B	4	6	3	2	4	7	6	7	2	2	4	5	5	5	3	2	2	6
195	25104	3	7	3	4	4	6	7	5	2	3	3	4	4	4	2	4	2	6
196	25105	4	6	2	2	3	5	5	6	3	2	2	4	5	6	2	2	2	4
197	25111	5	6	2	2	3	7	7	4	2	2	3	4	6	5	2	2	2	6
198	25199A	4	6	2	2	4	3	5	6	3	3	4	4	4	6	2	2	3	4
199	25302	4	6	2	3	5	6	5	7	2	3	5	4	5	6	2	2	3	6
200	25312	3	7	2	2	4	6	5	7	2	2	3	6	3	5	4	2	2	6
201	25313	3	6	2	2	5	7	5	5	2	2	4	7	4	5	2	2	2	7
202	25315	2	6	2	3	4	5	2	6	2	4	5	4	4	6	2	3	5	6
203	25319A	2	7	3	2	3	6	5	7	4	2	2	4	4	7	5	2	3	4
204	25319B	4	6	2	2	2	5	2	6	2	3	3	5	4	6	2	2	3	5
205	25319C	3	6	2	2	4	6	6	7	2	2	4	5	4	7	5	2	2	4
206	25323	4	7	2	2	2	5	4	6	3	2	2	4	5	7	2	2	3	4
207	27102A	3	6	2	3	6	5	4	7	2	5	5	4	3	6	4	2	3	4
208	27102B	3	6	2	3	5	4	3	6	4	2	5	4	3	6	2	3	5	4
209	27105	3	6	4	4	5	3	2	5	4	2	5	4	4	7	3	4	6	4
210	27108A	2	7	4	5	2	3	3	7	4	6	2	3	2	6	4	5	2	3
211	27108C	2	7	3	3	2	4	3	7	3	5	2	4	4	7	5	3	2	4
212	27108D	2	7	4	5	2	3	2	7	3	6	3	2	3	7	4	5	2	3
213	27108E	2	7	4	5	2	3	3	7	3	5	2	2	3	6	5	4	2	3
214	27108G	2	6	4	5	3	3	2	6	6	5	3	3	2	7	5	4	3	3
215	27108H	2	6	5	7	1	3	2	6	4	7	3	3	2	5	5	6	4	4
216	27108J	2	6	4	4	5	2	2	6	5	4	5	3	2	6	4	4	5	3
217	27199A	2	6	4	3	4	3	2	7	3	5	4	3	3	6	5	2	3	4
218	27199B	2	7	5	6	1	3	2	7	3	5	4	3	2	6	5	2	3	4
219	27199C	2	7	5	5	1	3	2	7	3	5	3	3	2	6	5	4	2	4
220	27199D	2	7	6	5	1	2	2	7	3	5	3	4	2	6	5	3	2	3
221	27199E	2	6	5	4	3	4	2	6	5	3	2	3	2	7	5	4	3	3
222	27199F	2	6	3	3	5	4	2	6	3	3	5	4	2	7	3	3	6	4
223	27199G	2	6	3	4	4	5	2	6	4	4	3	4	2	7	3	4	3	5
224	27199H	6	7	4	3	4	4	5	7	3	3	2	4	3	6	5	3	3	4
225	27302	3	4	5	7	2	4	2	5	3	7	4	3	2	4	4	7	4	3
226	27305A	3	4	5	7	3	4	2	3	3	7	5	4	3	3	4	7	5	4
227	27305B	3	3	5	7	2	2	2	4	3	7	5	5	3	3	4	7	5	4
228	27305C	4	3	3	7	2	4	3	2	2	7	4	5	3	3	3	6	4	4
229	27307	3	2	5	7	2	4	3	2	2	7	4	5	3	3	3	7	4	4
230	27308	4	2	5	7	2	4	2	3	2	7	4	5	2	2	4	6	4	5
231	27311	5	2	6	7	2	3	5	2	5	7	3	4	4	2	3	7	4	4
232	27502	3	2	5	7	4	3	2	5	4	7	4	3	2	2	4	7	5	4
233	27505	3	2	5	7	4	4	2	5	4	7	4	3	2	2	4	6	6	4
234	27599	4	2	5	7	3	4	2	3	4	7	5	6	2	2	4	6	5	4
235	28102	2	4	3	5	6	3	2	5	3	6	7	4	2	2	4	5	6	4
236	28105	2	4	3	5	6	4	2	4	4	6	6	4	2	4	2	5	7	4
237	28108	3	5	4	4	7	5	2	5	3	4	7	4	4	2	2	4	6	4
238	28302	2	4	3	4	5	5	2	4	4	4	6	5	2	4	4	5	6	5
239	28305	2	4	3	4	5	6	2	4	4	4	6	5	2	3	4	4	5	4

Appendix B

OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
240	28308	2	5	3	2	4	7	3	3	2	2	5	7	3	3	3	3	4	6
241	28311	2	5	2	2	3	7	3	3	2	2	5	7	2	4	3	3	4	7
242	28399	2	5	3	3	4	6	2	4	2	3	5	7	2	4	4	3	4	6
243	31114	4	6	3	6	5	4	2	5	4	6	3	3	4	6	4	7	3	2
244	31117	2	5	4	6	2	6	3	4	4	7	2	5	3	6	5	5	3	4
245	31202	4	6	3	5	3	3	2	6	5	5	2	3	3	6	3	5	2	2
246	31204	5	7	4	5	3	4	4	5	2	7	3	3	5	6	5	5	3	4
247	31206	5	7	4	5	3	4	4	5	2	7	3	3	5	6	5	5	3	4
248	31209	5	7	4	5	3	3	4	5	2	7	3	3	5	6	5	5	3	4
249	31210	2	6	4	6	4	3	2	5	4	5	2	3	3	5	4	7	3	2
250	31212	4	6	3	5	3	3	2	6	5	4	3	3	3	6	2	5	2	2
251	31216	2	5	6	5	4	3	2	4	6	5	3	3	2	4	6	6	2	2
252	31218	3	4	7	6	1	2	3	4	7	6	2	2	3	5	6	5	3	3
253	31222	5	7	4	5	3	3	6	5	2	7	3	3	5	6	4	4	3	3
254	31224	4	7	5	4	2	6	5	6	2	7	3	4	5	5	3	5	3	6
255	31226	4	6	3	3	4	3	2	6	4	4	2	5	4	6	2	3	2	4
256	31299	4	6	5	5	3	5	4	5	4	7	3	3	4	4	4	5	3	3
257	31303	3	4	5	7	2	4	3	4	5	7	2	3	3	4	5	7	4	5
258	31304	3	4	5	7	2	4	3	4	5	7	2	3	3	4	5	7	4	4
259	31305	3	5	5	7	2	4	3	5	4	7	3	4	3	4	5	7	4	4
260	31308	2	5	4	7	2	4	4	4	4	7	3	3	3	4	5	7	4	4
261	31311A	4	4	5	7	2	3	5	4	3	7	3	4	4	4	4	7	4	4
262	31311B	4	4	5	7	2	3	3	4	4	7	2	3	4	4	4	7	4	4
263	31311C	4	4	5	7	2	3	3	4	4	7	2	3	3	4	4	7	4	4
264	31311D	3	5	5	7	2	3	4	5	4	7	3	3	3	4	4	7	4	5
265	31311E	4	5	4	7	2	2	4	4	3	7	3	2	4	4	4	7	4	4
266	31314	5	4	3	6	4	3	5	3	2	7	4	3	5	4	4	7	4	4
267	31317	4	4	5	6	3	3	2	3	5	7	3	4	4	4	5	7	4	4
268	31321	6	4	4	5	3	3	6	2	2	7	5	3	3	3	3	6	5	4
269	31323	5	4	2	6	5	4	6	3	3	7	4	4	4	4	3	6	5	4
270	31399	3	5	5	6	3	4	4	4	5	7	3	3	3	4	5	7	4	4
271	31502A	3	4	6	4	4	5	2	4	6	3	3	5	3	4	6	4	4	5
272	31502B	2	5	4	4	4	5	2	5	5	3	3	5	3	5	4	5	4	5
273	31505	3	4	2	3	2	6	4	3	3	5	2	7	3	3	5	5	2	5
274	31508	4	3	4	5	4	5	3	3	4	4	3	5	4	3	3	4	3	5
275	31511A	3	5	6	4	5	4	3	6	6	4	4	4	4	6	6	4	5	4
276	31511B	2	6	4	4	3	5	3	6	4	3	3	5	2	6	3	4	2	6
277	31511C	4	6	5	4	3	4	3	6	5	3	3	4	3	6	5	4	3	3
278	31511D	5	4	6	3	3	4	5	4	6	3	3	3	6	5	7	4	4	4
279	31511E	5	4	5	6	3	3	4	3	5	5	3	3	5	3	4	6	3	2
280	31514	3	4	5	7	2	3	3	3	4	7	5	5	2	4	4	6	5	4
281	31517A	3	5	4	7	2	4	2	4	4	7	5	3	2	4	4	6	6	4
282	31517B	3	4	4	6	2	5	2	4	3	7	3	4	3	3	3	5	6	5
283	31517C	4	6	2	3	5	3	5	6	4	4	4	4	5	6	2	3	4	4
284	31517D	3	6	5	6	5	4	4	7	4	6	3	3	4	4	5	6	4	4
285	31521	4	3	3	6	2	5	2	3	4	7	3	3	4	3	4	7	4	5
286	32102A	5	7	3	3	6	4	4	7	3	6	5	3	4	7	4	5	3	4
287	32102B	5	7	3	3	5	4	4	7	3	6	5	3	4	7	4	5	3	4

Appendix B

OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
288	32102E	3	7	5	4	4	3	3	6	5	4	3	3	3	6	3	5	4	3
289	32102F	5	5	2	2	3	4	5	7	4	6	4	3	5	6	4	4	2	4
290	32102J	6	7	4	4	5	3	5	7	4	6	4	3	5	7	4	4	2	5
291	32102U	5	7	4	3	3	5	6	7	4	5	4	3	4	7	4	4	2	4
292	32105A	5	7	4	3	3	5	4	7	3	5	4	3	5	7	4	4	2	3
293	32105B	6	7	3	4	5	3	4	7	3	5	4	3	6	7	4	5	2	4
294	32105D	5	7	3	4	5	3	5	7	4	6	4	3	6	7	4	5	2	4
295	32105F	4	6	4	4	3	3	4	6	3	4	3	4	5	7	3	4	3	3
296	32105G	6	7	4	4	5	3	5	7	4	6	5	3	5	6	4	5	2	4
297	32108	6	7	3	4	5	3	6	7	4	5	5	4	5	6	4	5	2	4
298	32111	4	6	3	6	4	3	4	5	4	6	4	3	4	6	3	7	4	3
299	32113	6	5	4	4	5	3	5	7	4	6	5	3	5	6	4	5	2	4
300	32114A	4	7	4	3	3	5	6	7	3	4	5	3	5	7	4	3	2	4
301	32114B	5	7	4	4	5	3	6	7	3	3	4	2	5	6	4	4	2	4
302	32114C	5	6	2	3	3	4	5	6	3	4	3	4	5	6	2	2	3	4
303	32199	4	6	4	4	4	3	4	7	3	6	5	3	4	6	4	5	3	4
304	32302	5	6	4	5	3	3	5	6	5	4	3	3	5	6	3	5	3	3
305	32305	5	4	5	7	3	3	6	4	3	7	4	3	3	5	4	6	2	3
306	32308	6	5	4	7	3	3	6	4	2	7	3	3	5	5	4	5	2	3
307	32311A	5	3	5	7	2	3	6	3	3	7	2	2	5	4	4	5	2	3
308	32311B	5	5	4	7	2	3	4	3	3	7	2	2	5	4	3	5	2	3
309	32314	4	6	4	7	2	3	5	6	3	7	4	2	3	5	4	6	2	3
310	32317	5	3	5	7	2	4	5	3	5	7	4	2	4	3	5	7	3	3
311	32399A	5	5	4	6	3	4	6	4	3	7	3	2	5	5	4	5	4	4
312	32399B	5	4	4	7	2	3	4	3	3	7	2	2	4	3	4	6	3	4
313	32502	4	6	4	7	2	3	5	5	3	7	4	4	3	4	4	6	3	4
314	32505	5	5	3	7	2	3	6	4	2	7	3	4	3	4	4	7	3	4
315	32508	5	4	3	6	3	4	5	5	3	6	3	3	5	4	3	7	3	3
316	32511	4	6	5	5	4	3	4	6	5	5	4	4	4	7	3	6	3	3
317	32514	5	4	3	4	6	5	5	4	3	4	6	5	4	2	3	4	6	5
318	32517	4	7	3	2	4	6	5	7	3	4	4	6	5	5	3	3	4	6
319	32518	5	4	2	4	4	6	5	4	3	3	4	6	5	4	2	4	3	6
320	32521	4	6	3	5	4	4	5	7	2	4	6	3	4	5	4	5	5	4
321	32523	6	6	3	5	2	3	4	3	2	7	5	4	5	5	4	5	3	4
322	32902	5	6	3	4	4	4	5	6	4	5	3	4	5	6	2	2	2	3
323	32905	5	6	3	3	3	4	5	6	2	2	3	4	5	2	3	3	3	4
324	32908	4	3	3	6	4	5	4	4	2	6	4	5	5	4	3	6	4	5
325	32911	5	4	2	3	2	7	3	2	2	3	4	7	4	3	3	3	3	6
326	32913	5	4	3	6	3	4	5	5	3	6	3	4	5	5	2	6	3	4
327	32914	5	6	3	3	3	4	4	6	4	4	3	4	6	5	2	4	3	3
328	32919	6	5	2	4	2	3	6	5	2	4	3	3	6	5	2	4	3	3
329	32921	6	4	2	3	3	5	6	4	2	3	3	5	6	4	2	3	3	5
330	32923	5	5	2	4	2	4	5	6	2	4	3	3	5	6	2	4	3	4
331	32925	5	6	2	4	3	4	5	6	2	4	3	3	6	5	2	4	3	3
332	32926	5	6	2	4	3	4	5	6	2	4	3	3	6	5	2	4	3	4
333	32928	7	4	2	2	3	5	6	3	2	7	3	4	5	4	3	4	2	3
334	32931	5	5	4	6	2	3	3	2	3	7	3	4	4	4	3	6	3	3
335	32996A	3	3	2	5	6	4	2	3	3	5	6	4	2	3	3	5	6	4

Appendix B

OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
336	32996B	3	4	2	6	5	4	2	3	3	6	5	4	2	3	3	7	5	4
337	32996C	2	4	3	6	5	4	2	5	3	6	5	3	3	4	2	7	5	4
338	32999A	5	4	2	6	2	3	4	5	3	6	3	3	4	5	3	7	4	3
339	32999B	5	4	2	5	2	3	5	4	3	6	3	4	5	5	2	7	3	4
340	32999C	5	3	2	6	2	4	5	3	3	6	4	4	5	4	2	6	4	3
341	32999D	5	5	2	3	2	4	7	2	2	6	4	5	4	5	3	4	2	2
342	32999E	5	4	2	6	2	4	5	5	3	5	3	3	5	5	3	6	3	4
343	34002A	2	5	7	4	4	3	3	5	7	5	6	3	2	3	6	3	4	2
344	34002B	2	5	7	4	4	3	2	3	7	3	2	2	2	3	6	3	2	2
345	34002C	2	5	7	3	4	3	2	2	7	3	3	2	2	3	6	3	2	2
346	34002D	2	4	6	5	5	4	2	3	6	5	4	4	3	4	6	4	5	3
347	34002E	2	3	5	4	6	4	3	5	6	4	7	5	2	2	5	3	6	4
348	34002F	2	2	5	4	6	4	3	3	7	4	6	4	2	2	5	3	6	3
349	34002G	2	3	6	4	5	3	3	3	6	4	7	3	2	3	6	3	6	3
350	34002H	2	5	6	4	4	3	2	5	6	5	4	4	2	3	6	4	4	5
351	34002J	2	4	3	4	4	6	2	2	7	5	3	4	2	4	5	3	2	2
352	34002L	2	3	6	4	5	3	2	3	6	4	5	3	2	3	6	4	5	3
353	34002M	2	6	5	3	3	4	2	6	5	3	3	4	2	6	5	3	3	4
354	34005	3	5	6	3	3	4	4	5	6	3	3	3	3	5	6	3	4	3
355	34008	2	3	5	4	6	4	2	3	5	4	6	2	2	3	5	5	6	3
356	34011	2	5	6	3	4	3	2	5	6	3	4	3	2	6	7	4	5	4
357	34014	2	3	7	6	5	3	4	4	7	6	5	3	2	5	6	3	3	3
358	34017	2	3	5	6	6	4	4	4	7	6	5	2	2	4	6	5	5	3
359	34021	3	2	5	6	4	3	2	2	5	6	4	3	3	2	4	6	5	3
360	34023A	5	3	7	3	4	3	6	3	7	5	4	2	2	2	6	3	4	3
361	34023B	5	4	6	3	3	3	5	4	6	3	3	3	4	5	6	3	3	2
362	34026	5	2	6	3	4	3	5	4	6	3	3	3	5	3	6	3	4	3
363	34028B	7	3	4	3	4	5	7	3	4	3	2	2	5	4	4	3	3	3
364	34028C	7	3	4	2	4	4	7	3	4	3	2	2	6	5	3	3	3	3
365	34032	4	5	7	3	4	3	4	3	7	4	5	3	3	3	6	3	3	2
366	34035A	5	3	4	3	4	2	4	3	7	3	3	2	4	4	6	3	3	3
367	34035B	5	3	7	3	4	2	4	3	7	5	3	2	5	3	6	3	4	3
368	34035C	5	3	7	3	5	4	3	3	7	5	6	4	4	3	6	2	2	2
369	34035D	5	3	7	3	4	2	3	2	7	6	5	3	4	3	6	3	4	3
370	34035E	6	3	7	3	3	2	6	3	7	4	3	2	5	4	6	3	3	3
371	34038A	5	3	7	3	6	2	4	3	7	5	6	2	4	3	6	3	5	3
372	34038B	5	4	7	2	5	2	6	4	7	3	5	2	4	3	6	2	4	3
373	34038C	6	4	7	2	4	3	4	3	7	3	4	2	5	4	6	2	2	3
374	34038D	5	3	7	4	5	3	5	4	7	3	4	3	5	3	6	2	4	2
375	34038E	4	3	7	4	3	4	3	4	7	4	6	3	4	2	6	2	5	2
376	34038F	5	3	7	3	4	2	6	3	7	3	5	2	4	2	6	2	4	4
377	34041	3	4	7	5	6	4	5	3	7	4	5	2	5	3	6	2	5	3
378	34044	6	4	6	3	5	3	6	3	7	3	4	2	5	2	5	3	5	3
379	34047A	2	3	7	5	4	2	2	3	7	5	4	2	4	2	6	3	5	3
380	34047B	2	5	7	3	3	4	2	2	7	3	3	2	4	3	6	3	2	4
381	34047C	2	4	7	5	5	2	2	2	7	4	4	3	3	2	6	2	5	2
382	34047E	2	4	7	4	3	3	2	3	7	4	4	3	3	2	6	2	4	3
383	34047F	2	3	6	3	4	4	2	3	5	6	3	7	2	2	5	3	6	3

Appendix B

OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
384	34051	5	4	7	3	4	3	2	3	7	5	3	2	4	3	6	3	4	3
385	34053A	6	3	7	4	4	2	3	2	7	4	3	2	3	3	6	4	4	3
386	34053B	5	4	7	6	5	4	2	3	7	6	5	2	4	3	6	3	4	3
387	34056A	2	4	7	5	5	3	2	3	7	5	6	2	4	2	6	3	4	3
388	34056B	3	2	5	4	4	3	4	2	7	3	3	2	4	2	6	4	4	3
389	34056D	5	2	6	4	5	3	4	3	6	4	5	3	4	3	6	4	5	3
390	34056E	7	2	3	4	5	2	7	2	6	5	4	2	5	2	5	4	6	2
391	34056F	3	2	6	4	5	3	3	3	6	4	5	4	3	3	6	4	5	3
392	34056G	3	3	7	5	6	4	5	3	7	4	6	3	3	2	6	4	5	3
393	34056H	3	3	5	4	6	6	4	2	5	4	7	3	2	2	5	4	6	3
394	34056J	2	3	6	5	7	3	3	2	7	5	5	4	2	2	6	5	6	3
395	34056K	6	3	5	4	4	3	6	4	5	3	6	4	6	3	5	4	4	4
396	34058A	5	2	3	4	6	3	5	2	2	4	6	3	5	2	2	4	6	3
397	34058B	6	4	3	6	4	2	4	5	2	6	3	3	6	3	2	5	5	2
398	34058C	5	2	4	4	6	3	5	2	3	4	6	3	5	2	2	4	6	2
399	34058E	7	2	2	4	6	3	7	2	2	3	5	2	5	3	2	3	5	6
400	34058F	7	2	3	3	5	2	7	2	2	3	5	2	5	2	2	3	5	2
401	34058G	7	2	3	4	4	3	7	2	2	3	3	2	5	2	2	3	3	3
402	34058L	7	2	2	4	5	5	6	2	2	4	5	7	4	2	2	3	4	5
403	39002	6	4	2	3	5	6	6	2	2	4	5	7	3	3	2	2	3	6
404	39005	6	5	2	3	2	4	6	5	2	3	2	4	7	6	2	3	4	5
405	39008	7	3	2	2	4	5	7	2	2	3	3	4	5	5	3	3	4	4
406	39011	3	2	2	5	6	4	3	3	4	5	6	4	4	3	3	6	7	5
407	39014	7	3	3	2	3	4	7	2	3	3	3	4	4	5	3	3	3	4
408	39999A	2	4	6	5	3	4	3	4	5	7	4	6	2	5	5	3	2	2
409	39999B	3	4	3	5	7	4	3	2	4	4	7	5	2	2	5	4	6	3
410	39999C	3	5	2	2	4	7	4	3	3	4	3	7	2	4	2	2	3	5
411	39999D	7	4	5	2	3	4	7	3	4	3	4	3	5	5	4	2	2	3
412	39999E	7	3	4	2	5	4	7	3	4	2	3	4	6	5	4	2	3	3
413	39999G	3	5	2	4	3	6	3	5	2	4	4	6	3	5	2	4	3	6
414	39999H	4	4	4	4	4	4	7	3	3	4	3	3	6	5	2	2	2	3
415	41002	2	3	3	5	7	6	4	5	5	4	7	6	2	2	2	4	6	5
416	43002	2	2	2	5	7	4	2	2	2	5	6	4	3	3	2	6	7	5
417	43008	4	3	2	5	7	5	4	2	3	5	7	6	3	2	3	5	6	4
418	43011	4	3	2	4	6	5	5	2	3	5	6	4	4	3	3	4	7	5
419	43014A	2	5	2	4	7	6	3	2	2	4	7	6	2	3	3	4	6	4
420	43014B	2	4	2	5	7	5	3	2	2	4	7	5	2	3	3	4	6	5
421	43017	2	4	3	5	7	4	3	2	2	4	7	5	2	3	3	4	6	5
422	43021	3	3	4	5	6	4	2	2	4	5	6	4	3	3	4	5	7	6
423	43023A	2	2	3	4	7	6	3	2	2	4	7	4	3	2	3	4	6	4
424	43023B	2	2	5	4	7	4	3	2	2	4	7	5	2	2	4	4	6	3
425	43099A	3	2	4	5	7	5	3	2	2	4	7	5	2	2	3	5	6	4
426	43099B	2	3	3	5	7	4	2	2	3	5	6	4	2	3	4	6	7	5
427	49002	4	6	3	4	7	5	6	2	2	4	7	3	4	5	3	3	5	3
428	49005A	5	2	2	4	6	4	5	2	2	4	6	3	6	2	2	5	7	5
429	49005B	4	4	2	4	6	4	4	4	2	5	6	3	6	3	2	5	7	5
430	49005C	3	4	2	5	7	5	6	2	2	4	7	3	5	5	2	3	5	3
431	49005D	3	3	2	5	7	5	6	2	2	4	7	3	5	4	2	3	5	3

Appendix B

OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
432	49005F	4	4	2	4	6	4	3	4	2	5	6	3	6	3	2	5	7	5
433	49005G	5	3	2	4	6	4	4	4	2	5	6	3	6	3	2	5	7	5
434	49008	3	4	2	5	7	5	6	2	2	4	7	4	3	2	3	4	5	3
435	49011	3	3	2	5	7	4	5	2	3	4	7	3	3	2	3	4	5	3
436	49014	5	2	2	4	6	4	5	2	2	4	6	4	6	2	2	4	7	5
437	49017	4	2	2	3	5	6	5	2	2	3	5	7	3	2	2	4	5	5
438	49021	6	2	2	3	4	5	6	2	2	3	5	4	6	2	2	3	4	5
439	49023A	5	2	2	3	4	6	4	2	2	3	5	7	3	2	2	3	4	5
440	49023B	5	2	1	3	4	7	4	2	2	3	4	7	4	2	2	3	5	6
441	49026	3	2	2	4	6	5	2	2	2	4	6	5	3	2	2	5	7	6
442	49032A	4	2	3	5	6	3	6	2	3	3	7	4	3	2	2	5	6	3
443	49032B	4	2	6	4	5	3	3	2	6	4	5	3	2	2	6	4	5	2
444	49999A	3	4	2	5	6	6	4	2	2	4	7	6	3	2	3	4	6	4
445	49999B	4	2	2	3	5	6	4	2	3	3	5	6	4	2	3	3	5	6
446	49999C	3	2	2	5	6	4	2	2	3	5	6	4	3	2	4	6	7	5
447	49999D	3	3	2	4	6	5	5	2	3	4	7	6	2	2	2	4	5	3
448	51002A	3	2	2	5	7	6	4	3	3	4	7	4	2	2	3	5	6	4
449	51002B	3	2	2	3	6	6	4	3	2	4	7	5	2	2	3	5	6	4
450	53102	4	3	1	3	5	7	4	2	2	4	5	7	3	2	2	4	4	6
451	53105	3	2	1	4	6	6	3	2	2	5	6	7	2	2	2	4	6	5
452	53108	4	2	1	2	4	7	3	2	2	3	4	7	2	2	2	3	4	6
453	53114	3	4	2	3	6	6	4	2	2	3	4	7	2	2	2	3	4	6
454	53117	3	4	2	4	5	7	4	2	2	3	5	7	2	3	2	3	6	5
455	53121	3	4	2	2	5	7	3	2	2	4	5	7	2	2	2	5	5	6
456	53123	2	5	2	4	5	7	3	2	2	5	4	7	2	2	2	5	6	5
457	53126	2	3	2	4	5	7	3	2	2	4	3	7	2	2	2	3	4	6
458	53128	2	3	1	3	5	7	3	2	2	3	4	7	2	2	2	3	4	6
459	53302	3	5	2	5	7	4	3	4	2	4	6	4	2	5	2	3	7	4
460	53305	5	3	2	4	4	6	5	3	3	4	4	6	6	2	2	3	5	7
461	53311	3	4	1	3	5	7	3	2	2	3	4	7	3	3	2	4	4	6
462	53314	2	5	1	3	4	7	3	2	2	3	4	7	2	2	2	4	4	6
463	53502	2	3	2	5	4	6	3	2	2	7	4	6	2	2	2	5	5	4
464	53505	2	4	1	3	4	7	3	2	2	3	4	7	2	3	2	4	4	6
465	53508	3	4	1	4	5	7	3	2	2	3	5	7	2	2	2	3	5	5
466	53702	2	4	2	3	4	7	3	2	2	4	4	7	2	3	2	4	5	5
467	53705	3	4	2	4	5	7	3	3	2	4	4	7	2	3	2	3	4	6
468	53708	2	4	2	3	4	7	3	2	2	3	4	7	2	2	2	3	5	6
469	53802	3	2	2	4	5	6	3	2	3	6	4	7	2	2	3	5	5	4
470	53805	5	2	2	3	4	7	3	2	2	5	5	7	2	2	2	4	5	5
471	53808	3	2	1	4	5	7	3	2	3	5	7	6	2	2	2	4	4	5
472	53902	5	4	2	2	3	7	4	3	3	5	4	7	4	3	3	4	4	4
473	53905	4	3	3	6	1	6	4	3	3	7	3	6	3	2	3	6	4	4
474	53908	3	2	4	3	4	7	3	2	2	3	3	7	2	2	2	3	4	6
475	53911	2	4	3	3	3	7	3	4	3	3	3	6	2	2	3	3	3	7
476	53914	2	3	2	3	5	7	3	2	2	3	4	7	2	2	2	3	4	6
477	55102	2	5	3	3	4	7	3	3	2	4	5	7	2	3	2	3	6	5
478	55105	4	5	2	3	4	7	3	2	2	5	4	7	2	4	2	3	4	6
479	55108	3	2	2	3	4	7	3	2	3	5	5	7	3	2	2	4	4	6

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
480	55302A	5	2	1	2	4	7	3	2	2	3	3	7	4	2	2	3	4	6
481	55302B	4	2	1	2	4	7	2	2	2	3	3	7	4	2	2	3	3	6
482	55305	3	2	2	5	4	7	2	2	2	5	6	7	2	2	2	5	6	4
483	55307	5	2	1	2	3	7	3	2	2	3	3	7	2	2	2	3	3	6
484	55314	2	3	2	4	5	7	2	3	2	4	5	6	3	2	2	5	6	7
485	55317	3	4	1	3	5	6	3	2	2	3	3	7	2	2	2	3	4	6
486	55321	4	2	1	2	3	7	3	2	2	3	3	7	2	2	2	3	4	6
487	55323	3	2	1	3	5	7	3	2	2	3	4	7	2	2	3	4	5	5
488	55326	3	3	1	2	4	7	3	2	2	3	3	7	3	2	2	2	4	6
489	55328A	3	4	2	2	3	7	4	2	2	2	3	7	2	4	2	2	5	6
490	55328B	3	4	2	3	2	7	4	2	2	3	2	7	2	4	2	2	3	6
491	55332	2	3	2	4	4	6	3	2	2	5	4	7	2	3	2	5	5	5
492	55335	3	3	2	4	4	6	3	2	2	5	4	7	2	3	2	4	6	5
493	55338A	3	4	2	2	3	7	3	2	2	2	4	7	2	3	2	3	4	6
494	55338B	2	4	2	3	5	7	3	2	2	2	4	7	2	4	2	2	4	6
495	55341	4	3	1	2	4	7	4	2	2	2	4	7	2	3	2	2	4	6
496	55344	3	3	1	2	4	7	4	2	2	2	4	7	3	3	2	2	4	6
497	55347	4	2	1	2	3	7	4	2	2	3	3	7	2	2	2	3	4	6
498	56002	6	2	1	1	3	7	6	2	2	3	3	7	2	2	2	2	3	6
499	56005	5	2	2	2	4	6	5	2	2	3	3	6	3	2	2	2	3	7
500	56008	7	3	1	1	2	6	7	2	2	3	3	6	5	2	2	2	3	5
501	56011	5	4	1	2	3	6	7	2	2	3	3	5	5	3	2	2	3	6
502	56014	6	4	1	1	2	5	7	2	2	2	3	5	6	3	2	2	2	6
503	56017	6	3	1	1	2	7	6	2	2	2	3	7	3	2	2	2	3	6
504	56021	6	2	2	2	3	6	6	3	4	3	3	5	5	2	2	2	3	6
505	56099	6	3	1	1	2	6	6	2	2	3	3	7	3	2	2	2	3	5
506	57102	6	2	1	4	3	5	6	2	2	4	4	7	2	2	2	4	4	5
507	57105	5	2	1	3	3	6	6	2	2	5	4	7	2	2	2	4	4	5
508	57108	5	2	1	4	3	5	6	2	2	4	4	7	2	2	2	4	4	5
509	57111	6	3	1	2	3	5	6	2	2	3	3	7	4	2	2	3	3	5
510	57199	5	2	1	4	3	5	6	2	2	3	3	7	3	2	2	2	4	5
511	57302	5	4	1	2	2	6	4	2	2	3	3	7	3	2	2	2	3	5
512	57305	5	2	2	3	2	6	6	2	2	4	3	5	5	2	2	3	3	6
513	57308	6	2	1	2	4	7	6	2	2	3	3	7	4	2	2	3	4	5
514	57311A	7	2	1	3	3	5	7	2	2	3	3	6	4	2	2	3	4	4
515	58002	4	2	2	5	3	6	4	2	2	6	3	5	3	2	2	6	2	5
516	58005	5	4	1	3	3	6	6	2	2	3	3	7	3	2	2	3	4	5
517	58008	4	4	1	2	5	6	4	2	2	3	4	7	2	2	2	4	6	6
518	58011	5	2	1	3	4	6	4	2	2	3	3	7	4	2	2	2	4	6
519	58014	7	3	1	2	3	6	6	2	2	3	4	7	4	2	2	2	4	6
520	58017	5	2	1	2	3	6	4	2	2	3	3	7	4	2	2	2	3	6
521	58021	5	2	1	2	4	6	5	2	2	3	3	7	4	2	2	2	3	5
522	58023	6	2	1	2	3	7	6	2	2	3	3	7	3	2	2	2	4	5
523	58026	3	3	1	2	5	7	5	2	2	3	3	7	3	2	2	2	4	6
524	58028	5	3	1	2	4	7	5	2	2	3	3	7	4	2	2	2	3	5
525	58099A	5	5	2	2	3	6	5	2	2	3	3	7	4	4	2	2	2	5
526	58099B	4	3	1	2	3	7	4	2	2	3	3	7	4	3	2	2	4	5
527	58099C	4	3	1	2	3	6	5	2	2	3	3	7	3	2	2	2	4	5

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
528	59999	4	3	1	2	3	6	5	2	2	3	3	7	3	2	2	3	5	6
529	61002A	6	3	2	4	5	2	6	2	2	4	5	3	6	4	2	4	5	3
530	61002B	7	3	2	4	4	3	6	2	2	4	5	3	7	4	2	4	5	3
531	61005	4	3	2	5	6	3	4	3	2	5	6	3	4	3	2	5	6	4
532	61008	5	2	2	3	6	4	5	2	2	4	7	6	4	2	2	3	5	5
533	61099A	5	2	5	4	6	3	6	2	2	3	7	3	4	2	4	3	4	3
534	61099B	5	2	3	3	6	4	4	2	2	3	7	4	4	2	3	3	4	3
535	61099C	5	2	2	4	6	4	4	2	3	4	7	4	3	2	3	4	5	4
536	61099D	5	2	2	3	5	6	6	2	2	5	7	4	5	2	2	3	5	4
537	61099E	4	2	2	3	6	5	6	2	2	5	7	5	2	2	2	3	5	4
538	62031	6	2	2	4	3	5	6	2	2	7	2	2	5	2	2	4	5	4
539	62041	4	2	5	6	2	3	3	2	3	7	2	2	3	2	4	6	3	3
540	62061	5	2	3	7	3	4	5	2	3	6	4	4	4	3	3	7	4	2
541	63002A	5	3	2	4	3	6	5	2	2	4	4	6	5	4	2	4	3	6
542	63002B	6	6	4	3	4	5	4	4	2	5	7	6	5	5	2	2	3	4
543	63005	7	4	2	3	5	5	7	3	2	2	5	4	6	5	2	2	2	3
544	63008A	7	3	2	4	3	4	7	3	2	6	4	2	6	3	2	4	4	3
545	63008B	7	3	2	4	3	3	6	2	2	5	4	3	7	2	2	5	2	2
546	63011A	4	4	2	5	6	3	4	4	3	5	6	3	3	4	2	5	6	4
547	63011B	5	4	2	4	3	6	5	3	2	4	4	6	5	3	2	4	4	6
548	63014A	7	3	2	3	4	5	5	3	2	7	5	4	3	2	2	5	4	3
549	63014B	6	3	2	4	5	3	6	5	2	3	4	4	6	4	2	4	4	4
550	63017	6	2	2	5	3	4	6	2	2	5	4	4	6	2	2	5	4	3
551	63021	6	2	1	2	3	6	5	2	2	5	4	7	3	2	2	3	4	5
552	63023	3	2	2	6	5	4	3	2	2	6	5	4	4	2	2	6	5	4
553	63026	4	3	2	6	5	4	4	2	2	6	4	3	4	3	2	6	5	3
554	63028A	3	5	2	4	6	4	3	5	2	4	6	3	3	5	2	4	6	4
555	63028B	3	5	2	5	6	4	3	3	2	6	4	5	4	3	2	5	6	4
556	63032	6	2	1	4	5	4	4	3	2	7	6	4	4	3	3	4	4	4
557	63035	4	3	2	5	6	4	4	4	2	5	6	3	5	3	2	6	7	4
558	63038	4	3	2	5	6	3	4	2	2	5	6	3	5	3	2	6	7	4
559	63041	6	5	2	4	3	3	6	5	2	4	3	3	6	5	2	4	5	2
560	63044	4	2	2	6	3	4	5	2	2	6	3	4	5	2	2	7	2	4
561	63047	4	3	2	6	5	4	4	2	2	6	5	4	3	2	2	6	5	4
562	63099B	7	1	2	4	3	4	6	2	2	7	4	2	5	2	2	5	4	4
563	63099C	5	2	2	6	4	4	5	4	2	6	3	3	5	3	3	6	4	2
564	63099D	6	2	1	2	4	6	7	2	2	2	3	4	5	2	2	3	5	6
565	63099E	7	2	2	3	3	5	5	2	2	7	6	3	4	2	2	2	5	5
566	65002	4	1	2	5	4	3	5	2	2	6	7	3	3	2	2	4	6	5
567	65005	4	2	3	5	6	3	4	2	2	5	6	3	4	2	2	5	6	3
568	65008A	4	2	3	6	5	4	4	2	3	6	5	4	4	2	2	6	5	4
569	65008B	2	3	4	5	6	3	2	2	4	5	6	2	4	4	5	6	7	2
570	65011	5	2	2	6	4	4	6	2	2	5	4	3	5	2	2	6	4	4
571	65014	7	1	1	4	3	4	5	2	2	6	7	3	4	2	2	3	3	4
572	65017	5	2	2	6	4	4	6	2	2	5	4	3	5	2	2	5	4	4
573	65021	6	2	5	3	4	3	7	2	2	2	4	2	5	2	4	3	3	4
574	65023	7	2	3	3	5	4	7	2	2	2	5	2	5	2	2	4	3	4
575	65026	5	2	4	4	6	3	6	3	4	3	5	3	7	3	5	3	6	5

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
576	65028	6	2	2	4	4	5	6	2	2	4	3	5	7	3	2	5	4	6
577	65032	7	1	2	2	4	4	7	2	2	3	3	2	5	2	2	3	2	4
578	65035	7	1	2	2	5	4	7	2	2	3	4	2	4	2	3	4	4	5
579	65038A	7	1	2	2	4	4	7	2	2	3	3	2	5	2	2	2	2	4
580	65038B	7	1	2	2	3	4	7	2	2	2	2	2	6	2	2	3	2	4
581	65041	7	1	2	2	3	4	7	2	2	2	2	2	5	2	3	4	5	4
582	65099A	7	1	2	3	3	4	7	2	2	3	2	2	6	2	2	2	2	3
583	65099B	6	1	1	3	4	5	7	2	2	3	3	3	2	2	2	4	4	5
584	66002	5	3	2	6	4	3	5	2	2	6	4	3	5	4	2	6	4	5
585	66005	4	4	2	6	3	5	4	3	2	6	3	5	4	3	3	6	3	5
586	66008	5	3	2	6	4	3	5	2	2	6	4	3	6	3	3	7	4	3
587	66011	5	2	3	7	2	4	5	2	2	7	3	2	4	2	2	5	2	3
588	66014	4	3	2	6	2	3	3	2	2	7	2	3	4	2	2	5	2	3
589	66017	6	4	3	5	2	4	5	3	2	7	2	3	4	2	2	5	2	3
590	66021	5	3	4	6	2	4	5	3	2	7	2	3	4	2	4	6	2	3
591	66023	5	3	2	6	4	2	5	2	2	6	4	3	6	2	2	7	4	3
592	66097	7	5	3	2	2	4	7	3	2	4	3	4	5	2	2	2	2	5
593	66099A	7	3	3	2	2	4	7	2	2	5	3	3	5	3	2	3	3	3
594	66099B	7	2	1	4	1	4	4	2	2	7	2	3	5	2	2	4	2	3
595	66099D	5	4	2	6	3	4	5	4	2	6	3	4	5	3	2	6	3	4
596	67002	7	1	2	3	2	5	7	2	2	3	3	2	6	2	2	4	2	3
597	67005	7	1	1	2	2	4	7	2	2	2	3	2	6	2	2	3	2	3
598	67008	7	3	2	2	3	4	7	2	2	2	4	3	6	2	2	3	2	4
599	67011	7	1	1	4	2	4	7	2	2	2	2	2	4	2	2	4	2	4
600	67099	7	1	1	3	2	4	7	2	2	3	3	3	5	2	2	3	2	3
601	68002	6	2	2	5	4	3	6	2	2	5	4	3	6	2	3	5	4	2
602	68005A	3	2	4	5	6	3	3	2	5	4	6	4	4	2	5	5	6	2
603	68005B	5	2	6	3	4	3	5	3	7	4	4	2	4	2	6	4	3	3
604	68005C	6	3	4	3	5	4	5	2	2	6	7	2	6	2	3	4	3	4
605	68008	4	2	3	6	5	3	5	2	2	5	6	3	4	2	3	5	6	2
606	68014A	6	2	2	3	4	6	6	2	3	4	7	5	6	2	2	4	3	5
607	68014B	3	2	2	4	6	5	4	2	2	3	6	5	4	2	3	4	7	5
608	68017A	4	3	4	5	6	4	2	2	4	5	6	3	5	3	5	6	7	2
609	68017B	5	2	2	6	3	4	3	2	3	7	6	2	2	2	4	4	4	3
610	68021	3	2	3	6	4	5	3	2	2	6	5	4	3	2	2	6	4	5
611	68023	5	2	2	4	6	3	5	2	2	4	6	3	5	2	2	4	6	3
612	68026	3	2	4	5	6	3	2	2	5	5	6	3	3	2	4	5	6	3
613	68028	4	2	2	6	5	3	4	2	2	5	6	3	3	2	3	5	6	3
614	68032A	4	2	2	5	3	4	4	2	2	6	3	5	3	2	2	5	2	4
615	68032B	5	2	5	4	4	3	6	2	7	4	3	2	4	2	5	4	3	3
616	68035	5	2	2	6	3	3	5	2	2	7	3	2	4	2	2	5	3	3
617	68038	4	3	5	7	2	3	2	3	3	7	3	2	3	2	3	6	3	3
618	68041	4	2	3	6	5	4	4	2	3	6	5	3	4	3	3	6	5	3
619	69999A	5	2	1	5	4	3	2	2	3	7	6	2	2	2	2	6	4	3
620	69999B	4	2	2	5	4	3	2	2	3	7	6	2	3	2	2	6	4	3
621	69999D	4	2	2	5	6	3	3	2	2	5	6	3	3	2	3	5	6	2
622	69999E	5	2	2	5	4	3	2	2	3	6	7	3	3	2	2	5	4	2
623	72002A	6	4	2	3	6	4	7	3	2	4	6	3	4	3	2	3	5	4

Appendix B

OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
624	72002B	5	4	2	2	6	4	7	2	2	3	6	3	6	2	2	4	6	4
625	72002C	6	3	2	4	5	3	6	3	3	4	5	3	6	3	2	4	5	3
626	72002D	6	2	2	3	5	4	6	4	4	3	5	4	6	3	3	4	5	3
627	72002E	6	2	3	3	5	4	6	3	4	3	5	2	6	3	4	4	5	3
628	72002F	6	2	2	3	5	3	6	2	2	4	5	3	6	3	2	3	4	3
629	72002G	6	3	1	2	5	4	7	2	2	3	6	3	6	3	2	3	6	4
630	73002	7	2	1	2	3	4	7	2	2	2	3	3	6	2	2	2	2	3
631	73005	7	2	1	2	3	3	7	2	2	2	3	3	6	2	2	2	2	3
632	73011	7	2	1	1	3	3	7	2	2	3	3	2	6	2	2	3	2	3
633	73099A	7	2	1	1	2	3	7	2	2	3	3	2	7	2	2	2	2	2
634	73099B	7	2	1	1	2	6	7	2	2	2	3	3	6	2	2	2	2	5
635	73099C	7	2	1	3	4	4	7	2	2	2	4	3	6	2	2	2	2	5
636	73099D	6	4	1	3	5	5	7	2	2	2	5	6	5	2	2	3	5	5
637	73099E	7	2	1	2	4	3	7	2	2	2	3	3	6	2	2	2	2	2
638	79002A	7	5	3	3	2	3	7	4	2	2	3	2	6	3	2	2	3	3
639	79002B	6	2	2	3	4	5	6	3	2	3	3	5	6	3	2	4	3	5
640	79005	7	3	2	2	3	3	7	2	2	3	3	2	6	3	2	2	2	3
641	79008	5	4	2	2	4	6	7	2	2	2	3	4	4	2	2	2	4	6
642	79011	5	3	1	2	4	5	7	2	2	2	3	4	5	2	2	2	3	6
643	79015	5	6	2	3	5	4	7	4	2	2	4	3	5	4	2	2	2	4
644	79016	5	3	2	6	4	3	5	2	2	6	4	3	5	3	2	6	4	2
645	79017A	6	3	3	5	2	2	7	2	2	2	3	3	5	2	2	2	2	2
646	79017B	7	2	2	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
647	79017C	7	2	3	3	2	2	7	2	3	2	4	3	5	2	4	3	2	2
648	79017D	7	5	3	2	2	3	7	3	2	2	3	2	5	2	2	2	2	2
649	79021	7	3	1	1	4	3	7	2	2	3	3	2	6	2	2	2	2	4
650	79030B	7	3	4	1	2	2	7	2	3	2	3	3	6	2	3	2	2	3
651	79033	7	3	4	1	3	2	7	2	3	2	3	2	6	3	3	2	2	3
652	79036	7	3	1	1	3	4	7	2	2	2	3	3	5	2	2	2	2	2
653	79041	7	3	3	1	2	3	7	3	2	2	3	2	6	2	2	2	2	2
654	79806	6	5	3	4	3	3	6	5	4	5	3	3	6	5	3	4	3	3
655	79855	7	3	1	2	5	3	7	3	2	2	3	2	6	2	2	2	2	2
656	79856	7	4	3	2	3	4	7	3	2	2	3	2	6	2	2	2	2	2
657	79858	7	4	2	2	3	4	7	3	2	2	2	4	6	4	2	2	2	4
658	79999A	7	4	2	1	3	4	7	3	2	2	3	4	5	3	2	2	2	5
659	79999B	7	3	1	1	2	3	7	2	2	3	3	2	6	2	2	2	2	3
660	79999C	6	5	2	2	4	3	6	5	2	3	4	3	7	5	3	3	4	3
661	79999D	7	3	2	3	5	4	6	3	2	3	5	4	7	3	2	3	6	5
662	79999E	6	3	2	2	4	4	6	3	2	3	5	3	7	2	2	3	6	3
663	79999F	7	3	2	1	4	3	7	2	2	2	3	3	6	2	2	2	2	3
664	79999G	7	4	2	1	3	4	7	3	2	2	4	3	6	4	2	2	2	3
665	79999H	7	4	3	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
666	79999J	7	4	2	2	4	3	7	4	2	2	4	3	6	3	2	2	2	2
667	79999K	5	4	2	3	6	4	5	3	2	2	7	6	6	3	2	4	6	4
668	79999L	5	4	2	3	6	4	5	4	2	3	7	6	6	3	2	4	6	4
669	79999M	5	3	2	3	6	4	5	4	2	3	7	6	6	3	2	4	6	4
670	79999N	7	2	2	1	3	4	7	2	2	3	4	2	6	2	2	2	2	2
671	79999P	7	3	2	2	4	4	7	2	2	2	3	3	6	2	2	2	2	2

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
672	81002	6	3	1	3	6	5	5	2	2	4	7	6	6	4	2	2	5	4
673	81005A	6	3	1	3	6	4	6	2	2	3	7	5	6	3	2	3	5	4
674	81005B	6	2	1	3	6	4	6	2	2	3	7	5	6	2	2	2	6	3
675	81008	6	3	2	3	6	5	5	2	2	4	7	6	6	2	2	3	6	5
676	81011	6	3	2	3	6	5	5	2	2	4	7	6	6	2	2	3	6	4
677	81017	6	2	2	3	6	5	5	2	2	4	7	6	5	2	2	4	6	5
678	83002A	6	5	2	1	3	4	7	2	2	2	4	6	5	2	2	3	3	6
679	83002B	6	4	2	1	3	4	7	3	2	2	4	6	5	3	2	2	3	6
680	83002C	6	3	2	2	3	5	6	3	2	2	2	5	6	3	2	3	3	5
681	83002D	6	4	2	1	2	4	7	3	2	2	4	6	5	4	2	2	2	6
682	83005A	6	4	2	1	3	4	7	3	2	2	4	6	4	2	2	2	2	6
683	83005B	6	4	2	2	3	4	7	2	2	3	5	6	4	2	2	2	3	6
684	83008A	6	4	2	1	3	4	7	2	2	3	4	6	4	2	2	2	2	5
685	83008C	6	4	2	1	3	4	7	2	2	3	4	6	5	2	2	2	2	5
686	83008D	6	4	2	3	3	4	6	2	2	2	5	7	4	2	2	2	2	6
687	83099	6	4	2	2	4	4	7	2	2	2	5	6	4	2	2	2	2	6
688	85112	7	4	2	1	3	3	7	2	2	2	3	3	6	3	2	2	2	4
689	85113	7	4	3	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
690	85116A	7	4	2	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
691	85116B	7	4	2	1	2	3	7	2	2	2	3	3	6	3	2	2	2	3
692	85116C	7	3	2	1	2	3	7	3	2	2	3	2	6	3	2	2	2	3
693	85118	7	4	2	1	2	3	7	3	2	2	3	2	6	3	2	2	2	3
694	85119A	7	3	2	1	2	3	7	3	2	2	3	2	6	3	2	2	2	3
695	85119B	7	3	2	1	2	3	7	2	2	2	3	3	6	3	2	2	2	4
696	85119C	7	3	2	1	2	3	7	3	2	2	3	2	6	3	2	2	2	3
697	85123A	7	5	2	3	4	3	7	3	2	3	4	2	6	4	2	3	2	4
698	85123B	7	4	2	1	2	3	7	3	2	2	3	2	6	3	2	2	2	4
699	85126	7	3	2	1	2	3	7	3	2	2	3	2	6	2	2	2	2	3
700	85128A	7	3	2	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
701	85128B	7	2	1	1	2	4	7	2	2	2	3	3	6	2	2	2	2	3
702	85132	7	3	1	1	3	4	7	3	2	2	3	2	6	2	2	2	2	4
703	85302A	7	4	1	1	3	4	7	3	2	2	4	3	6	3	2	2	2	4
704	85302B	7	4	1	1	3	4	7	2	2	2	3	3	6	3	2	2	2	4
705	85305A	7	3	1	1	4	4	7	2	2	2	3	3	5	2	2	2	2	3
706	85305B	7	3	2	1	3	4	7	2	2	2	3	3	6	2	4	2	2	3
707	85305C	7	3	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	3
708	85305D	6	2	2	3	5	4	6	2	2	3	4	5	6	2	2	3	5	4
709	85308	7	3	1	1	3	3	7	2	2	2	3	3	6	3	2	2	2	3
710	85311A	7	3	1	1	3	4	7	2	2	2	3	3	6	4	2	2	2	3
711	85311B	7	3	1	1	3	4	7	2	2	2	3	3	6	4	2	2	2	3
712	85314	7	3	1	1	2	3	7	2	2	2	3	3	6	3	2	2	2	3
713	85317	7	3	1	1	3	4	7	2	2	2	3	4	6	2	2	2	2	2
714	85321	7	3	1	1	3	4	7	4	2	2	3	2	6	2	2	2	2	2
715	85323A	7	4	1	1	3	4	7	4	2	2	3	2	6	3	2	2	2	4
716	85323B	7	4	1	1	3	4	7	2	2	2	3	3	6	3	2	2	2	3
717	85326	7	4	1	1	3	4	7	4	2	2	3	2	6	3	2	2	2	4
718	85328A	7	3	1	1	3	3	7	4	2	2	3	2	6	3	2	2	2	3
719	85328B	7	3	1	1	3	4	7	2	2	2	4	3	6	3	2	2	2	3

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
720	85502	7	4	1	1	2	3	7	3	2	2	3	2	6	3	2	2	2	5
721	85505	7	4	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
722	85508	7	4	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	5
723	85511	7	3	1	1	2	4	7	4	2	2	3	2	6	2	2	2	2	5
724	85514	7	4	1	1	2	3	7	4	2	2	3	3	6	3	2	2	2	5
725	85599A	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
726	85599B	7	4	1	2	3	3	7	4	2	2	3	3	4	2	2	2	4	3
727	85599C	7	4	1	1	2	3	7	3	2	2	3	2	6	2	2	2	2	4
728	85702	7	4	1	1	2	3	7	2	2	2	3	2	6	2	2	2	2	4
729	85705	7	4	1	1	2	4	7	4	2	2	2	3	6	2	2	2	2	5
730	85708	7	4	2	1	2	3	7	2	2	2	4	3	6	3	2	2	2	4
731	85711A	7	3	1	1	2	3	7	2	2	3	3	2	6	2	2	2	2	4
732	85711B	7	3	1	1	2	3	7	2	2	3	4	2	6	2	2	2	2	3
733	85714A	7	4	1	1	2	3	7	2	2	2	3	3	5	2	2	2	2	4
734	85714B	7	3	1	1	2	3	7	2	2	2	3	3	5	2	2	2	2	3
735	85714C	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
736	85714D	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
737	85717A	7	5	1	1	2	4	7	3	2	2	3	2	6	3	2	2	2	4
738	85717B	7	4	1	1	2	4	7	2	2	2	3	4	6	2	2	2	2	4
739	85721	7	4	1	1	2	3	7	4	2	2	3	3	6	2	2	2	2	4
740	85723	7	3	1	1	2	3	7	3	2	2	2	3	6	2	2	2	2	4
741	85726	7	3	1	1	2	4	7	2	2	2	3	3	6	2	2	2	2	3
742	85728A	7	4	1	1	2	4	7	4	2	2	2	3	6	3	2	2	2	4
743	85728B	7	4	1	1	2	4	7	3	2	2	3	2	6	2	2	2	2	4
744	85799	7	3	1	1	2	4	7	3	2	2	3	3	6	2	2	2	2	4
745	85902A	7	3	1	1	2	4	7	2	2	2	3	3	6	2	2	2	2	4
746	85902B	7	3	1	1	2	4	7	2	2	2	3	3	6	2	2	2	2	4
747	85905	7	5	2	1	2	3	7	4	2	2	3	2	6	2	2	2	2	5
748	85908	7	5	2	1	2	3	7	4	2	2	3	2	6	2	2	2	2	3
749	85911	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
750	85914	7	4	3	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
751	85917	7	4	2	1	2	3	7	2	2	2	4	3	6	2	2	2	2	5
752	85921A	7	4	5	2	2	3	7	2	4	2	3	2	6	2	3	2	2	5
753	85921B	7	4	5	2	2	3	7	2	4	2	3	2	6	2	3	2	2	5
754	85921C	7	4	5	2	2	3	7	2	4	2	3	2	6	2	3	2	2	3
755	85921D	7	4	5	2	2	3	7	2	4	2	3	2	5	2	3	2	2	2
756	85923	6	3	1	1	3	5	7	2	2	2	3	3	6	3	2	2	2	2
757	85926	7	3	1	1	2	5	7	2	2	2	3	3	6	2	2	2	2	4
758	85928A	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
759	85928B	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
760	85928C	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
761	85928D	6	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
762	85932	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
763	85935	7	3	1	2	3	4	7	2	2	3	5	3	5	3	2	2	4	3
764	85938	7	3	1	1	2	3	7	2	2	3	4	2	6	2	2	2	2	2
765	85944	7	3	1	1	2	3	7	2	2	2	4	3	6	2	2	2	2	2
766	85947	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
767	85951	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
768	85953	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
769	85956A	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
770	85956C	7	2	1	1	2	3	7	2	3	2	3	3	5	2	2	2	2	3
771	85998	7	3	1	1	2	3	7	2	2	2	3	3	5	2	2	2	2	3
772	85999A	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
773	85999B	7	3	1	1	2	4	7	2	2	2	3	3	6	2	2	2	2	4
774	85999C	7	2	1	1	2	4	7	2	2	2	3	3	6	2	2	2	2	3
775	85999D	7	3	1	1	2	3	7	2	2	2	4	3	6	2	2	2	2	3
776	85999E	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
777	85999F	7	3	1	1	2	3	7	3	2	2	3	2	6	2	2	2	2	2
778	85999G	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
779	87102A	7	2	1	1	3	3	7	3	2	2	4	3	6	2	2	2	2	3
780	87102B	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	4
781	87102C	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
782	87102D	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
783	87102E	7	2	1	1	3	4	7	4	2	2	3	4	6	2	2	2	2	4
784	87102F	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	3
785	87105	7	2	1	1	3	3	7	2	2	3	3	2	6	2	2	2	2	2
786	87108	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	3
787	87111	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
788	87114	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
789	87121	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
790	87202A	7	4	1	1	3	3	7	4	2	2	3	3	6	3	2	2	2	4
791	87202C	7	4	1	2	3	3	7	3	2	4	3	2	6	2	2	2	2	5
792	87302	7	2	1	1	3	3	7	2	3	2	3	2	6	2	2	2	2	2
793	87305B	7	2	1	1	3	3	7	2	3	2	3	2	6	2	2	2	2	2
794	87308	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	4
795	87311	7	2	1	1	3	3	7	2	3	2	3	2	6	2	2	2	2	4
796	87314	7	2	1	1	3	4	7	2	2	2	3	3	6	2	2	2	2	3
797	87317	7	2	1	1	3	4	7	2	2	2	3	3	6	2	2	2	2	3
798	87402A	7	2	1	1	3	3	7	2	3	2	3	3	6	2	2	2	2	2
799	87402B	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	3
800	87502A	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
801	87502B	7	2	1	1	3	3	7	3	2	2	4	3	6	2	2	2	2	2
802	87505	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
803	87508	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
804	87511	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
805	87602	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
806	87605	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
807	87608	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
808	87702	7	2	1	1	2	2	7	2	2	2	3	3	6	2	2	2	2	2
809	87705	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
810	87708	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
811	87711	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
812	87714A	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
813	87714B	7	2	1	1	3	3	7	2	2	2	3	3	6	2	2	2	2	2
814	87714C	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
815	87802	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2

Appendix B

OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
816	87808	7	2	2	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
817	87811	7	2	2	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
818	87814	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
819	87817	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
820	87899A	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
821	87899B	7	2	1	1	2	3	7	2	2	3	4	3	5	2	2	2	2	3
822	87899C	7	2	1	1	3	3	7	2	2	3	4	3	6	2	2	2	2	3
823	87899D	7	2	1	1	2	4	7	2	2	2	3	3	6	2	2	2	2	3
824	87899E	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
825	87899F	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
826	87899G	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
827	87899H	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
828	87899J	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
829	87899K	7	2	1	1	2	3	7	2	2	2	3	3	6	2	3	2	2	2
830	87899L	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
831	87899M	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
832	87902A	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
833	87902B	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
834	87905	7	2	1	1	2	3	7	2	2	2	3	3	6	3	2	2	2	4
835	87908	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
836	87911	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
837	87914	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
838	87917	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
839	87921	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
840	87923	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
841	87941	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
842	87943	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
843	87949A	7	2	1	1	2	3	7	2	2	2	3	3	5	2	2	2	2	4
844	87949B	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
845	87989A	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
846	87989B	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
847	87999	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
848	89102	7	3	1	1	2	4	7	4	2	2	3	3	6	2	2	2	2	4
849	89105	7	5	1	1	2	4	7	4	2	2	3	3	6	3	2	2	2	4
850	89108	7	5	1	1	2	4	7	4	2	2	3	3	6	3	2	2	2	4
851	89111	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
852	89114A	7	5	1	1	2	4	7	2	2	2	3	3	6	3	2	2	2	4
853	89114B	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
854	89117	7	3	1	1	2	3	7	2	2	2	3	4	5	2	2	2	2	5
855	89121	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	5
856	89123A	6	2	3	2	4	5	6	2	3	3	5	4	7	3	4	3	6	5
857	89123B	7	3	2	1	2	3	7	2	3	2	3	3	5	2	4	2	2	4
858	89126C	7	3	3	1	2	2	7	2	3	2	3	3	5	2	2	2	2	3
859	89126E	6	2	2	3	3	5	6	2	3	3	4	5	7	2	3	3	4	6
860	89126K	7	3	2	1	2	3	7	2	3	2	3	2	5	2	3	2	2	3
861	89128	7	3	3	1	2	2	7	2	3	2	3	3	5	2	3	2	2	4
862	89132	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
863	89135	7	3	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
864	89199	7	3	2	1	2	3	7	2	2	2	3	3	6	2	2	2	2	2
865	89302A	7	3	2	1	2	4	7	2	2	2	3	3	6	2	2	2	2	3
866	89302C	7	2	1	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
867	89305	7	2	1	1	2	4	7	2	2	2	3	3	5	2	2	2	2	4
868	89308	7	2	2	1	2	3	7	2	2	2	3	3	6	2	2	2	2	4
869	89311	7	3	3	1	2	2	7	2	3	2	3	3	6	2	3	2	2	3
870	89314	7	3	3	1	2	2	7	2	3	2	4	3	5	2	3	2	2	3
871	89397A	7	3	3	1	1	2	7	2	3	2	3	3	5	2	3	2	2	4
872	89397B	7	3	3	1	1	2	7	2	3	2	3	3	6	2	3	2	2	4
873	89398	7	2	2	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
874	89502A	7	2	2	1	2	4	7	2	2	2	3	4	5	2	2	2	2	5
875	89502B	7	2	4	1	2	3	7	2	3	2	3	3	5	2	2	2	2	5
876	89502D	7	2	3	1	2	3	7	2	2	2	3	3	5	2	2	2	2	5
877	89505A	7	2	3	2	2	3	7	2	3	2	3	3	4	2	3	2	3	4
878	89505B	7	3	4	2	3	2	7	2	4	2	3	3	4	2	4	2	3	4
879	89508	7	3	2	1	2	3	7	2	3	2	3	3	5	2	2	2	2	3
880	89511	7	2	4	1	2	3	7	2	3	2	3	2	6	2	4	2	3	4
881	89514	7	3	1	1	2	3	7	2	2	2	3	3	4	2	2	2	2	4
882	89517	6	3	1	1	2	4	7	2	2	2	3	3	4	2	2	2	2	3
883	89521	6	4	3	1	2	3	7	3	2	2	3	3	4	3	2	2	2	4
884	89599A	7	2	3	1	2	2	7	2	2	2	3	3	5	2	2	2	2	5
885	89599B	7	3	4	1	2	2	7	2	5	2	4	3	5	2	3	2	2	4
886	89599C	7	2	2	1	2	4	7	2	2	2	3	3	5	2	2	2	2	4
887	89599D	7	2	3	1	2	3	7	2	3	2	3	3	6	4	2	4	4	3
888	89599E	7	2	2	1	2	4	7	2	2	2	3	3	5	2	2	2	2	2
889	89599F	7	3	3	1	2	3	7	2	3	2	3	3	5	2	2	2	2	3
890	89702	6	2	2	2	3	5	6	3	4	2	2	5	7	2	2	3	5	6
891	89705	7	3	2	1	2	5	7	2	2	2	4	5	4	2	2	2	2	5
892	89706	7	2	2	1	2	4	7	2	2	2	3	4	4	2	2	2	2	5
893	89707	7	3	4	1	2	4	7	2	4	2	3	3	5	2	4	2	2	3
894	89712	7	2	2	1	2	3	7	2	4	2	3	3	5	2	4	2	2	2
895	89713	6	3	5	2	2	4	6	4	5	2	3	4	7	3	5	3	3	3
896	89715	7	3	2	1	2	4	7	2	3	2	3	3	5	2	2	2	2	4
897	89717	7	2	2	1	2	3	7	2	2	2	3	4	5	2	3	2	2	3
898	89718	7	2	2	1	2	3	7	2	2	2	3	3	5	2	2	2	2	3
899	89719A	6	2	2	1	2	4	7	2	3	2	3	2	4	2	2	2	2	4
900	89719B	6	3	2	1	2	4	7	2	2	2	3	3	4	2	2	2	2	4
901	89721	7	3	4	1	2	3	7	2	4	2	3	3	5	2	3	2	2	4
902	89799A	7	2	3	1	2	4	7	2	3	2	3	3	5	2	2	2	2	5
903	89799B	7	2	2	1	2	4	7	2	2	2	3	3	5	2	2	2	2	2
904	89802	7	2	2	1	2	3	7	2	2	2	3	2	6	2	2	2	2	2
905	89805	7	3	2	1	2	3	7	2	2	2	3	3	6	2	2	2	2	3
906	89808	7	3	4	1	2	2	7	2	3	2	3	3	6	2	2	2	2	3
907	89899	7	3	3	1	2	3	7	2	3	2	3	3	5	2	3	2	2	4
908	89902	7	4	2	1	2	4	7	2	2	2	3	3	6	2	2	2	2	3
909	89905A	7	3	2	1	2	4	7	2	2	2	3	3	6	2	2	2	2	4
910	89905B	7	3	2	1	2	4	7	2	2	2	3	3	6	2	2	2	2	4
911	89905C	6	2	5	2	2	4	6	3	5	2	2	3	7	2	5	2	3	3

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
912	89905D	7	2	2	1	2	4	7	2	4	2	3	3	6	2	3	2	2	3
913	89905F	7	2	4	1	2	2	7	2	4	2	3	3	6	2	4	2	2	2
914	89908A	7	5	4	1	2	3	7	2	3	2	3	4	5	2	3	2	2	4
915	89908B	7	2	3	1	2	4	7	2	2	2	3	3	5	2	2	2	2	4
916	89908C	7	2	3	1	2	4	7	2	2	2	3	3	5	2	2	2	2	3
917	89908D	6	3	5	3	2	4	6	2	5	3	3	4	6	2	5	3	3	4
918	89911A	5	2	6	2	3	4	5	2	6	3	3	4	5	2	6	3	3	4
919	89911B	7	2	3	1	2	3	7	2	4	2	3	3	5	2	4	2	2	3
920	89911C	7	2	3	1	2	3	7	2	5	2	3	3	5	2	4	2	2	4
921	89911D	7	2	4	1	2	2	7	2	6	2	3	3	5	2	4	2	2	3
922	89911E	6	2	4	2	2	5	6	2	4	2	2	5	6	2	4	3	3	5
923	89911G	7	2	3	1	2	3	7	2	3	2	3	2	5	2	4	2	2	3
924	89914A	5	2	6	3	3	3	5	4	6	2	2	3	5	4	6	3	3	3
925	89914B	6	2	3	1	2	4	7	2	2	2	3	3	4	2	2	2	2	3
926	89914C	6	3	4	1	2	3	7	2	3	2	3	3	5	3	3	2	2	3
927	89914D	6	3	4	1	2	3	7	3	2	2	3	3	4	3	2	2	2	3
928	89917A	6	4	3	1	2	3	7	2	2	2	3	3	5	2	2	2	2	4
929	89917D	6	4	2	1	2	3	7	2	2	2	3	3	5	3	2	2	2	5
930	89921	7	5	2	1	2	4	7	4	2	3	3	3	6	4	2	2	2	4
931	89923	7	5	3	2	3	4	7	4	2	4	3	3	6	4	2	2	2	4
932	89926A	7	4	3	1	2	3	7	3	4	2	3	3	6	2	2	2	2	4
933	89999A	7	3	4	1	2	3	7	2	3	2	3	3	5	2	3	2	2	4
934	89999B	7	2	3	1	2	3	7	2	3	2	3	3	5	2	4	2	2	3
935	89999C	7	3	4	1	2	3	7	2	3	2	3	3	5	2	2	2	2	4
936	91102	7	3	2	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
937	91105	7	2	1	1	1	4	7	2	2	2	3	3	6	3	2	2	2	3
938	91108	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
939	91111	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
940	91114A	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
941	91114B	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
942	91117	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
943	91302	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
944	91305	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
945	91308	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
946	91311	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
947	91314	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
948	91317	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
949	91321	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
950	91502	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	3
951	91505	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
952	91508	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
953	91702	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
954	91705	7	3	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
955	91708	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
956	91711	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
957	91714	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
958	91902	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
959	91905	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
960	91908	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
961	91911	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
962	91914	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
963	91917	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
964	91921	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
965	91923	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
966	91926	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
967	91928	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
968	91932	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
969	91935	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
970	91938	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
971	92197	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
972	92198	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
973	92302	7	3	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
974	92305	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	2
975	92308	7	2	2	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
976	92311	7	3	2	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
977	92314	7	3	2	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
978	92512	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
979	92515	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
980	92519	7	3	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
981	92522A	7	3	3	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
982	92522B	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
983	92524	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
984	92525	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
985	92529A	7	2	2	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
986	92529B	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
987	92529C	7	2	2	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
988	92529D	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
989	92529E	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
990	92541	7	3	1	1	1	5	7	2	2	2	3	4	5	2	2	2	2	4
991	92543	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
992	92545	7	2	3	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
993	92546	7	3	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
994	92549	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
995	92702	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
996	92705	7	2	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
997	92708	7	4	2	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
998	92711	7	2	2	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
999	92714	7	2	2	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1000	92717	7	2	2	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1001	92721	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
1002	92723	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1003	92726	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1004	92728	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1005	92902A	7	3	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1006	92902B	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1007	92902C	6	5	2	2	2	3	6	5	2	2	2	3	7	6	2	2	3	3

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
1008	92902D	7	3	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	3
1009	92902E	7	3	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
1010	92902G	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1011	92905	7	2	2	1	1	4	7	2	2	2	3	3	4	2	2	2	2	4
1012	92908	7	3	2	1	1	3	7	2	2	2	3	3	4	2	2	2	2	4
1013	92911	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
1014	92914	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
1015	92917	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
1016	92921	7	3	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
1017	92923	7	3	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
1018	92926	7	3	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
1019	92928	7	3	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
1020	92932	7	3	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1021	92935	7	4	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1022	92938	7	4	1	1	1	3	7	2	2	2	3	3	4	2	2	2	2	4
1023	92941A	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
1024	92941B	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1025	92941D	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	3
1026	92944	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	3
1027	92947	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
1028	92951	7	3	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
1029	92953	7	3	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
1030	92956	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
1031	92958	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4
1032	92962	7	3	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1033	92965	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
1034	92968	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
1035	92971	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
1036	92974	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
1037	92997	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
1038	92998	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
1039	93102B	7	4	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
1040	93102C	7	4	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
1041	93102D	7	4	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
1042	93105	7	4	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1043	93108	7	3	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
1044	93111A	7	4	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
1045	93111B	7	5	2	1	1	3	7	2	2	2	3	3	6	4	2	2	2	3
1046	93114	7	4	2	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1047	93117	7	4	2	1	1	3	7	2	2	2	3	5	5	2	2	2	2	4
1048	93197A	7	3	2	1	1	3	7	2	2	2	3	3	5	2	3	2	2	3
1049	93197C	7	4	2	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1050	93902	7	3	2	1	1	3	7	2	2	2	3	3	5	2	2	2	2	4
1051	93905A	7	2	2	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
1052	93905B	7	4	2	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
1053	93905C	7	4	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
1054	93905D	7	3	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
1055	93908	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	2

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
1056	93914A	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	2
1057	93914B	7	3	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
1058	93914C	7	5	2	1	1	4	7	4	2	2	3	3	6	4	2	2	2	3
1059	93917A	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1060	93917B	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1061	93921	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	3
1062	93923B	7	2	1	1	1	3	7	2	2	2	3	3	5	2	2	2	2	3
1063	93926B	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	2
1064	93926D	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1065	93926E	7	2	2	1	1	3	7	2	2	2	3	3	6	2	2	2	2	2
1066	93928	7	2	2	1	1	3	7	2	2	2	3	3	6	2	2	2	2	2
1067	93932	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1068	93935	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1069	93938	7	1	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1070	93941	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1071	93944A	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1072	93944D	7	2	1	1	1	2	7	2	2	2	3	3	6	2	2	2	2	2
1073	93947B	7	2	3	1	1	2	7	2	3	2	3	3	4	2	3	2	2	2
1074	93947E	7	2	3	1	1	3	7	2	2	2	3	3	6	2	2	2	2	2
1075	93951A	7	2	3	1	1	3	7	2	2	2	3	5	5	2	2	2	2	3
1076	93951B	7	2	4	1	1	2	7	2	4	2	3	4	5	2	2	2	2	3
1077	93951C	7	2	4	1	1	2	7	2	4	2	3	4	5	2	2	2	2	3
1078	93951D	7	2	4	1	1	2	7	2	4	2	3	4	5	2	2	2	2	3
1079	93953	7	2	2	1	1	3	7	2	2	2	3	3	6	2	2	2	2	2
1080	93956	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1081	93997	7	3	2	1	1	4	7	2	2	2	3	3	6	2	2	2	2	3
1082	93998	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	3
1083	93999	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	3
1084	95002A	7	4	2	1	1	3	7	2	2	2	4	4	6	2	2	2	2	4
1085	95002B	7	3	1	1	1	4	7	2	2	2	4	4	4	2	2	2	2	4
1086	95005A	7	3	1	1	1	3	7	2	2	2	4	4	5	2	2	2	2	4
1087	95005B	7	3	1	1	1	3	7	2	2	2	4	4	5	2	2	2	2	4
1088	95008	6	4	2	1	1	3	7	2	2	2	5	4	6	3	2	2	2	5
1089	95011	7	3	1	1	1	4	7	2	2	2	5	3	6	2	2	2	2	5
1090	95014	6	5	2	1	1	3	7	4	2	2	5	4	6	4	2	2	2	5
1091	95017	7	3	1	1	1	4	7	2	2	2	3	4	4	3	2	2	2	5
1092	95021	7	3	1	1	1	4	7	2	2	2	4	3	5	3	2	2	2	4
1093	95023	7	3	1	1	1	4	7	2	2	2	4	3	5	3	2	2	2	4
1094	95026	6	4	2	1	1	3	7	2	2	2	4	4	4	2	2	2	2	5
1095	95028	6	4	2	1	1	3	7	2	2	2	4	5	3	2	2	2	2	5
1096	95032	7	3	1	1	1	4	7	2	2	2	4	4	5	2	2	2	2	5
1097	95099	7	3	1	1	1	4	7	2	2	2	4	4	4	2	2	2	2	5
1098	97102A	7	1	1	1	3	3	7	2	2	2	4	3	6	2	2	2	2	3
1099	97102B	7	1	1	1	2	3	7	2	2	2	4	3	6	2	2	2	2	3
1100	97105	7	1	1	1	2	4	7	2	2	2	4	3	6	2	2	2	2	4
1101	97108	7	2	1	3	1	5	7	2	2	5	4	3	6	2	2	4	4	3
1102	97111	7	2	1	4	1	4	7	2	2	6	4	3	6	2	2	4	4	3
1103	97114	7	2	1	2	1	4	7	2	2	4	5	3	6	2	2	4	5	3

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
1104	97117	5	2	2	4	6	3	5	2	2	4	6	3	5	2	2	4	6	3
1105	97199	7	2	1	2	2	4	7	2	2	4	4	3	6	2	2	3	3	3
1106	97302	6	2	2	3	5	4	6	2	2	3	5	4	7	2	2	3	6	5
1107	97305	7	3	1	2	2	5	7	2	2	2	3	4	6	3	2	2	2	4
1108	97308	7	2	1	1	2	4	7	2	2	2	3	3	6	2	2	2	2	4
1109	97311	7	3	1	1	1	4	7	2	2	2	3	3	4	2	2	2	2	5
1110	97314	6	2	2	3	2	4	6	2	2	4	4	5	7	2	2	3	3	4
1111	97317A	7	3	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	5
1112	97317B	7	3	1	1	1	5	7	2	2	2	3	3	5	2	2	2	2	4
1113	97399A	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	5
1114	97399B	7	3	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	5
1115	97502A	6	4	2	3	5	4	6	4	3	5	7	4	6	2	2	3	6	4
1116	97505	7	4	2	3	4	4	7	3	2	4	6	5	6	2	2	3	5	4
1117	97508	7	5	2	2	3	4	7	3	2	4	5	4	5	3	2	3	6	4
1118	97511	7	3	1	2	3	4	7	2	2	4	5	3	6	2	2	3	5	4
1119	97514	7	3	1	1	2	4	7	2	2	2	4	4	6	2	2	2	2	4
1120	97517	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	5
1121	97521	6	4	2	3	5	4	7	2	2	4	6	5	5	5	2	2	6	4
1122	97702B	7	5	2	3	5	4	7	3	2	4	6	5	6	5	2	2	4	3
1123	97702C	7	5	2	2	4	4	7	2	2	3	5	4	6	5	2	2	2	4
1124	97702D	7	5	2	4	3	4	6	3	2	7	4	4	6	5	2	2	5	4
1125	97702E	7	5	2	2	3	5	6	3	2	3	4	7	5	5	2	2	2	4
1126	97702H	7	5	2	2	3	4	7	3	2	3	4	5	5	6	2	2	2	5
1127	97702J	7	5	2	2	4	4	7	2	2	4	6	3	6	5	2	3	4	4
1128	97802	6	3	1	1	3	4	7	3	2	2	3	3	5	2	2	2	3	5
1129	97805	7	3	1	2	3	4	7	2	2	4	5	4	6	2	2	3	5	4
1130	97808	7	2	1	2	4	4	7	2	2	3	4	3	6	2	2	3	4	3
1131	97899A	7	4	1	2	4	4	7	2	2	2	3	3	6	2	2	2	3	3
1132	97899B	7	3	1	2	3	4	7	2	2	2	3	3	6	2	2	2	2	3
1133	97902	7	2	1	1	2	4	7	2	2	2	3	3	6	3	2	2	2	3
1134	97905	7	3	1	1	2	4	7	2	2	2	3	3	6	2	2	2	3	2
1135	97908	7	3	1	1	1	4	7	2	2	2	3	3	6	3	2	2	2	4
1136	97911	6	2	2	2	3	4	6	3	2	3	3	5	7	2	2	2	3	5
1137	97914	7	4	1	1	1	3	7	2	2	2	3	3	6	4	2	2	2	4
1138	97917	7	4	1	1	1	3	7	2	2	2	4	3	6	2	2	2	2	4
1139	97921	7	4	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1140	97923A	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
1141	97923B	6	2	1	1	1	4	7	2	2	2	3	3	4	2	2	2	2	4
1142	97926	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1143	97928	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1144	97932	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1145	97935	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1146	97938	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1147	97941	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1148	97944	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1149	97947	7	2	1	1	1	3	7	2	2	2	3	3	6	2	2	2	3	4
1150	97951	7	3	1	1	1	4	7	2	2	2	3	3	4	2	2	2	2	4
1151	97953	7	3	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	4

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OBS	OU	R1	I1	A1	S1	E1	C1	R2	I2	A2	S2	E2	C2	R3	I3	A3	S3	E3	C3
1152	97956	7	4	1	1	1	3	7	2	2	2	3	3	6	4	2	2	2	3
1153	97989A	7	3	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	4
1154	97989B	7	3	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	4
1155	98102	7	2	1	1	1	4	7	2	2	3	3	2	5	2	2	2	2	3
1156	98311	7	2	1	1	1	4	7	2	2	3	3	2	5	2	2	2	2	3
1157	98312	7	2	1	1	1	4	7	2	2	3	3	2	5	2	2	2	2	3
1158	98313	7	2	1	1	1	4	7	2	2	3	3	2	5	2	2	2	2	3
1159	98314	7	2	1	1	1	4	7	2	2	3	3	2	5	2	2	2	2	3
1160	98315	7	2	1	1	1	4	7	2	2	3	3	2	6	2	2	2	2	3
1161	98319	7	2	1	1	1	4	7	2	2	3	3	2	6	2	2	2	2	3
1162	98323	7	2	1	1	1	4	7	2	2	3	3	2	6	2	2	2	2	3
1163	98502	6	1	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	2
1164	98702	7	2	1	1	1	4	7	2	2	2	3	3	5	2	2	2	2	2
1165	98705	7	1	1	1	1	3	7	2	2	2	3	3	6	2	2	2	2	3
1166	98799A	7	2	2	1	2	4	7	2	3	3	4	3	5	2	2	2	3	3
1167	98799B	7	1	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	3
1168	98902A	7	1	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1169	98905	7	2	1	1	1	4	7	2	2	2	3	3	6	2	2	2	2	2
1170	98999A	7	1	1	1	1	4	7	2	2	2	2	2	6	2	2	2	2	2
1171	98999B	7	1	1	1	1	4	7	2	2	2	2	2	6	2	2	2	2	2
1172	99003	7	3	1	3	2	4	7	3	2	5	6	4	4	3	2	2	5	4

Appendix C

Raw Ratings for Each Holland Category Averaged over Raters

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
1	13002A	2.0000	3.0000	2.0000	3.6667	7.0000	5.6667
2	13002B	1.6667	2.6667	2.0000	3.6667	6.6667	4.6667
3	13005A	1.6667	2.6667	2.6667	5.0000	6.3333	4.0000
4	13005B	1.6667	3.0000	2.3333	5.3333	6.3333	4.0000
5	13005C	1.6667	2.6667	2.0000	5.3333	6.3333	4.3333
6	13005E	1.6667	3.3333	2.6667	6.3333	5.3333	4.0000
7	13008	1.6667	2.6667	3.0000	4.3333	5.6667	5.3333
8	13011A	2.0000	3.3333	6.3333	4.0000	5.3333	3.6667
9	13011B	1.6667	2.0000	2.3333	3.6667	7.0000	5.6667
10	13011C	2.0000	2.0000	3.0000	3.3333	6.3333	5.6667
11	13011D	1.3333	2.0000	2.6667	5.0000	6.3333	4.3333
12	13014A	3.0000	2.3333	2.0000	3.3333	6.3333	6.0000
13	13014B	2.0000	2.6667	2.0000	4.0000	6.3333	6.0000
14	13017A	5.0000	5.0000	2.3333	2.6667	6.3333	4.6667
15	13017B	4.3333	6.3333	2.6667	3.3333	5.6667	3.3333
16	13017C	4.3333	5.0000	2.0000	3.0000	6.0000	5.6667
17	15002	3.3333	2.3333	2.3333	4.3333	6.3333	5.0000
18	15005A	2.0000	4.6667	3.0000	4.6667	6.3333	4.6667
19	15005B	2.0000	4.3333	3.6667	6.6667	5.6667	3.0000
20	15008A	3.0000	5.0000	2.3333	6.0000	6.0000	4.3333
21	15008B	2.0000	4.0000	3.0000	5.3333	6.3333	3.6667
22	15011A	2.3333	2.6667	2.0000	4.0000	7.0000	6.0000
23	15011B	3.3333	2.0000	2.0000	3.0000	6.3333	6.0000
24	15011C	2.6667	2.6667	2.0000	3.3333	6.3333	5.0000
25	15014	3.6667	2.6667	2.0000	3.0000	6.6667	6.0000
26	15017A	4.3333	2.3333	2.6667	2.3333	6.3333	4.6667
27	15017B	5.6667	2.3333	2.0000	2.6667	6.3333	5.0000
28	15021A	5.3333	2.3333	1.6667	3.0000	6.3333	4.6667
29	15021C	5.3333	2.6667	2.0000	3.0000	6.3333	5.3333
30	15023A	3.6667	2.3333	1.6667	2.6667	6.3333	6.0000
31	15023B	3.0000	3.0000	4.0000	4.0000	7.0000	5.0000
32	15023C	4.3333	2.0000	1.6667	3.0000	6.3333	5.0000
33	15023D	4.0000	2.0000	1.6667	3.0000	6.3333	5.3333
34	15026A	3.0000	1.6667	2.0000	4.6667	6.3333	5.0000
35	15026B	3.6667	2.0000	2.0000	4.6667	6.3333	4.6667
36	15031	5.6667	3.0000	2.6667	3.3333	6.3333	4.3333
37	15032	5.6667	2.0000	2.0000	3.3333	6.6667	5.0000
38	19005A	2.0000	3.0000	2.3333	5.0000	6.6667	5.6667
39	19005B	2.6667	3.3333	2.3333	4.3333	7.0000	5.6667
40	19999A	2.6667	2.0000	3.6667	4.3333	6.6667	5.0000
41	19999B	2.6667	3.0000	4.3333	6.6667	5.6667	3.6667
42	19999C	2.0000	2.3333	2.0000	4.0000	6.6667	5.3333
43	19999D	2.6667	2.0000	2.0000	4.6667	6.6667	5.0000
44	19999E	3.6667	2.3333	2.6667	3.3333	7.0000	5.3333
45	19999F	5.0000	2.3333	1.6667	4.0000	6.3333	4.6667
46	19999G	3.3333	2.0000	2.3333	4.6667	6.6667	5.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
47	21102	2.6667	4.0000	2.0000	3.0000	5.0000	7.0000
48	21105	2.6667	3.3333	1.6667	3.0000	5.0000	7.0000
49	21108	2.3333	2.6667	2.3333	5.3333	6.6667	4.3333
50	21111	3.0000	2.6667	1.6667	3.0000	5.0000	7.0000
51	21114A	2.6667	3.6667	1.6667	2.6667	4.6667	7.0000
52	21114B	3.0000	4.0000	1.6667	3.0000	5.6667	7.0000
53	21114C	4.3333	4.3333	2.0000	2.6667	4.3333	7.0000
54	21117	3.6667	3.0000	2.0000	3.0000	5.6667	6.6667
55	21199B	2.3333	2.6667	2.6667	6.3333	4.6667	4.0000
56	21199D	2.6667	2.6667	1.6667	3.6667	5.3333	6.3333
57	21302	2.6667	3.0000	2.6667	4.0000	6.3333	6.0000
58	21305A	4.6667	2.6667	2.0000	3.0000	6.3333	5.3333
59	21308A	3.6667	2.6667	2.0000	3.3333	7.0000	5.3333
60	21308B	5.0000	5.0000	1.6667	2.3333	4.3333	6.0000
61	21308C	3.6667	5.0000	2.0000	2.0000	4.0000	6.3333
62	21502	2.3333	2.6667	2.0000	5.6667	4.3333	6.0000
63	21505	3.0000	2.3333	1.6667	4.3333	7.0000	5.0000
64	21508	2.3333	2.3333	2.3333	6.0000	5.0000	4.0000
65	21511A	2.6667	6.0000	2.0000	4.0000	4.3333	5.6667
66	21511B	2.3333	2.6667	2.0000	6.3333	5.6667	4.0000
67	21511C	2.3333	2.6667	2.3333	6.6667	4.6667	3.6667
68	21511D	2.3333	2.3333	2.6667	6.3333	5.6667	4.0000
69	21511E	2.6667	3.0000	2.6667	5.6667	6.6667	3.6667
70	21511F	2.6667	2.6667	2.0000	6.0000	6.3333	4.0000
71	21902	3.3333	3.0000	2.0000	3.6667	5.3333	6.3333
72	21905	3.0000	6.0000	2.0000	3.6667	6.0000	6.0000
73	21908A	5.3333	5.0000	2.3333	2.3333	4.0000	6.3333
74	21908B	5.6667	3.6667	2.0000	2.6667	3.6667	6.0000
75	21911A	2.6667	5.3333	2.3333	5.0000	4.0000	4.0000
76	21911B	4.6667	6.0000	2.0000	2.3333	3.6667	5.3333
77	21911C	4.3333	4.0000	2.0000	3.3333	5.0000	6.3333
78	21911D	3.6667	2.3333	1.6667	3.0000	4.0000	6.0000
79	21911E	4.0000	3.0000	2.0000	5.3333	4.6667	5.3333
80	21911F	2.0000	2.3333	2.3333	5.6667	5.6667	4.0000
81	21911H	2.6667	3.3333	2.0000	4.3333	6.0000	4.6667
82	21911J	2.3333	3.6667	2.3333	5.0000	6.3333	4.0000
83	21911K	5.6667	5.0000	2.0000	2.3333	3.6667	4.3333
84	21911L	5.6667	2.6667	2.0000	2.0000	3.3333	5.3333
85	21911M	4.0000	3.6667	2.0000	4.0000	5.6667	4.3333
86	21911N	5.0000	2.6667	2.0000	3.0000	4.3333	6.3333
87	21911P	4.3333	6.0000	2.0000	3.0000	3.6667	4.6667
88	21911R	6.0000	5.0000	2.0000	2.6667	3.0000	4.0000
89	21911T	5.3333	4.3333	2.0000	2.3333	3.0000	5.0000
90	21914	2.6667	2.6667	1.6667	2.3333	5.3333	6.3333
91	21917	3.0000	3.0000	1.6667	2.3333	5.0000	6.3333
92	21921	2.0000	2.6667	2.0000	3.3333	4.0000	6.0000
93	21999A	4.6667	6.0000	2.3333	2.3333	2.6667	4.3333
94	21999B	2.0000	4.3333	3.0000	4.0000	5.6667	5.3333

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
95	21999C	2.6667	2.6667	2.3333	3.6667	5.3333	6.6667
96	21999D	3.0000	2.0000	2.6667	3.6667	5.6667	5.3333
97	21999F	3.0000	2.0000	2.6667	4.0000	6.0000	5.3333
98	21999G	2.6667	2.6667	2.0000	5.0000	6.0000	5.0000
99	21999H	3.3333	2.6667	2.0000	3.3333	5.0000	6.6667
100	21999J	2.6667	2.3333	2.0000	3.6667	5.0000	6.0000
101	22102	6.3333	6.6667	3.3333	2.0000	3.0000	4.0000
102	22105A	6.3333	6.3333	3.3333	2.0000	2.6667	3.6667
103	22105B	5.6667	6.3333	2.6667	1.6667	2.6667	4.0000
104	22105C	6.3333	6.0000	2.6667	2.3333	2.3333	3.3333
105	22105D	5.6667	6.0000	2.6667	2.0000	2.6667	3.3333
106	22108	6.3333	6.3333	2.3333	2.3333	3.6667	4.0000
107	22111	6.6667	5.6667	2.3333	2.6667	3.3333	3.3333
108	22114	5.6667	6.6667	2.6667	2.6667	3.0000	3.6667
109	22117	5.6667	6.6667	2.6667	2.0000	2.6667	4.0000
110	22121	6.6667	5.6667	3.0000	2.6667	3.0000	4.0000
111	22123	6.0000	6.0000	2.3333	2.6667	3.0000	4.0000
112	22126A	6.3333	6.3333	2.3333	2.3333	3.3333	3.6667
113	22126B	6.3333	6.6667	2.6667	2.3333	3.3333	3.6667
114	22127	6.3333	6.3333	2.3333	2.0000	3.3333	5.0000
115	22128	4.6667	5.3333	2.3333	3.3333	6.0000	4.0000
116	22132A	4.0000	5.6667	2.0000	4.0000	5.3333	4.0000
117	22132B	4.0000	6.0000	2.0000	3.6667	5.0000	4.3333
118	22132C	5.0000	6.0000	2.0000	3.0000	3.3333	4.0000
119	22135	6.6667	5.3333	2.6667	2.6667	3.3333	3.6667
120	22138	6.0000	5.6667	2.3333	2.3333	2.6667	4.0000
121	22197	5.3333	6.3333	3.3333	2.3333	2.3333	3.6667
122	22199	6.3333	6.0000	2.6667	2.0000	3.0000	4.0000
123	22302	5.3333	5.0000	6.3333	3.0000	4.0000	3.3333
124	22305	6.0000	5.3333	4.0000	2.3333	3.3333	3.3333
125	22308	6.0000	5.0000	6.0000	3.0000	3.6667	3.3333
126	22311A	4.6667	4.6667	4.3333	2.0000	2.3333	5.6667
127	22311B	4.3333	6.3333	2.6667	3.0000	5.3333	4.0000
128	22502	6.3333	5.3333	2.3333	2.0000	2.6667	4.0000
129	22505A	7.0000	5.3333	2.6667	2.3333	3.0000	4.0000
130	22505B	6.6667	4.6667	3.0000	2.3333	3.0000	5.0000
131	22505C	6.6667	5.0000	2.6667	2.3333	3.3333	3.3333
132	22508	3.3333	6.0000	2.3333	2.6667	2.6667	5.0000
133	22511	6.6667	6.0000	2.6667	2.0000	2.3333	3.6667
134	22514A	6.0000	3.6667	4.3333	2.3333	2.3333	4.0000
135	22514B	6.3333	5.0000	3.0000	2.0000	2.0000	5.3333
136	22514C	6.0000	3.6667	3.6667	2.3333	2.6667	4.6667
137	22514D	6.3333	4.3333	3.3333	2.0000	2.0000	5.3333
138	22517	4.6667	4.3333	2.0000	2.0000	2.3333	6.0000
139	22521A	6.3333	4.3333	3.0000	2.0000	2.6667	5.3333
140	22521B	5.3333	3.6667	2.6667	2.0000	2.0000	6.3333
141	22599A	6.3333	4.0000	5.0000	2.0000	3.6667	3.6667
142	22599B	6.0000	5.3333	2.3333	2.0000	2.6667	4.3333

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
143	22599C	5.3333	6.3333	2.3333	2.0000	2.3333	4.0000
144	22599D	6.3333	4.3333	4.0000	2.0000	2.3333	5.0000
145	22599E	5.0000	6.0000	2.3333	2.0000	2.3333	4.0000
146	22599F	5.0000	6.0000	2.3333	2.0000	2.3333	4.0000
147	22599G	6.3333	5.3333	2.3333	2.0000	2.3333	4.0000
148	24102A	5.0000	7.0000	3.6667	2.0000	2.0000	4.6667
149	24102B	5.3333	7.0000	3.6667	2.0000	2.0000	4.3333
150	24105	6.0000	7.0000	3.0000	2.0000	2.0000	4.6667
151	24108	5.6667	7.0000	3.0000	3.0000	2.6667	3.6667
152	24111A	6.0000	7.0000	3.0000	2.0000	2.3333	4.0000
153	24111B	5.6667	7.0000	3.0000	2.0000	2.6667	4.0000
154	24199A	5.3333	6.6667	3.0000	2.0000	2.3333	3.6667
155	24199B	5.3333	7.0000	2.6667	2.0000	2.3333	3.6667
156	24199C	5.6667	7.0000	2.6667	2.0000	2.3333	3.6667
157	24302A	6.3333	5.6667	2.3333	2.3333	3.0000	3.0000
158	24302B	5.3333	6.0000	2.3333	2.0000	2.3333	4.0000
159	24302C	5.0000	6.0000	2.3333	2.0000	2.3333	3.6667
160	24302D	5.3333	6.3333	2.3333	2.0000	2.3333	3.3333
161	24302E	5.0000	4.0000	3.3333	5.6667	3.3333	2.3333
162	24305A	5.6667	7.0000	2.3333	2.3333	3.0000	3.6667
163	24305B	5.6667	7.0000	2.3333	2.0000	3.0000	4.0000
164	24305C	6.0000	6.6667	2.6667	2.0000	3.0000	4.0000
165	24305D	6.0000	7.0000	2.3333	2.0000	2.6667	3.6667
166	24308A	5.0000	7.0000	3.0000	2.0000	2.0000	3.6667
167	24308B	5.0000	7.0000	3.3333	2.0000	2.3333	3.6667
168	24308C	5.0000	7.0000	3.3333	2.0000	2.3333	4.0000
169	24308D	5.3333	7.0000	3.0000	2.0000	2.3333	3.3333
170	24308E	5.6667	7.0000	2.3333	2.0000	2.0000	3.3333
171	24308F	5.0000	7.0000	3.0000	2.3333	2.0000	3.3333
172	24308G	5.3333	7.0000	2.6667	2.0000	2.0000	3.3333
173	24308H	5.0000	7.0000	2.6667	2.3333	2.0000	3.3333
174	24308J	4.6667	7.0000	3.0000	3.0000	2.3333	3.3333
175	24311	4.6667	6.3333	3.0000	4.3333	3.3333	3.3333
176	24502A	4.6667	6.0000	2.6667	2.0000	2.3333	3.0000
177	24502B	6.3333	4.6667	2.0000	2.0000	2.3333	3.6667
178	24502C	6.3333	4.3333	2.0000	2.3333	2.3333	4.0000
179	24502D	6.3333	4.0000	3.0000	2.6667	2.3333	3.6667
180	24505A	6.3333	5.3333	2.3333	2.0000	2.0000	4.0000
181	24505B	6.3333	5.3333	2.3333	2.0000	2.3333	4.0000
182	24505C	6.3333	5.0000	2.0000	2.0000	2.3333	3.6667
183	24505D	6.3333	4.0000	2.3333	2.0000	2.3333	3.6667
184	24505E	5.6667	6.3333	2.0000	2.0000	2.3333	3.3333
185	24508A	6.6667	4.0000	2.0000	2.3333	2.3333	3.0000
186	24508B	6.3333	5.0000	2.0000	2.0000	2.0000	3.0000
187	24511B	6.3333	4.0000	2.0000	2.0000	2.3333	5.0000
188	24511E	6.3333	4.6667	2.0000	2.0000	2.0000	3.3333
189	24599A	5.0000	6.0000	2.0000	2.0000	2.0000	3.3333
190	24599B	5.3333	6.0000	2.0000	2.3333	3.3333	5.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
191	24599C	6.0000	5.0000	2.0000	2.0000	2.6667	5.3333
192	25102	4.6667	5.6667	2.3333	2.0000	3.3333	5.0000
193	25103A	4.0000	5.6667	2.3333	3.3333	3.0000	4.3333
194	25103B	5.0000	6.0000	2.6667	2.0000	3.3333	6.0000
195	25104	4.6667	5.3333	2.3333	3.6667	3.0000	5.3333
196	25105	4.6667	6.0000	2.3333	2.0000	2.3333	4.3333
197	25111	6.0000	5.0000	2.0000	2.0000	2.6667	5.6667
198	25199A	4.3333	6.0000	2.3333	2.3333	3.6667	3.6667
199	25302	4.6667	6.3333	2.0000	2.6667	4.3333	5.3333
200	25312	3.6667	6.3333	2.6667	2.0000	3.0000	6.0000
201	25313	4.0000	5.3333	2.0000	2.0000	3.6667	7.0000
202	25315	2.6667	6.0000	2.0000	3.3333	4.6667	5.0000
203	25319A	3.6667	7.0000	4.0000	2.0000	2.6667	4.6667
204	25319B	3.3333	6.0000	2.0000	2.3333	2.6667	5.0000
205	25319C	4.3333	6.6667	3.0000	2.0000	3.3333	5.0000
206	25323	4.3333	6.6667	2.3333	2.0000	2.3333	4.3333
207	27102A	3.3333	6.3333	2.6667	3.3333	4.6667	4.3333
208	27102B	3.0000	6.0000	2.6667	2.6667	5.0000	4.0000
209	27105	3.0000	6.0000	3.6667	3.3333	5.3333	3.6667
210	27108A	2.3333	6.6667	4.0000	5.3333	2.0000	3.0000
211	27108C	3.0000	7.0000	3.6667	3.6667	2.0000	4.0000
212	27108D	2.3333	7.0000	3.6667	5.3333	2.3333	2.6667
213	27108E	2.6667	6.6667	4.0000	4.6667	2.0000	2.6667
214	27108G	2.0000	6.3333	5.0000	4.6667	3.0000	3.0000
215	27108H	2.0000	5.6667	4.6667	6.6667	2.6667	3.3333
216	27108J	2.0000	6.0000	4.3333	4.0000	5.0000	2.6667
217	27199A	2.3333	6.3333	4.0000	3.3333	3.6667	3.3333
218	27199B	2.0000	6.6667	4.3333	4.3333	2.6667	3.3333
219	27199C	2.0000	6.6667	4.3333	4.6667	2.0000	3.3333
220	27199D	2.0000	6.6667	4.6667	4.3333	2.0000	3.0000
221	27199E	2.0000	6.3333	5.0000	3.6667	2.6667	3.3333
222	27199F	2.0000	6.3333	3.0000	3.0000	5.3333	4.0000
223	27199G	2.0000	6.3333	3.3333	4.0000	3.3333	4.6667
224	27199H	4.6667	6.6667	4.0000	3.0000	3.0000	4.0000
225	27302	2.3333	4.3333	4.0000	7.0000	3.3333	3.3333
226	27305A	2.6667	3.3333	4.0000	7.0000	4.3333	4.0000
227	27305B	2.6667	3.3333	4.0000	7.0000	4.0000	3.6667
228	27305C	3.3333	2.6667	2.6667	6.6667	3.3333	4.3333
229	27307	3.0000	2.3333	3.3333	7.0000	3.3333	4.3333
230	27308	2.6667	2.3333	3.6667	6.6667	3.3333	4.6667
231	27311	4.6667	2.0000	4.6667	7.0000	3.0000	3.6667
232	27502	2.3333	3.0000	4.3333	7.0000	4.3333	3.3333
233	27505	2.3333	3.0000	4.3333	6.6667	4.6667	3.6667
234	27599	2.6667	2.3333	4.3333	6.6667	4.3333	4.6667
235	28102	2.0000	3.6667	3.3333	5.3333	6.3333	3.6667
236	28105	2.0000	4.0000	3.0000	5.3333	6.3333	4.0000
237	28108	3.0000	4.0000	3.0000	4.0000	6.6667	4.3333
238	28302	2.0000	4.0000	3.6667	4.3333	5.6667	5.0000

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
239	28305	2.0000	3.6667	3.6667	4.0000	5.3333	5.0000
240	28308	2.6667	3.6667	2.6667	2.3333	4.3333	6.6667
241	28311	2.3333	4.0000	2.3333	2.3333	4.0000	7.0000
242	28399	2.0000	4.3333	3.0000	3.0000	4.3333	6.3333
243	31114	3.3333	5.6667	3.6667	6.3333	3.6667	3.0000
244	31117	2.6667	5.0000	4.3333	6.0000	2.3333	5.0000
245	31202	3.0000	6.0000	3.6667	5.0000	2.3333	2.6667
246	31204	4.6667	6.0000	3.6667	5.6667	3.0000	3.6667
247	31206	4.6667	6.0000	3.6667	5.6667	3.0000	3.6667
248	31209	4.6667	6.0000	3.6667	5.6667	3.0000	3.3333
249	31210	2.3333	5.3333	4.0000	6.0000	3.0000	2.6667
250	31212	3.0000	6.0000	3.3333	4.6667	2.6667	2.6667
251	31216	2.0000	4.3333	6.0000	5.3333	3.0000	2.6667
252	31218	3.0000	4.3333	6.6667	5.6667	2.0000	2.3333
253	31222	5.3333	6.0000	3.3333	5.3333	3.0000	3.0000
254	31224	4.6667	6.0000	3.3333	5.3333	2.6667	5.3333
255	31226	3.3333	6.0000	3.0000	3.3333	2.6667	4.0000
256	31299	4.0000	5.0000	4.3333	5.6667	3.0000	3.6667
257	31303	3.0000	4.0000	5.0000	7.0000	2.6667	4.0000
258	31304	3.0000	4.0000	5.0000	7.0000	2.6667	3.6667
259	31305	3.0000	4.6667	4.6667	7.0000	3.0000	4.0000
260	31308	3.0000	4.3333	4.3333	7.0000	3.0000	3.6667
261	31311A	4.3333	4.0000	4.0000	7.0000	3.0000	3.6667
262	31311B	3.6667	4.0000	4.3333	7.0000	2.6667	3.3333
263	31311C	3.3333	4.0000	4.3333	7.0000	2.6667	3.3333
264	31311D	3.3333	4.6667	4.3333	7.0000	3.0000	3.6667
265	31311E	4.0000	4.3333	3.6667	7.0000	3.0000	2.6667
266	31314	5.0000	3.6667	3.0000	6.6667	4.0000	3.3333
267	31317	3.3333	3.6667	5.0000	6.6667	3.3333	3.6667
268	31321	5.0000	3.0000	3.0000	6.0000	4.3333	3.3333
269	31323	5.0000	3.6667	2.6667	6.3333	4.6667	4.0000
270	31399	3.3333	4.3333	5.0000	6.6667	3.3333	3.6667
271	31502A	2.6667	4.0000	6.0000	3.6667	3.6667	5.0000
272	31502B	2.3333	5.0000	4.3333	4.0000	3.6667	5.0000
273	31505	3.3333	3.3333	3.3333	4.3333	2.0000	6.0000
274	31508	3.6667	3.0000	3.6667	4.3333	3.3333	5.0000
275	31511A	3.3333	5.6667	6.0000	4.0000	4.6667	4.0000
276	31511B	2.3333	6.0000	3.6667	3.6667	2.6667	5.3333
277	31511C	3.3333	6.0000	5.0000	3.6667	3.0000	3.6667
278	31511D	5.3333	4.3333	6.3333	3.3333	3.3333	3.6667
279	31511E	4.6667	3.3333	4.6667	5.6667	3.0000	2.6667
280	31514	2.6667	3.6667	4.3333	6.6667	4.0000	4.0000
281	31517A	2.3333	4.3333	4.0000	6.6667	4.3333	3.6667
282	31517B	2.6667	3.6667	3.3333	6.0000	3.6667	4.6667
283	31517C	4.6667	6.0000	2.6667	3.3333	4.3333	3.6667
284	31517D	3.6667	5.6667	4.6667	6.0000	4.0000	3.6667
285	31521	3.3333	3.0000	3.6667	6.6667	3.0000	4.3333
286	32102A	4.3333	7.0000	3.3333	4.6667	4.6667	3.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
287	32102B	4.3333	7.0000	3.3333	4.6667	4.3333	3.6667
288	32102E	3.0000	6.3333	4.3333	4.3333	3.6667	3.0000
289	32102F	5.0000	6.0000	3.3333	4.0000	3.0000	3.6667
290	32102J	5.3333	7.0000	4.0000	4.6667	3.6667	3.6667
291	32102U	5.0000	7.0000	4.0000	4.0000	3.0000	4.0000
292	32105A	4.6667	7.0000	3.6667	4.0000	3.0000	3.6667
293	32105B	5.3333	7.0000	3.3333	4.6667	3.6667	3.3333
294	32105D	5.3333	7.0000	3.6667	5.0000	3.6667	3.3333
295	32105F	4.3333	6.3333	3.3333	4.0000	3.0000	3.3333
296	32105G	5.3333	6.6667	4.0000	5.0000	4.0000	3.3333
297	32108	5.6667	6.6667	3.6667	4.6667	4.0000	3.6667
298	32111	4.0000	5.6667	3.3333	6.3333	4.0000	3.0000
299	32113	5.3333	6.0000	4.0000	5.0000	4.0000	3.3333
300	32114A	5.0000	7.0000	3.6667	3.3333	3.3333	4.0000
301	32114B	5.3333	6.6667	3.6667	3.6667	3.6667	3.0000
302	32114C	5.0000	6.0000	2.3333	3.0000	3.0000	4.0000
303	32199	4.0000	6.3333	3.6667	5.0000	4.0000	3.3333
304	32302	5.0000	6.0000	4.0000	4.6667	3.0000	3.0000
305	32305	4.6667	4.3333	4.0000	6.6667	3.0000	3.0000
306	32308	5.6667	4.6667	3.3333	6.3333	2.6667	3.0000
307	32311A	5.3333	3.3333	4.0000	6.3333	2.0000	2.6667
308	32311B	4.6667	4.0000	3.3333	6.3333	2.0000	2.6667
309	32314	4.0000	5.6667	3.6667	6.6667	2.6667	2.6667
310	32317	4.6667	3.0000	5.0000	7.0000	3.0000	3.0000
311	32399A	5.3333	4.6667	3.6667	6.0000	3.3333	3.3333
312	32399B	4.3333	3.3333	3.6667	6.6667	2.3333	3.0000
313	32502	4.0000	5.0000	3.6667	6.6667	3.0000	3.6667
314	32505	4.6667	4.3333	3.0000	7.0000	2.6667	3.6667
315	32508	5.0000	4.3333	3.0000	6.3333	3.0000	3.3333
316	32511	4.0000	6.3333	4.3333	5.3333	3.6667	3.3333
317	32514	4.6667	3.3333	3.0000	4.0000	6.0000	5.0000
318	32517	4.6667	6.3333	3.0000	3.0000	4.0000	6.0000
319	32518	5.0000	4.0000	2.3333	3.6667	3.6667	6.0000
320	32521	4.3333	6.0000	3.0000	4.6667	5.0000	3.6667
321	32523	5.0000	4.6667	3.0000	5.6667	3.3333	3.6667
322	32902	5.0000	6.0000	3.0000	3.6667	3.0000	3.6667
323	32905	5.0000	4.6667	2.6667	2.6667	3.0000	4.0000
324	32908	4.3333	3.6667	2.6667	6.0000	4.0000	5.0000
325	32911	4.0000	3.0000	2.3333	3.0000	3.0000	6.6667
326	32913	5.0000	4.6667	2.6667	6.0000	3.0000	4.0000
327	32914	5.0000	5.6667	3.0000	3.6667	3.0000	3.6667
328	32919	6.0000	5.0000	2.0000	4.0000	2.6667	3.0000
329	32921	6.0000	4.0000	2.0000	3.0000	3.0000	5.0000
330	32923	5.0000	5.6667	2.0000	4.0000	2.6667	3.6667
331	32925	5.3333	5.6667	2.0000	4.0000	3.0000	3.3333
332	32926	5.3333	5.6667	2.0000	4.0000	3.0000	3.6667
333	32928	6.0000	3.6667	2.3333	4.3333	2.6667	4.0000
334	32931	4.0000	3.6667	3.3333	6.3333	2.6667	3.3333

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
335	32996A	2.3333	3.0000	2.6667	5.0000	6.0000	4.0000
336	32996B	2.3333	3.3333	2.6667	6.3333	5.0000	4.0000
337	32996C	2.3333	4.3333	2.6667	6.3333	5.0000	3.6667
338	32999A	4.3333	4.6667	2.6667	6.3333	3.0000	3.0000
339	32999B	5.0000	4.3333	2.3333	6.0000	2.6667	3.6667
340	32999C	5.0000	3.3333	2.3333	6.0000	3.3333	3.6667
341	32999D	5.3333	4.0000	2.3333	4.3333	2.6667	3.6667
342	32999E	5.0000	4.6667	2.6667	5.6667	2.6667	3.6667
343	34002A	2.3333	4.3333	6.6667	4.0000	4.6667	2.6667
344	34002B	2.0000	3.6667	6.6667	3.3333	2.6667	2.3333
345	34002C	2.0000	3.3333	6.6667	3.0000	3.0000	2.3333
346	34002D	2.3333	3.6667	6.0000	4.6667	4.6667	3.6667
347	34002E	2.3333	3.3333	5.3333	3.6667	6.3333	4.3333
348	34002F	2.3333	2.3333	5.6667	3.6667	6.0000	3.6667
349	34002G	2.3333	3.0000	6.0000	3.6667	6.0000	3.0000
350	34002H	2.0000	4.3333	6.0000	4.3333	4.0000	4.0000
351	34002J	2.0000	3.3333	5.0000	4.0000	3.0000	4.0000
352	34002L	2.0000	3.0000	6.0000	4.0000	5.0000	3.0000
353	34002M	2.0000	6.0000	5.0000	3.0000	3.0000	4.0000
354	34005	3.3333	5.0000	6.0000	3.0000	3.3333	3.3333
355	34008	2.0000	3.0000	5.0000	4.3333	6.0000	3.0000
356	34011	2.0000	5.3333	6.3333	3.3333	4.3333	3.3333
357	34014	2.6667	4.0000	6.6667	5.0000	4.3333	3.0000
358	34017	2.6667	3.6667	6.0000	5.6667	5.3333	3.0000
359	34021	2.6667	2.0000	4.6667	6.0000	4.3333	3.0000
360	34023A	4.3333	2.6667	6.6667	3.6667	4.0000	2.6667
361	34023B	4.6667	4.3333	6.0000	3.0000	3.0000	2.6667
362	34026	5.0000	3.0000	6.0000	3.0000	3.6667	3.0000
363	34028B	6.3333	3.3333	4.0000	3.0000	3.0000	3.3333
364	34028C	6.6667	3.6667	3.6667	2.6667	3.0000	3.0000
365	34032	3.6667	3.6667	6.6667	3.3333	4.0000	2.6667
366	34035A	4.3333	3.3333	5.6667	3.0000	3.3333	2.3333
367	34035B	4.6667	3.0000	6.6667	3.6667	3.6667	2.3333
368	34035C	4.0000	3.0000	6.6667	3.3333	4.3333	3.3333
369	34035D	4.0000	2.6667	6.6667	4.0000	4.3333	2.6667
370	34035E	5.6667	3.3333	6.6667	3.3333	3.0000	2.3333
371	34038A	4.3333	3.0000	6.6667	3.6667	5.6667	2.3333
372	34038B	5.0000	3.6667	6.6667	2.3333	4.6667	2.3333
373	34038C	5.0000	3.6667	6.6667	2.3333	3.3333	2.6667
374	34038D	5.0000	3.3333	6.6667	3.0000	4.3333	2.6667
375	34038E	3.6667	3.0000	6.6667	3.3333	4.6667	3.0000
376	34038F	5.0000	2.6667	6.6667	2.6667	4.3333	2.6667
377	34041	4.3333	3.3333	6.6667	3.6667	5.3333	3.0000
378	34044	5.6667	3.0000	6.0000	3.0000	4.6667	2.6667
379	34047A	2.6667	2.6667	6.6667	4.3333	4.3333	2.3333
380	34047B	2.6667	3.3333	6.6667	3.0000	2.6667	3.3333
381	34047C	2.3333	2.6667	6.6667	3.6667	4.6667	2.3333
382	34047E	2.3333	3.0000	6.6667	3.3333	3.6667	3.0000

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
383	34047F	2.0000	2.6667	5.3333	4.0000	4.3333	4.6667
384	34051	3.6667	3.3333	6.6667	3.6667	3.6667	2.6667
385	34053A	4.0000	2.6667	6.6667	4.0000	3.6667	2.3333
386	34053B	3.6667	3.3333	6.6667	5.0000	4.6667	3.0000
387	34056A	2.6667	3.0000	6.6667	4.3333	5.0000	2.6667
388	34056B	3.6667	2.0000	6.0000	3.6667	3.6667	2.6667
389	34056D	4.3333	2.6667	6.0000	4.0000	5.0000	3.0000
390	34056E	6.3333	2.0000	4.6667	4.3333	5.0000	2.0000
391	34056F	3.0000	2.6667	6.0000	4.0000	5.0000	3.3333
392	34056G	3.6667	2.6667	6.6667	4.3333	5.6667	3.3333
393	34056H	3.0000	2.3333	5.0000	4.0000	6.3333	4.0000
394	34056J	2.3333	2.3333	6.3333	5.0000	6.0000	3.3333
395	34056K	6.0000	3.3333	5.0000	3.6667	4.6667	3.6667
396	34058A	5.0000	2.0000	2.3333	4.0000	6.0000	3.0000
397	34058B	5.3333	4.0000	2.3333	5.6667	4.0000	2.3333
398	34058C	5.0000	2.0000	3.0000	4.0000	6.0000	2.6667
399	34058E	6.3333	2.3333	2.0000	3.3333	5.3333	3.6667
400	34058F	6.3333	2.0000	2.3333	3.0000	5.0000	2.0000
401	34058G	6.3333	2.0000	2.3333	3.3333	3.3333	2.6667
402	34058L	5.6667	2.0000	2.0000	3.6667	4.6667	5.6667
403	39002	5.0000	3.0000	2.0000	3.0000	4.3333	6.3333
404	39005	6.3333	5.3333	2.0000	3.0000	2.6667	4.3333
405	39008	6.3333	3.3333	2.3333	2.6667	3.6667	4.3333
406	39011	3.3333	2.6667	3.0000	5.3333	6.3333	4.3333
407	39014	6.0000	3.3333	3.0000	2.6667	3.0000	4.0000
408	39999A	2.3333	4.3333	5.3333	5.0000	3.0000	4.0000
409	39999B	2.6667	2.6667	4.0000	4.3333	6.6667	4.0000
410	39999C	3.0000	4.0000	2.3333	2.6667	3.3333	6.3333
411	39999D	6.3333	4.0000	4.3333	2.3333	3.0000	3.3333
412	39999E	6.6667	3.6667	4.0000	2.0000	3.6667	3.6667
413	39999G	3.0000	5.0000	2.0000	4.0000	3.3333	6.0000
414	39999H	5.6667	4.0000	3.0000	3.3333	3.0000	3.3333
415	41002	2.6667	3.3333	3.3333	4.3333	6.6667	5.6667
416	43002	2.3333	2.3333	2.0000	5.3333	6.6667	4.3333
417	43008	3.6667	2.3333	2.6667	5.0000	6.6667	5.0000
418	43011	4.3333	2.6667	2.6667	4.3333	6.3333	4.6667
419	43014A	2.3333	3.3333	2.3333	4.0000	6.6667	5.3333
420	43014B	2.3333	3.0000	2.3333	4.3333	6.6667	5.0000
421	43017	2.3333	3.0000	2.6667	4.3333	6.6667	4.6667
422	43021	2.6667	2.6667	4.0000	5.0000	6.3333	4.6667
423	43023A	2.6667	2.0000	2.6667	4.0000	6.6667	4.6667
424	43023B	2.3333	2.0000	3.6667	4.0000	6.6667	4.0000
425	43099A	2.6667	2.0000	3.0000	4.6667	6.6667	4.6667
426	43099B	2.0000	2.6667	3.3333	5.3333	6.6667	4.3333
427	49002	4.6667	4.3333	2.6667	3.6667	6.3333	3.6667
428	49005A	5.3333	2.0000	2.0000	4.3333	6.3333	4.0000
429	49005B	4.6667	3.6667	2.0000	4.6667	6.3333	4.0000
430	49005C	4.6667	3.6667	2.0000	4.0000	6.3333	3.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
431	49005D	4.6667	3.0000	2.0000	4.0000	6.3333	3.6667
432	49005F	4.3333	3.6667	2.0000	4.6667	6.3333	4.0000
433	49005G	5.0000	3.3333	2.0000	4.6667	6.3333	4.0000
434	49008	4.0000	2.6667	2.3333	4.3333	6.3333	4.0000
435	49011	3.6667	2.3333	2.6667	4.3333	6.3333	3.3333
436	49014	5.3333	2.0000	2.0000	4.0000	6.3333	4.3333
437	49017	4.0000	2.0000	2.0000	3.3333	5.0000	6.0000
438	49021	6.0000	2.0000	2.0000	3.0000	4.3333	4.6667
439	49023A	4.0000	2.0000	2.0000	3.0000	4.3333	6.0000
440	49023B	4.3333	2.0000	1.6667	3.0000	4.3333	6.6667
441	49026	2.6667	2.0000	2.0000	4.3333	6.3333	5.3333
442	49032A	4.3333	2.0000	2.6667	4.3333	6.3333	3.3333
443	49032B	3.0000	2.0000	6.0000	4.0000	5.0000	2.6667
444	49999A	3.3333	2.6667	2.3333	4.3333	6.3333	5.3333
445	49999B	4.0000	2.0000	2.6667	3.0000	5.0000	6.0000
446	49999C	2.6667	2.0000	3.0000	5.3333	6.3333	4.3333
447	49999D	3.3333	2.3333	2.3333	4.0000	6.0000	4.6667
448	51002A	3.0000	2.3333	2.6667	4.6667	6.6667	4.6667
449	51002B	3.0000	2.3333	2.3333	4.0000	6.3333	5.0000
450	53102	3.6667	2.3333	1.6667	3.6667	4.6667	6.6667
451	53105	2.6667	2.0000	1.6667	4.3333	6.0000	6.0000
452	53108	3.0000	2.0000	1.6667	2.6667	4.0000	6.6667
453	53114	3.0000	2.6667	2.0000	3.0000	4.6667	6.3333
454	53117	3.0000	3.0000	2.0000	3.3333	5.3333	6.3333
455	53121	2.6667	2.6667	2.0000	3.6667	5.0000	6.6667
456	53123	2.3333	3.0000	2.0000	4.6667	5.0000	6.3333
457	53126	2.3333	2.3333	2.0000	3.6667	4.0000	6.6667
458	53128	2.3333	2.3333	1.6667	3.0000	4.3333	6.6667
459	53302	2.6667	4.6667	2.0000	4.0000	6.6667	4.0000
460	53305	5.3333	2.6667	2.3333	3.6667	4.3333	6.3333
461	53311	3.0000	3.0000	1.6667	3.3333	4.3333	6.6667
462	53314	2.3333	3.0000	1.6667	3.3333	4.0000	6.6667
463	53502	2.3333	2.3333	2.0000	5.6667	4.3333	5.3333
464	53505	2.3333	3.0000	1.6667	3.3333	4.0000	6.6667
465	53508	2.6667	2.6667	1.6667	3.3333	5.0000	6.3333
466	53702	2.3333	3.0000	2.0000	3.6667	4.3333	6.3333
467	53705	2.6667	3.3333	2.0000	3.6667	4.3333	6.6667
468	53708	2.3333	2.6667	2.0000	3.0000	4.3333	6.6667
469	53802	2.6667	2.0000	2.6667	5.0000	4.6667	5.6667
470	53805	3.3333	2.0000	2.0000	4.0000	4.6667	6.3333
471	53808	2.6667	2.0000	2.0000	4.3333	5.3333	6.0000
472	53902	4.3333	3.3333	2.6667	3.6667	3.6667	6.0000
473	53905	3.6667	2.6667	3.0000	6.3333	2.6667	5.3333
474	53908	2.6667	2.0000	2.6667	3.0000	3.6667	6.6667
475	53911	2.3333	3.3333	3.0000	3.0000	3.0000	6.6667
476	53914	2.3333	2.3333	2.0000	3.0000	4.3333	6.6667
477	55102	2.3333	3.6667	2.3333	3.3333	5.0000	6.3333
478	55105	3.0000	3.6667	2.0000	3.6667	4.0000	6.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
479	55108	3.0000	2.0000	2.3333	4.0000	4.3333	6.6667
480	55302A	4.0000	2.0000	1.6667	2.6667	3.6667	6.6667
481	55302B	3.3333	2.0000	1.6667	2.6667	3.3333	6.6667
482	55305	2.3333	2.0000	2.0000	5.0000	5.3333	6.0000
483	55307	3.3333	2.0000	1.6667	2.6667	3.0000	6.6667
484	55314	2.3333	2.6667	2.0000	4.3333	5.3333	6.6667
485	55317	2.6667	2.6667	1.6667	3.0000	4.0000	6.3333
486	55321	3.0000	2.0000	1.6667	2.6667	3.3333	6.6667
487	55323	2.6667	2.0000	2.0000	3.3333	4.6667	6.3333
488	55326	3.0000	2.3333	1.6667	2.3333	3.6667	6.6667
489	55328A	3.0000	3.3333	2.0000	2.0000	3.6667	6.6667
490	55328B	3.0000	3.3333	2.0000	2.6667	2.3333	6.6667
491	55332	2.3333	2.6667	2.0000	4.6667	4.3333	6.0000
492	55335	2.6667	2.6667	2.0000	4.3333	4.6667	6.0000
493	55338A	2.6667	3.0000	2.0000	2.3333	3.6667	6.6667
494	55338B	2.3333	3.3333	2.0000	2.3333	4.3333	6.6667
495	55341	3.3333	2.6667	1.6667	2.0000	4.0000	6.6667
496	55344	3.3333	2.6667	1.6667	2.0000	4.0000	6.6667
497	55347	3.3333	2.0000	1.6667	2.6667	3.3333	6.6667
498	56002	4.6667	2.0000	1.6667	2.0000	3.0000	6.6667
499	56005	4.3333	2.0000	2.0000	2.3333	3.3333	6.3333
500	56008	6.3333	2.3333	1.6667	2.0000	2.6667	5.6667
501	56011	5.6667	3.0000	1.6667	2.3333	3.0000	5.6667
502	56014	6.3333	3.0000	1.6667	1.6667	2.3333	5.3333
503	56017	5.0000	2.3333	1.6667	1.6667	2.6667	6.6667
504	56021	5.6667	2.3333	2.6667	2.3333	3.0000	5.6667
505	56099	5.0000	2.3333	1.6667	2.0000	2.6667	6.0000
506	57102	4.6667	2.0000	1.6667	4.0000	3.6667	5.6667
507	57105	4.3333	2.0000	1.6667	4.0000	3.6667	6.0000
508	57108	4.3333	2.0000	1.6667	4.0000	3.6667	5.6667
509	57111	5.3333	2.3333	1.6667	2.6667	3.0000	5.6667
510	57199	4.6667	2.0000	1.6667	3.0000	3.3333	5.6667
511	57302	4.0000	2.6667	1.6667	2.3333	2.6667	6.0000
512	57305	5.3333	2.0000	2.0000	3.3333	2.6667	5.6667
513	57308	5.3333	2.0000	1.6667	2.6667	3.6667	6.3333
514	57311A	6.0000	2.0000	1.6667	3.0000	3.3333	5.0000
515	58002	3.6667	2.0000	2.0000	5.6667	2.6667	5.3333
516	58005	4.6667	2.6667	1.6667	3.0000	3.3333	6.0000
517	58008	3.3333	2.6667	1.6667	3.0000	5.0000	6.3333
518	58011	4.3333	2.0000	1.6667	2.6667	3.6667	6.3333
519	58014	5.6667	2.3333	1.6667	2.3333	3.6667	6.3333
520	58017	4.3333	2.0000	1.6667	2.3333	3.0000	6.3333
521	58021	4.6667	2.0000	1.6667	2.3333	3.3333	6.0000
522	58023	5.0000	2.0000	1.6667	2.3333	3.3333	6.3333
523	58026	3.6667	2.3333	1.6667	2.3333	4.0000	6.6667
524	58028	4.6667	2.3333	1.6667	2.3333	3.3333	6.3333
525	58099A	4.6667	3.6667	2.0000	2.3333	2.6667	6.0000
526	58099B	4.0000	2.6667	1.6667	2.3333	3.3333	6.3333

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
527	58099C	4.0000	2.3333	1.6667	2.3333	3.3333	6.0000
528	59999	4.0000	2.3333	1.6667	2.6667	3.6667	6.3333
529	61002A	6.0000	3.0000	2.0000	4.0000	5.0000	2.6667
530	61002B	6.6667	3.0000	2.0000	4.0000	4.6667	3.0000
531	61005	4.0000	3.0000	2.0000	5.0000	6.0000	3.3333
532	61008	4.6667	2.0000	2.0000	3.3333	6.0000	5.0000
533	61099A	5.0000	2.0000	3.6667	3.3333	5.6667	3.0000
534	61099B	4.3333	2.0000	2.6667	3.0000	5.6667	3.6667
535	61099C	4.0000	2.0000	2.6667	4.0000	6.0000	4.0000
536	61099D	5.3333	2.0000	2.0000	3.6667	5.6667	4.6667
537	61099E	4.0000	2.0000	2.0000	3.6667	6.0000	4.6667
538	62031	5.6667	2.0000	2.0000	5.0000	3.3333	3.6667
539	62041	3.3333	2.0000	4.0000	6.3333	2.3333	2.6667
540	62061	4.6667	2.3333	3.0000	6.6667	3.6667	3.3333
541	63002A	5.0000	3.0000	2.0000	4.0000	3.3333	6.0000
542	63002B	5.0000	5.0000	2.6667	3.3333	4.6667	5.0000
543	63005	6.6667	4.0000	2.0000	2.3333	4.0000	4.0000
544	63008A	6.6667	3.0000	2.0000	4.6667	3.6667	3.0000
545	63008B	6.6667	2.3333	2.0000	4.6667	3.0000	2.6667
546	63011A	3.6667	4.0000	2.3333	5.0000	6.0000	3.3333
547	63011B	5.0000	3.3333	2.0000	4.0000	3.6667	6.0000
548	63014A	5.0000	2.6667	2.0000	5.0000	4.3333	4.0000
549	63014B	6.0000	4.0000	2.0000	3.6667	4.3333	3.6667
550	63017	6.0000	2.0000	2.0000	5.0000	3.6667	3.6667
551	63021	4.6667	2.0000	1.6667	3.3333	3.6667	6.0000
552	63023	3.3333	2.0000	2.0000	6.0000	5.0000	4.0000
553	63026	4.0000	2.6667	2.0000	6.0000	4.6667	3.3333
554	63028A	3.0000	5.0000	2.0000	4.0000	6.0000	3.6667
555	63028B	3.3333	3.6667	2.0000	5.3333	5.3333	4.3333
556	63032	4.6667	2.6667	2.0000	5.0000	5.0000	4.0000
557	63035	4.3333	3.3333	2.0000	5.3333	6.3333	3.6667
558	63038	4.3333	2.6667	2.0000	5.3333	6.3333	3.3333
559	63041	6.0000	5.0000	2.0000	4.0000	3.6667	2.6667
560	63044	4.6667	2.0000	2.0000	6.3333	2.6667	4.0000
561	63047	3.6667	2.3333	2.0000	6.0000	5.0000	4.0000
562	63099B	6.0000	1.6667	2.0000	5.3333	3.6667	3.3333
563	63099C	5.0000	3.0000	2.3333	6.0000	3.6667	3.0000
564	63099D	6.0000	2.0000	1.6667	2.3333	4.0000	5.3333
565	63099E	5.3333	2.0000	2.0000	4.0000	4.6667	4.3333
566	65002	4.0000	1.6667	2.0000	5.0000	5.6667	3.6667
567	65005	4.0000	2.0000	2.3333	5.0000	6.0000	3.0000
568	65008A	4.0000	2.0000	2.6667	6.0000	5.0000	4.0000
569	65008B	2.6667	3.0000	4.3333	5.3333	6.3333	2.3333
570	65011	5.3333	2.0000	2.0000	5.6667	4.0000	3.6667
571	65014	5.3333	1.6667	1.6667	4.3333	4.3333	3.6667
572	65017	5.3333	2.0000	2.0000	5.3333	4.0000	3.6667
573	65021	6.0000	2.0000	3.6667	2.6667	3.6667	3.0000
574	65023	6.3333	2.0000	2.3333	3.0000	4.3333	3.3333

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
575	65026	6.0000	2.6667	4.3333	3.3333	5.6667	3.6667
576	65028	6.3333	2.3333	2.0000	4.3333	3.6667	5.3333
577	65032	6.3333	1.6667	2.0000	2.6667	3.0000	3.3333
578	65035	6.0000	1.6667	2.3333	3.0000	4.3333	3.6667
579	65038A	6.3333	1.6667	2.0000	2.3333	3.0000	3.3333
580	65038B	6.6667	1.6667	2.0000	2.3333	2.3333	3.3333
581	65041	6.3333	1.6667	2.3333	2.6667	3.3333	3.3333
582	65099A	6.6667	1.6667	2.0000	2.6667	2.3333	3.0000
583	65099B	5.0000	1.6667	1.6667	3.3333	3.6667	4.3333
584	66002	5.0000	3.0000	2.0000	6.0000	4.0000	3.6667
585	66005	4.0000	3.3333	2.3333	6.0000	3.0000	5.0000
586	66008	5.3333	2.6667	2.3333	6.3333	4.0000	3.0000
587	66011	4.6667	2.0000	2.3333	6.3333	2.3333	3.0000
588	66014	3.6667	2.3333	2.0000	6.0000	2.0000	3.0000
589	66017	5.0000	3.0000	2.3333	5.6667	2.0000	3.3333
590	66021	4.6667	2.6667	3.3333	6.3333	2.0000	3.3333
591	66023	5.3333	2.3333	2.0000	6.3333	4.0000	2.6667
592	66097	6.3333	3.3333	2.3333	2.6667	2.3333	4.3333
593	66099A	6.3333	2.6667	2.3333	3.3333	2.6667	3.3333
594	66099B	5.3333	2.0000	1.6667	5.0000	1.6667	3.3333
595	66099D	5.0000	3.6667	2.0000	6.0000	3.0000	4.0000
596	67002	6.6667	1.6667	2.0000	3.3333	2.3333	3.3333
597	67005	6.6667	1.6667	1.6667	2.3333	2.3333	3.0000
598	67008	6.6667	2.3333	2.0000	2.3333	3.0000	3.6667
599	67011	6.0000	1.6667	1.6667	3.3333	2.0000	3.3333
600	67099	6.3333	1.6667	1.6667	3.0000	2.3333	3.3333
601	68002	6.0000	2.0000	2.3333	5.0000	4.0000	2.6667
602	68005A	3.3333	2.0000	4.6667	4.6667	6.0000	3.0000
603	68005B	4.6667	2.3333	6.3333	3.6667	3.6667	2.6667
604	68005C	5.6667	2.3333	3.0000	4.3333	5.0000	3.3333
605	68008	4.3333	2.0000	2.6667	5.3333	5.6667	2.6667
606	68014A	6.0000	2.0000	2.3333	3.6667	4.6667	5.3333
607	68014B	3.6667	2.0000	2.3333	3.6667	6.3333	5.0000
608	68017A	3.6667	2.6667	4.3333	5.3333	6.3333	3.0000
609	68017B	3.3333	2.0000	3.0000	5.6667	4.3333	3.0000
610	68021	3.0000	2.0000	2.3333	6.0000	4.3333	4.6667
611	68023	5.0000	2.0000	2.0000	4.0000	6.0000	3.0000
612	68026	2.6667	2.0000	4.3333	5.0000	6.0000	3.0000
613	68028	3.6667	2.0000	2.3333	5.3333	5.6667	3.0000
614	68032A	3.6667	2.0000	2.0000	5.3333	2.6667	4.3333
615	68032B	5.0000	2.0000	5.6667	4.0000	3.3333	2.6667
616	68035	4.6667	2.0000	2.0000	6.0000	3.0000	2.6667
617	68038	3.0000	2.6667	3.6667	6.6667	2.6667	2.6667
618	68041	4.0000	2.3333	3.0000	6.0000	5.0000	3.3333
619	69999A	3.0000	2.0000	2.0000	6.0000	4.6667	2.6667
620	69999B	3.0000	2.0000	2.3333	6.0000	4.6667	2.6667
621	69999D	3.3333	2.0000	2.3333	5.0000	6.0000	2.6667
622	69999E	3.3333	2.0000	2.3333	5.3333	5.0000	2.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
623	72002A	5.6667	3.3333	2.0000	3.3333	5.6667	3.6667
624	72002B	6.0000	2.6667	2.0000	3.0000	6.0000	3.6667
625	72002C	6.0000	3.0000	2.3333	4.0000	5.0000	3.0000
626	72002D	6.0000	3.0000	3.0000	3.3333	5.0000	3.6667
627	72002E	6.0000	2.6667	3.6667	3.3333	5.0000	3.0000
628	72002F	6.0000	2.3333	2.0000	3.3333	4.6667	3.0000
629	72002G	6.3333	2.6667	1.6667	2.6667	5.6667	3.6667
630	73002	6.6667	2.0000	1.6667	2.0000	2.6667	3.3333
631	73005	6.6667	2.0000	1.6667	2.0000	2.6667	3.0000
632	73011	6.6667	2.0000	1.6667	2.3333	2.6667	2.6667
633	73099A	7.0000	2.0000	1.6667	2.0000	2.3333	2.3333
634	73099B	6.6667	2.0000	1.6667	1.6667	2.3333	4.6667
635	73099C	6.6667	2.0000	1.6667	2.3333	3.3333	4.0000
636	73099D	6.0000	2.6667	1.6667	2.6667	5.0000	5.3333
637	73099E	6.6667	2.0000	1.6667	2.0000	3.0000	2.6667
638	79002A	6.6667	4.0000	2.3333	2.3333	2.6667	2.6667
639	79002B	6.0000	2.6667	2.0000	3.3333	3.3333	5.0000
640	79005	6.6667	2.6667	2.0000	2.3333	2.6667	2.6667
641	79008	5.3333	2.6667	2.0000	2.0000	3.6667	5.3333
642	79011	5.6667	2.3333	1.6667	2.0000	3.3333	5.0000
643	79015	5.6667	4.6667	2.0000	2.3333	3.6667	3.6667
644	79016	5.0000	2.6667	2.0000	6.0000	4.0000	2.6667
645	79017A	6.0000	2.3333	2.3333	3.0000	2.3333	2.3333
646	79017B	6.6667	2.0000	2.0000	1.6667	2.3333	2.6667
647	79017C	6.3333	2.0000	3.3333	2.6667	2.6667	2.3333
648	79017D	6.3333	3.3333	2.3333	2.0000	2.3333	2.3333
649	79021	6.6667	2.3333	1.6667	2.0000	3.0000	3.0000
650	79030B	6.6667	2.3333	3.3333	1.6667	2.3333	2.6667
651	79033	6.6667	2.6667	3.3333	1.6667	2.6667	2.3333
652	79036	6.3333	2.3333	1.6667	1.6667	2.6667	3.0000
653	79041	6.6667	2.6667	2.3333	1.6667	2.3333	2.3333
654	79806	6.0000	5.0000	3.3333	4.3333	3.0000	3.0000
655	79855	6.6667	2.6667	1.6667	2.0000	3.3333	2.3333
656	79856	6.6667	3.0000	2.3333	2.0000	2.6667	2.6667
657	79858	6.6667	3.6667	2.0000	2.0000	2.3333	4.0000
658	79999A	6.3333	3.3333	2.0000	1.6667	2.6667	4.3333
659	79999B	6.6667	2.3333	1.6667	2.0000	2.3333	2.6667
660	79999C	6.3333	5.0000	2.3333	2.6667	4.0000	3.0000
661	79999D	6.6667	3.0000	2.0000	3.0000	5.3333	4.3333
662	79999E	6.3333	2.6667	2.0000	2.6667	5.0000	3.3333
663	79999F	6.6667	2.3333	2.0000	1.6667	3.0000	3.0000
664	79999G	6.6667	3.6667	2.0000	1.6667	3.0000	3.3333
665	79999H	6.6667	2.6667	2.3333	1.6667	2.3333	2.6667
666	79999J	6.6667	3.6667	2.0000	2.0000	3.3333	2.6667
667	79999K	5.3333	3.3333	2.0000	3.0000	6.3333	4.6667
668	79999L	5.3333	3.6667	2.0000	3.3333	6.3333	4.6667
669	79999M	5.3333	3.3333	2.0000	3.3333	6.3333	4.6667
670	79999N	6.6667	2.0000	2.0000	2.0000	3.0000	2.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
671	79999P	6.6667	2.3333	2.0000	2.0000	3.0000	3.0000
672	81002	5.6667	3.0000	1.6667	3.0000	6.0000	5.0000
673	81005A	6.0000	2.6667	1.6667	3.0000	6.0000	4.3333
674	81005B	6.0000	2.0000	1.6667	2.6667	6.3333	4.0000
675	81008	5.6667	2.3333	2.0000	3.3333	6.3333	5.3333
676	81011	5.6667	2.3333	2.0000	3.3333	6.3333	5.0000
677	81017	5.3333	2.0000	2.0000	3.6667	6.3333	5.3333
678	83002A	6.0000	3.0000	2.0000	2.0000	3.3333	5.3333
679	83002B	6.0000	3.3333	2.0000	1.6667	3.3333	5.3333
680	83002C	6.0000	3.0000	2.0000	2.3333	2.6667	5.0000
681	83002D	6.0000	3.6667	2.0000	1.6667	2.6667	5.3333
682	83005A	5.6667	3.0000	2.0000	1.6667	3.0000	5.3333
683	83005B	5.6667	2.6667	2.0000	2.3333	3.6667	5.3333
684	83008A	5.6667	2.6667	2.0000	2.0000	3.0000	5.0000
685	83008C	6.0000	2.6667	2.0000	2.0000	3.0000	5.0000
686	83008D	5.3333	2.6667	2.0000	2.3333	3.3333	5.6667
687	83099	5.6667	2.6667	2.0000	2.0000	3.6667	5.3333
688	85112	6.6667	3.0000	2.0000	1.6667	2.6667	3.3333
689	85113	6.6667	2.6667	2.3333	1.6667	2.3333	3.3333
690	85116A	6.6667	2.6667	2.0000	1.6667	2.3333	3.3333
691	85116B	6.6667	3.0000	2.0000	1.6667	2.3333	3.0000
692	85116C	6.6667	3.0000	2.0000	1.6667	2.3333	2.6667
693	85118	6.6667	3.3333	2.0000	1.6667	2.3333	2.6667
694	85119A	6.6667	3.0000	2.0000	1.6667	2.3333	2.6667
695	85119B	6.6667	2.6667	2.0000	1.6667	2.3333	3.3333
696	85119C	6.6667	3.0000	2.0000	1.6667	2.3333	2.6667
697	85123A	6.6667	4.0000	2.0000	3.0000	3.3333	3.0000
698	85123B	6.6667	3.3333	2.0000	1.6667	2.3333	3.0000
699	85126	6.6667	2.6667	2.0000	1.6667	2.3333	2.6667
700	85128A	6.6667	2.3333	2.0000	1.6667	2.3333	3.3333
701	85128B	6.6667	2.0000	1.6667	1.6667	2.3333	3.3333
702	85132	6.6667	2.6667	1.6667	1.6667	2.6667	3.3333
703	85302A	6.6667	3.3333	1.6667	1.6667	3.0000	3.6667
704	85302B	6.6667	3.0000	1.6667	1.6667	2.6667	3.6667
705	85305A	6.3333	2.3333	1.6667	1.6667	3.0000	3.3333
706	85305B	6.6667	2.3333	2.6667	1.6667	2.6667	3.3333
707	85305C	6.6667	2.3333	1.6667	1.6667	2.6667	3.0000
708	85305D	6.0000	2.0000	2.0000	3.0000	4.6667	4.3333
709	85308	6.6667	2.6667	1.6667	1.6667	2.6667	3.0000
710	85311A	6.6667	3.0000	1.6667	1.6667	2.6667	3.3333
711	85311B	6.6667	3.0000	1.6667	1.6667	2.6667	3.3333
712	85314	6.6667	2.6667	1.6667	1.6667	2.3333	3.0000
713	85317	6.6667	2.3333	1.6667	1.6667	2.6667	3.3333
714	85321	6.6667	3.0000	1.6667	1.6667	2.6667	2.6667
715	85323A	6.6667	3.6667	1.6667	1.6667	2.6667	3.3333
716	85323B	6.6667	3.0000	1.6667	1.6667	2.6667	3.3333
717	85326	6.6667	3.6667	1.6667	1.6667	2.6667	3.3333
718	85328A	6.6667	3.3333	1.6667	1.6667	2.6667	2.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
719	85328B	6.6667	2.6667	1.6667	1.6667	3.0000	3.3333
720	85502	6.6667	3.3333	1.6667	1.6667	2.3333	3.3333
721	85505	6.6667	2.6667	1.6667	1.6667	2.3333	3.3333
722	85508	6.6667	2.6667	1.6667	1.6667	2.3333	3.6667
723	85511	6.6667	3.0000	1.6667	1.6667	2.3333	3.6667
724	85514	6.6667	3.6667	1.6667	1.6667	2.3333	3.6667
725	85599A	6.6667	2.3333	1.6667	1.6667	2.3333	3.3333
726	85599B	6.0000	3.3333	1.6667	2.0000	3.3333	3.0000
727	85599C	6.6667	3.0000	1.6667	1.6667	2.3333	3.0000
728	85702	6.6667	2.6667	1.6667	1.6667	2.3333	3.0000
729	85705	6.6667	3.3333	1.6667	1.6667	2.0000	4.0000
730	85708	6.6667	3.0000	2.0000	1.6667	2.6667	3.3333
731	85711A	6.6667	2.3333	1.6667	2.0000	2.3333	3.0000
732	85711B	6.6667	2.3333	1.6667	2.0000	2.6667	2.6667
733	85714A	6.3333	2.6667	1.6667	1.6667	2.3333	3.3333
734	85714B	6.3333	2.3333	1.6667	1.6667	2.3333	3.0000
735	85714C	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667
736	85714D	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667
737	85717A	6.6667	3.6667	1.6667	1.6667	2.3333	3.3333
738	85717B	6.6667	2.6667	1.6667	1.6667	2.3333	4.0000
739	85721	6.6667	3.3333	1.6667	1.6667	2.3333	3.3333
740	85723	6.6667	2.6667	1.6667	1.6667	2.0000	3.3333
741	85726	6.6667	2.3333	1.6667	1.6667	2.3333	3.3333
742	85728A	6.6667	3.6667	1.6667	1.6667	2.0000	3.6667
743	85728B	6.6667	3.0000	1.6667	1.6667	2.3333	3.3333
744	85799	6.6667	2.6667	1.6667	1.6667	2.3333	3.6667
745	85902A	6.6667	2.3333	1.6667	1.6667	2.3333	3.6667
746	85902B	6.6667	2.3333	1.6667	1.6667	2.3333	3.6667
747	85905	6.6667	3.6667	2.0000	1.6667	2.3333	3.3333
748	85908	6.6667	3.6667	2.0000	1.6667	2.3333	2.6667
749	85911	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667
750	85914	6.6667	2.6667	2.3333	1.6667	2.3333	3.0000
751	85917	6.6667	2.6667	2.0000	1.6667	2.6667	3.6667
752	85921A	6.6667	2.6667	4.0000	2.0000	2.3333	3.3333
753	85921B	6.6667	2.6667	4.0000	2.0000	2.3333	3.3333
754	85921C	6.6667	2.6667	4.0000	2.0000	2.3333	2.6667
755	85921D	6.3333	2.6667	4.0000	2.0000	2.3333	2.3333
756	85923	6.3333	2.6667	1.6667	1.6667	2.6667	3.3333
757	85926	6.6667	2.3333	1.6667	1.6667	2.3333	4.0000
758	85928A	6.6667	2.3333	1.6667	1.6667	2.3333	3.3333
759	85928B	6.6667	2.3333	1.6667	1.6667	2.3333	3.3333
760	85928C	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667
761	85928D	6.3333	2.0000	1.6667	1.6667	2.3333	3.3333
762	85932	6.6667	2.3333	1.6667	1.6667	2.3333	3.0000
763	85935	6.3333	2.6667	1.6667	2.3333	4.0000	3.3333
764	85938	6.6667	2.3333	1.6667	2.0000	2.6667	2.3333
765	85944	6.6667	2.3333	1.6667	1.6667	2.6667	2.6667
766	85947	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
767	85951	6.6667	2.0000	1.6667	1.6667	2.3333	3.0000
768	85953	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
769	85956A	6.6667	2.0000	1.6667	1.6667	2.3333	3.0000
770	85956C	6.3333	2.0000	2.0000	1.6667	2.3333	3.0000
771	85998	6.3333	2.3333	1.6667	1.6667	2.3333	3.0000
772	85999A	6.6667	2.3333	1.6667	1.6667	2.3333	3.0000
773	85999B	6.6667	2.3333	1.6667	1.6667	2.3333	3.6667
774	85999C	6.6667	2.0000	1.6667	1.6667	2.3333	3.3333
775	85999D	6.6667	2.3333	1.6667	1.6667	2.6667	3.0000
776	85999E	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667
777	85999F	6.6667	2.6667	1.6667	1.6667	2.3333	2.3333
778	85999G	6.6667	2.3333	1.6667	1.6667	2.3333	3.0000
779	87102A	6.6667	2.3333	1.6667	1.6667	3.0000	3.0000
780	87102B	6.6667	2.0000	1.6667	1.6667	2.6667	3.3333
781	87102C	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
782	87102D	6.6667	2.0000	1.6667	1.6667	2.3333	3.0000
783	87102E	6.6667	2.6667	1.6667	1.6667	2.6667	4.0000
784	87102F	6.6667	2.0000	1.6667	1.6667	2.6667	3.0000
785	87105	6.6667	2.0000	1.6667	2.0000	2.6667	2.3333
786	87108	6.6667	2.0000	1.6667	1.6667	2.6667	3.0000
787	87111	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
788	87114	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
789	87121	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
790	87202A	6.6667	3.6667	1.6667	1.6667	2.6667	3.3333
791	87202C	6.6667	3.0000	1.6667	2.6667	2.6667	3.3333
792	87302	6.6667	2.0000	2.0000	1.6667	2.6667	2.3333
793	87305B	6.6667	2.0000	2.0000	1.6667	2.6667	2.3333
794	87308	6.6667	2.0000	1.6667	1.6667	2.6667	3.3333
795	87311	6.6667	2.0000	2.0000	1.6667	2.6667	3.0000
796	87314	6.6667	2.0000	1.6667	1.6667	2.6667	3.3333
797	87317	6.6667	2.0000	1.6667	1.6667	2.6667	3.3333
798	87402A	6.6667	2.0000	2.0000	1.6667	2.6667	2.6667
799	87402B	6.6667	2.0000	1.6667	1.6667	2.6667	3.0000
800	87502A	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
801	87502B	6.6667	2.3333	1.6667	1.6667	3.0000	2.6667
802	87505	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
803	87508	6.6667	2.0000	1.6667	1.6667	2.3333	3.0000
804	87511	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
805	87602	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
806	87605	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
807	87608	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
808	87702	6.6667	2.0000	1.6667	1.6667	2.3333	2.3333
809	87705	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
810	87708	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
811	87711	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
812	87714A	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
813	87714B	6.6667	2.0000	1.6667	1.6667	2.6667	2.6667
814	87714C	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
815	87802	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
816	87808	6.6667	2.0000	2.0000	1.6667	2.3333	2.6667
817	87811	6.6667	2.0000	2.0000	1.6667	2.3333	3.0000
818	87814	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
819	87817	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
820	87899A	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667
821	87899B	6.3333	2.0000	1.6667	2.0000	2.6667	3.0000
822	87899C	6.6667	2.0000	1.6667	2.0000	3.0000	3.0000
823	87899D	6.6667	2.0000	1.6667	1.6667	2.3333	3.3333
824	87899E	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
825	87899F	6.6667	2.3333	1.6667	1.6667	2.3333	3.0000
826	87899G	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
827	87899H	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
828	87899J	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
829	87899K	6.6667	2.0000	2.0000	1.6667	2.3333	2.6667
830	87899L	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
831	87899M	6.6667	2.0000	1.6667	1.6667	2.3333	3.0000
832	87902A	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
833	87902B	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667
834	87905	6.6667	2.3333	1.6667	1.6667	2.3333	3.3333
835	87908	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
836	87911	6.6667	2.3333	1.6667	1.6667	2.3333	3.3333
837	87914	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
838	87917	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
839	87921	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
840	87923	6.6667	2.0000	1.6667	1.6667	2.3333	3.3333
841	87941	6.6667	2.0000	1.6667	1.6667	2.3333	3.3333
842	87943	6.6667	2.0000	1.6667	1.6667	2.3333	3.0000
843	87949A	6.3333	2.0000	1.6667	1.6667	2.3333	3.3333
844	87949B	6.6667	2.0000	1.6667	1.6667	2.3333	2.6667
845	87989A	6.6667	2.0000	1.6667	1.6667	2.3333	3.3333
846	87989B	6.6667	2.0000	1.6667	1.6667	2.3333	3.0000
847	87999	6.6667	2.0000	1.6667	1.6667	2.3333	3.0000
848	89102	6.6667	3.0000	1.6667	1.6667	2.3333	3.6667
849	89105	6.6667	4.0000	1.6667	1.6667	2.3333	3.6667
850	89108	6.6667	4.0000	1.6667	1.6667	2.3333	3.6667
851	89111	6.6667	2.0000	1.6667	1.6667	2.3333	3.3333
852	89114A	6.6667	3.3333	1.6667	1.6667	2.3333	3.6667
853	89114B	6.6667	2.3333	1.6667	1.6667	2.3333	3.3333
854	89117	6.3333	2.3333	1.6667	1.6667	2.3333	4.0000
855	89121	6.6667	2.0000	1.6667	1.6667	2.3333	3.6667
856	89123A	6.3333	2.3333	3.3333	2.6667	5.0000	4.6667
857	89123B	6.3333	2.3333	3.0000	1.6667	2.3333	3.3333
858	89126C	6.3333	2.3333	2.6667	1.6667	2.3333	2.6667
859	89126E	6.3333	2.0000	2.6667	3.0000	3.6667	5.3333
860	89126K	6.3333	2.3333	2.6667	1.6667	2.3333	2.6667
861	89128	6.3333	2.3333	3.0000	1.6667	2.3333	3.0000
862	89132	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
863	89135	6.6667	2.3333	1.6667	1.6667	2.3333	2.6667
864	89199	6.6667	2.3333	2.0000	1.6667	2.3333	2.6667
865	89302A	6.6667	2.3333	2.0000	1.6667	2.3333	3.3333
866	89302C	6.6667	2.0000	1.6667	1.6667	2.3333	3.0000
867	89305	6.3333	2.0000	1.6667	1.6667	2.3333	3.6667
868	89308	6.6667	2.0000	2.0000	1.6667	2.3333	3.3333
869	89311	6.6667	2.3333	3.0000	1.6667	2.3333	2.6667
870	89314	6.3333	2.3333	3.0000	1.6667	2.6667	2.6667
871	89397A	6.3333	2.3333	3.0000	1.6667	2.0000	3.0000
872	89397B	6.6667	2.3333	3.0000	1.6667	2.0000	3.0000
873	89398	6.6667	2.0000	2.0000	1.6667	2.0000	3.6667
874	89502A	6.3333	2.0000	2.0000	1.6667	2.3333	4.3333
875	89502B	6.3333	2.0000	3.0000	1.6667	2.3333	3.6667
876	89502D	6.3333	2.0000	2.3333	1.6667	2.3333	3.6667
877	89505A	6.0000	2.0000	3.0000	2.0000	2.6667	3.3333
878	89505B	6.0000	2.3333	4.0000	2.0000	3.0000	3.0000
879	89508	6.3333	2.3333	2.3333	1.6667	2.3333	3.0000
880	89511	6.6667	2.0000	3.6667	1.6667	2.6667	3.0000
881	89514	6.0000	2.3333	1.6667	1.6667	2.3333	3.3333
882	89517	5.6667	2.3333	1.6667	1.6667	2.3333	3.3333
883	89521	5.6667	3.3333	2.3333	1.6667	2.3333	3.3333
884	89599A	6.3333	2.0000	2.3333	1.6667	2.3333	3.3333
885	89599B	6.3333	2.3333	4.0000	1.6667	2.6667	3.0000
886	89599C	6.3333	2.0000	2.0000	1.6667	2.3333	3.6667
887	89599D	6.6667	2.6667	2.6667	2.3333	3.0000	3.0000
888	89599E	6.3333	2.0000	2.0000	1.6667	2.3333	3.0000
889	89599F	6.3333	2.3333	2.6667	1.6667	2.3333	3.0000
890	89702	6.3333	2.3333	2.6667	2.3333	3.3333	5.3333
891	89705	6.0000	2.3333	2.0000	1.6667	2.6667	5.0000
892	89706	6.0000	2.0000	2.0000	1.6667	2.3333	4.3333
893	89707	6.3333	2.3333	4.0000	1.6667	2.3333	3.3333
894	89712	6.3333	2.0000	3.3333	1.6667	2.3333	2.6667
895	89713	6.3333	3.3333	5.0000	2.3333	2.6667	3.6667
896	89715	6.3333	2.3333	2.3333	1.6667	2.3333	3.6667
897	89717	6.3333	2.0000	2.3333	1.6667	2.3333	3.3333
898	89718	6.3333	2.0000	2.0000	1.6667	2.3333	3.0000
899	89719A	5.6667	2.0000	2.3333	1.6667	2.3333	3.3333
900	89719B	5.6667	2.3333	2.0000	1.6667	2.3333	3.6667
901	89721	6.3333	2.3333	3.6667	1.6667	2.3333	3.3333
902	89799A	6.3333	2.0000	2.6667	1.6667	2.3333	4.0000
903	89799B	6.3333	2.0000	2.0000	1.6667	2.3333	3.0000
904	89802	6.6667	2.0000	2.0000	1.6667	2.3333	2.3333
905	89805	6.6667	2.3333	2.0000	1.6667	2.3333	3.0000
906	89808	6.6667	2.3333	3.0000	1.6667	2.3333	2.6667
907	89899	6.3333	2.3333	3.0000	1.6667	2.3333	3.3333
908	89902	6.6667	2.6667	2.0000	1.6667	2.3333	3.3333
909	89905A	6.6667	2.3333	2.0000	1.6667	2.3333	3.6667
910	89905B	6.6667	2.3333	2.0000	1.6667	2.3333	3.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
911	89905C	6.3333	2.3333	5.0000	2.0000	2.3333	3.3333
912	89905D	6.6667	2.0000	3.0000	1.6667	2.3333	3.3333
913	89905F	6.6667	2.0000	4.0000	1.6667	2.3333	2.3333
914	89908A	6.3333	3.0000	3.3333	1.6667	2.3333	3.6667
915	89908B	6.3333	2.0000	2.3333	1.6667	2.3333	3.6667
916	89908C	6.3333	2.0000	2.3333	1.6667	2.3333	3.3333
917	89908D	6.0000	2.3333	5.0000	3.0000	2.6667	4.0000
918	89911A	5.0000	2.0000	6.0000	2.6667	3.0000	4.0000
919	89911B	6.3333	2.0000	3.6667	1.6667	2.3333	3.0000
920	89911C	6.3333	2.0000	4.0000	1.6667	2.3333	3.3333
921	89911D	6.3333	2.0000	4.6667	1.6667	2.3333	2.6667
922	89911E	6.0000	2.0000	4.0000	2.3333	2.3333	5.0000
923	89911G	6.3333	2.0000	3.3333	1.6667	2.3333	2.6667
924	89914A	5.0000	3.3333	6.0000	2.6667	2.6667	3.0000
925	89914B	5.6667	2.0000	2.3333	1.6667	2.3333	3.3333
926	89914C	6.0000	2.6667	3.3333	1.6667	2.3333	3.0000
927	89914D	5.6667	3.0000	2.6667	1.6667	2.3333	3.0000
928	89917A	6.0000	2.6667	2.3333	1.6667	2.3333	3.3333
929	89917D	6.0000	3.0000	2.0000	1.6667	2.3333	3.6667
930	89921	6.6667	4.3333	2.0000	2.0000	2.3333	3.6667
931	89923	6.6667	4.3333	2.3333	2.6667	2.6667	3.6667
932	89926A	6.6667	3.0000	3.0000	1.6667	2.3333	3.3333
933	89999A	6.3333	2.3333	3.3333	1.6667	2.3333	3.3333
934	89999B	6.3333	2.0000	3.3333	1.6667	2.3333	3.0000
935	89999C	6.3333	2.3333	3.0000	1.6667	2.3333	3.3333
936	91102	6.6667	2.3333	2.0000	1.6667	2.0000	3.3333
937	91105	6.6667	2.3333	1.6667	1.6667	2.0000	3.3333
938	91108	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
939	91111	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
940	91114A	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
941	91114B	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
942	91117	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
943	91302	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
944	91305	6.3333	2.0000	1.6667	1.6667	2.0000	3.6667
945	91308	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
946	91311	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
947	91314	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
948	91317	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
949	91321	6.6667	2.0000	1.6667	1.6667	2.0000	3.6667
950	91502	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
951	91505	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
952	91508	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
953	91702	6.6667	2.0000	1.6667	1.6667	2.0000	3.6667
954	91705	6.6667	2.3333	1.6667	1.6667	2.0000	3.3333
955	91708	6.6667	2.0000	1.6667	1.6667	2.0000	3.6667
956	91711	6.6667	2.0000	1.6667	1.6667	2.0000	3.6667
957	91714	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
958	91902	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
959	91905	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
960	91908	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
961	91911	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
962	91914	6.3333	2.0000	1.6667	1.6667	2.0000	3.0000
963	91917	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
964	91921	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
965	91923	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
966	91926	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
967	91928	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
968	91932	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
969	91935	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
970	91938	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
971	92197	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
972	92198	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
973	92302	6.6667	2.3333	1.6667	1.6667	2.0000	3.6667
974	92305	6.6667	2.0000	1.6667	1.6667	2.0000	2.6667
975	92308	6.6667	2.0000	2.0000	1.6667	2.0000	3.0000
976	92311	6.6667	2.3333	2.0000	1.6667	2.0000	3.0000
977	92314	6.6667	2.3333	2.0000	1.6667	2.0000	3.3333
978	92512	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
979	92515	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
980	92519	6.3333	2.3333	2.0000	1.6667	2.0000	3.3333
981	92522A	6.3333	2.3333	2.3333	1.6667	2.0000	3.0000
982	92522B	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
983	92524	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
984	92525	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
985	92529A	6.3333	2.0000	2.0000	1.6667	2.0000	3.0000
986	92529B	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
987	92529C	6.3333	2.0000	2.0000	1.6667	2.0000	3.0000
988	92529D	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
989	92529E	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
990	92541	6.3333	2.3333	1.6667	1.6667	2.0000	4.3333
991	92543	6.3333	2.0000	2.0000	1.6667	2.0000	3.6667
992	92545	6.3333	2.0000	2.3333	1.6667	2.0000	3.3333
993	92546	6.3333	2.3333	2.0000	1.6667	2.0000	3.6667
994	92549	6.3333	2.0000	2.0000	1.6667	2.0000	3.6667
995	92702	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
996	92705	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
997	92708	6.3333	2.6667	2.0000	1.6667	2.0000	3.3333
998	92711	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
999	92714	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
1000	92717	6.3333	2.0000	2.0000	1.6667	2.0000	3.3333
1001	92721	6.3333	2.0000	1.6667	1.6667	2.0000	3.6667
1002	92723	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
1003	92726	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
1004	92728	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
1005	92902A	6.3333	2.3333	1.6667	1.6667	2.0000	3.3333
1006	92902B	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
1007	92902C	6.3333	5.3333	2.0000	2.0000	2.3333	3.0000
1008	92902D	6.6667	2.3333	1.6667	1.6667	2.0000	3.3333
1009	92902E	6.3333	2.3333	1.6667	1.6667	2.0000	3.6667
1010	92902G	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
1011	92905	6.0000	2.0000	2.0000	1.6667	2.0000	3.6667
1012	92908	6.0000	2.3333	2.0000	1.6667	2.0000	3.3333
1013	92911	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1014	92914	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1015	92917	6.3333	2.0000	1.6667	1.6667	2.0000	3.0000
1016	92921	6.3333	2.3333	1.6667	1.6667	2.0000	3.0000
1017	92923	6.3333	2.3333	1.6667	1.6667	2.0000	3.6667
1018	92926	6.3333	2.3333	1.6667	1.6667	2.0000	3.6667
1019	92928	6.3333	2.3333	1.6667	1.6667	2.0000	3.6667
1020	92932	6.3333	2.3333	1.6667	1.6667	2.0000	3.3333
1021	92935	6.3333	2.6667	1.6667	1.6667	2.0000	3.3333
1022	92938	6.0000	2.6667	1.6667	1.6667	2.0000	3.3333
1023	92941A	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
1024	92941B	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1025	92941D	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1026	92944	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1027	92947	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
1028	92951	6.3333	2.3333	1.6667	1.6667	2.0000	3.3333
1029	92953	6.3333	2.3333	1.6667	1.6667	2.0000	3.6667
1030	92956	6.3333	2.0000	1.6667	1.6667	2.0000	3.6667
1031	92958	6.3333	2.0000	1.6667	1.6667	2.0000	3.6667
1032	92962	6.3333	2.3333	1.6667	1.6667	2.0000	3.3333
1033	92965	6.6667	2.0000	1.6667	1.6667	2.0000	3.6667
1034	92968	6.3333	2.0000	1.6667	1.6667	2.0000	3.0000
1035	92971	6.3333	2.0000	1.6667	1.6667	2.0000	3.0000
1036	92974	6.3333	2.0000	1.6667	1.6667	2.0000	3.0000
1037	92997	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
1038	92998	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
1039	93102B	6.6667	2.6667	1.6667	1.6667	2.0000	3.0000
1040	93102C	6.6667	2.6667	1.6667	1.6667	2.0000	3.0000
1041	93102D	6.6667	2.6667	1.6667	1.6667	2.0000	3.0000
1042	93105	6.6667	2.6667	1.6667	1.6667	2.0000	3.3333
1043	93108	6.6667	2.3333	1.6667	1.6667	2.0000	3.0000
1044	93111A	6.6667	2.6667	1.6667	1.6667	2.0000	3.0000
1045	93111B	6.6667	3.6667	2.0000	1.6667	2.0000	3.0000
1046	93114	6.3333	2.6667	2.0000	1.6667	2.0000	3.3333
1047	93117	6.3333	2.6667	2.0000	1.6667	2.0000	4.0000
1048	93197A	6.3333	2.3333	2.3333	1.6667	2.0000	3.0000
1049	93197C	6.3333	2.6667	2.0000	1.6667	2.0000	3.3333
1050	93902	6.3333	2.3333	2.0000	1.6667	2.0000	3.3333
1051	93905A	6.3333	2.0000	2.0000	1.6667	2.0000	3.0000
1052	93905B	6.6667	2.6667	2.0000	1.6667	2.0000	3.6667
1053	93905C	6.6667	2.6667	1.6667	1.6667	2.0000	3.6667
1054	93905D	6.6667	2.3333	1.6667	1.6667	2.0000	3.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
1055	93908	6.6667	2.0000	1.6667	1.6667	2.0000	2.6667
1056	93914A	6.3333	2.0000	1.6667	1.6667	2.0000	2.6667
1057	93914B	6.6667	2.3333	1.6667	1.6667	2.0000	3.6667
1058	93914C	6.6667	4.3333	2.0000	1.6667	2.0000	3.3333
1059	93917A	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1060	93917B	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1061	93921	6.3333	2.0000	1.6667	1.6667	2.0000	3.3333
1062	93923B	6.3333	2.0000	1.6667	1.6667	2.0000	3.0000
1063	93926B	6.6667	2.0000	1.6667	1.6667	2.0000	2.6667
1064	93926D	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1065	93926E	6.6667	2.0000	2.0000	1.6667	2.0000	2.6667
1066	93928	6.6667	2.0000	2.0000	1.6667	2.0000	2.6667
1067	93932	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1068	93935	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1069	93938	6.6667	1.6667	1.6667	1.6667	2.0000	3.0000
1070	93941	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1071	93944A	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1072	93944D	6.6667	2.0000	1.6667	1.6667	2.0000	2.3333
1073	93947B	6.0000	2.0000	3.0000	1.6667	2.0000	2.3333
1074	93947E	6.6667	2.0000	2.3333	1.6667	2.0000	2.6667
1075	93951A	6.3333	2.0000	2.3333	1.6667	2.0000	3.6667
1076	93951B	6.3333	2.0000	3.3333	1.6667	2.0000	3.0000
1077	93951C	6.3333	2.0000	3.3333	1.6667	2.0000	3.0000
1078	93951D	6.3333	2.0000	3.3333	1.6667	2.0000	3.0000
1079	93953	6.6667	2.0000	2.0000	1.6667	2.0000	2.6667
1080	93956	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1081	93997	6.6667	2.3333	2.0000	1.6667	2.0000	3.3333
1082	93998	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1083	93999	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1084	95002A	6.6667	2.6667	2.0000	1.6667	2.3333	3.6667
1085	95002B	6.0000	2.3333	1.6667	1.6667	2.3333	4.0000
1086	95005A	6.3333	2.3333	1.6667	1.6667	2.3333	3.6667
1087	95005B	6.3333	2.3333	1.6667	1.6667	2.3333	3.6667
1088	95008	6.3333	3.0000	2.0000	1.6667	2.6667	4.0000
1089	95011	6.6667	2.3333	1.6667	1.6667	2.6667	4.0000
1090	95014	6.3333	4.3333	2.0000	1.6667	2.6667	4.0000
1091	95017	6.0000	2.6667	1.6667	1.6667	2.0000	4.3333
1092	95021	6.3333	2.6667	1.6667	1.6667	2.3333	3.6667
1093	95023	6.3333	2.6667	1.6667	1.6667	2.3333	3.6667
1094	95026	5.6667	2.6667	2.0000	1.6667	2.3333	4.0000
1095	95028	5.3333	2.6667	2.0000	1.6667	2.3333	4.3333
1096	95032	6.3333	2.3333	1.6667	1.6667	2.3333	4.3333
1097	95099	6.0000	2.3333	1.6667	1.6667	2.3333	4.3333
1098	97102A	6.6667	1.6667	1.6667	1.6667	3.0000	3.0000
1099	97102B	6.6667	1.6667	1.6667	1.6667	2.6667	3.0000
1100	97105	6.6667	1.6667	1.6667	1.6667	2.6667	3.6667
1101	97108	6.6667	2.0000	1.6667	4.0000	3.0000	3.6667
1102	97111	6.6667	2.0000	1.6667	4.6667	3.0000	3.3333

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
1103	97114	6.6667	2.0000	1.6667	3.3333	3.6667	3.3333
1104	97117	5.0000	2.0000	2.0000	4.0000	6.0000	3.0000
1105	97199	6.6667	2.0000	1.6667	3.0000	3.0000	3.3333
1106	97302	6.3333	2.0000	2.0000	3.0000	5.3333	4.3333
1107	97305	6.6667	2.6667	1.6667	2.0000	2.3333	4.3333
1108	97308	6.6667	2.0000	1.6667	1.6667	2.3333	3.6667
1109	97311	6.0000	2.3333	1.6667	1.6667	2.0000	4.0000
1110	97314	6.3333	2.0000	2.0000	3.3333	3.0000	4.3333
1111	97317A	6.3333	2.3333	1.6667	1.6667	2.0000	4.0000
1112	97317B	6.3333	2.3333	1.6667	1.6667	2.0000	4.0000
1113	97399A	6.3333	2.0000	1.6667	1.6667	2.0000	4.0000
1114	97399B	6.3333	2.3333	1.6667	1.6667	2.0000	4.0000
1115	97502A	6.0000	3.3333	2.3333	3.6667	6.0000	4.0000
1116	97505	6.6667	3.0000	2.0000	3.3333	5.0000	4.3333
1117	97508	6.3333	3.6667	2.0000	3.0000	4.6667	4.0000
1118	97511	6.6667	2.3333	1.6667	3.0000	4.3333	3.6667
1119	97514	6.6667	2.3333	1.6667	1.6667	2.6667	4.0000
1120	97517	6.6667	2.0000	1.6667	1.6667	2.0000	4.0000
1121	97521	6.0000	3.6667	2.0000	3.0000	5.6667	4.3333
1122	97702B	6.6667	4.3333	2.0000	3.0000	5.0000	4.0000
1123	97702C	6.6667	4.0000	2.0000	2.3333	3.6667	4.0000
1124	97702D	6.3333	4.3333	2.0000	4.3333	4.0000	4.0000
1125	97702E	6.0000	4.3333	2.0000	2.3333	3.0000	5.3333
1126	97702H	6.3333	4.6667	2.0000	2.3333	3.0000	4.6667
1127	97702J	6.6667	4.0000	2.0000	3.0000	4.6667	3.6667
1128	97802	6.0000	2.6667	1.6667	1.6667	3.0000	4.0000
1129	97805	6.6667	2.3333	1.6667	3.0000	4.3333	4.0000
1130	97808	6.6667	2.0000	1.6667	2.6667	4.0000	3.3333
1131	97899A	6.6667	2.6667	1.6667	2.0000	3.3333	3.3333
1132	97899B	6.6667	2.3333	1.6667	2.0000	2.6667	3.3333
1133	97902	6.6667	2.3333	1.6667	1.6667	2.3333	3.3333
1134	97905	6.6667	2.3333	1.6667	1.6667	2.6667	3.0000
1135	97908	6.6667	2.6667	1.6667	1.6667	2.0000	3.6667
1136	97911	6.3333	2.3333	2.0000	2.3333	3.0000	4.6667
1137	97914	6.6667	3.3333	1.6667	1.6667	2.0000	3.3333
1138	97917	6.6667	2.6667	1.6667	1.6667	2.3333	3.3333
1139	97921	6.6667	2.6667	1.6667	1.6667	2.0000	3.3333
1140	97923A	6.6667	2.0000	1.6667	1.6667	2.0000	3.6667
1141	97923B	5.6667	2.0000	1.6667	1.6667	2.0000	3.6667
1142	97926	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1143	97928	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1144	97932	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1145	97935	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1146	97938	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1147	97941	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1148	97944	6.6667	2.0000	1.6667	1.6667	2.0000	3.3333
1149	97947	6.6667	2.0000	1.6667	1.6667	2.3333	3.3333
1150	97951	6.0000	2.3333	1.6667	1.6667	2.0000	3.6667

Appendix C

Obs	OU	R avg	I avg	A avg	S avg	E avg	C avg
1151	97953	6.3333	2.3333	1.6667	1.6667	2.0000	3.6667
1152	97956	6.6667	3.3333	1.6667	1.6667	2.0000	3.0000
1153	97989A	6.6667	2.3333	1.6667	1.6667	2.0000	3.6667
1154	97989B	6.6667	2.3333	1.6667	1.6667	2.0000	3.3333
1155	98102	6.3333	2.0000	1.6667	2.0000	2.0000	3.0000
1156	98311	6.3333	2.0000	1.6667	2.0000	2.0000	3.0000
1157	98312	6.3333	2.0000	1.6667	2.0000	2.0000	3.0000
1158	98313	6.3333	2.0000	1.6667	2.0000	2.0000	3.0000
1159	98314	6.3333	2.0000	1.6667	2.0000	2.0000	3.0000
1160	98315	6.6667	2.0000	1.6667	2.0000	2.0000	3.0000
1161	98319	6.6667	2.0000	1.6667	2.0000	2.0000	3.0000
1162	98323	6.6667	2.0000	1.6667	2.0000	2.0000	3.0000
1163	98502	6.0000	1.6667	1.6667	1.6667	2.0000	3.0000
1164	98702	6.3333	2.0000	1.6667	1.6667	2.0000	3.0000
1165	98705	6.6667	1.6667	1.6667	1.6667	2.0000	3.0000
1166	98799A	6.3333	2.0000	2.3333	2.0000	3.0000	3.3333
1167	98799B	6.6667	1.6667	1.6667	1.6667	2.0000	3.3333
1168	98902A	6.6667	1.6667	1.6667	1.6667	2.0000	3.0000
1169	98905	6.6667	2.0000	1.6667	1.6667	2.0000	3.0000
1170	98999A	6.6667	1.6667	1.6667	1.6667	1.6667	2.6667
1171	98999B	6.6667	1.6667	1.6667	1.6667	1.6667	2.6667
1172	99003	6.0000	3.0000	1.6667	3.3333	4.3333	4.0000

Appendix D

Rating Proportions for Each Holland Category Averaged over Raters

Appendix D

obs	OU	R	I	A	S	E	C
1	13002A	0.0857	0.1286	0.0857	0.1571	0.3000	0.2429
2	13002B	0.0781	0.1250	0.0938	0.1719	0.3125	0.2188
3	13005A	0.0746	0.1194	0.1194	0.2239	0.2836	0.1791
4	13005B	0.0735	0.1324	0.1029	0.2353	0.2794	0.1765
5	13005C	0.0746	0.1194	0.0896	0.2388	0.2836	0.1940
6	13005E	0.0714	0.1429	0.1143	0.2714	0.2286	0.1714
7	13008	0.0735	0.1177	0.1324	0.1912	0.2500	0.2353
8	13011A	0.0811	0.1351	0.2568	0.1622	0.2162	0.1487
9	13011B	0.0746	0.0896	0.1045	0.1642	0.3134	0.2537
10	13011C	0.0896	0.0896	0.1343	0.1493	0.2836	0.2537
11	13011D	0.0615	0.0923	0.1231	0.2308	0.2923	0.2000
12	13014A	0.1304	0.1015	0.0870	0.1449	0.2754	0.2609
13	13014B	0.0870	0.1159	0.0870	0.1739	0.2754	0.2609
14	13017A	0.1923	0.1923	0.0897	0.1026	0.2436	0.1795
15	13017B	0.1688	0.2468	0.1039	0.1299	0.2208	0.1299
16	13017C	0.1667	0.1923	0.0769	0.1154	0.2308	0.2180
17	15002	0.1409	0.0986	0.0986	0.1831	0.2676	0.2113
18	15005A	0.0790	0.1842	0.1184	0.1842	0.2500	0.1842
19	15005B	0.0790	0.1711	0.1447	0.2632	0.2237	0.1184
20	15008A	0.1125	0.1875	0.0875	0.2250	0.2250	0.1625
21	15008B	0.0822	0.1644	0.1233	0.2192	0.2603	0.1507
22	15011A	0.0972	0.1111	0.0833	0.1667	0.2917	0.2500
23	15011B	0.1471	0.0882	0.0882	0.1324	0.2794	0.2647
24	15011C	0.1212	0.1212	0.0909	0.1515	0.2879	0.2273
25	15014	0.1528	0.1111	0.0833	0.1250	0.2778	0.2500
26	15017A	0.1912	0.1029	0.1177	0.1029	0.2794	0.2059
27	15017B	0.2361	0.0972	0.0833	0.1111	0.2639	0.2083
28	15021A	0.2286	0.1000	0.0714	0.1286	0.2714	0.2000
29	15021C	0.2162	0.1081	0.0811	0.1216	0.2568	0.2162
30	15023A	0.1618	0.1029	0.0735	0.1177	0.2794	0.2647
31	15023B	0.1154	0.1154	0.1539	0.1539	0.2692	0.1923
32	15023C	0.1940	0.0896	0.0746	0.1343	0.2836	0.2239
33	15023D	0.1791	0.0896	0.0746	0.1343	0.2836	0.2388
34	15026A	0.1324	0.0735	0.0882	0.2059	0.2794	0.2206
35	15026B	0.1571	0.0857	0.0857	0.2000	0.2714	0.2000
36	15031	0.2237	0.1184	0.1053	0.1316	0.2500	0.1711
37	15032	0.2297	0.0811	0.0811	0.1351	0.2703	0.2027
38	19005A	0.0811	0.1216	0.0946	0.2027	0.2703	0.2297
39	19005B	0.1053	0.1316	0.0921	0.1711	0.2763	0.2237
40	19999A	0.1096	0.0822	0.1507	0.1781	0.2740	0.2055
41	19999B	0.1026	0.1154	0.1667	0.2564	0.2180	0.1410
42	19999C	0.0896	0.1045	0.0896	0.1791	0.2985	0.2388
43	19999D	0.1159	0.0870	0.0870	0.2029	0.2899	0.2174
44	19999E	0.1507	0.0959	0.1096	0.1370	0.2877	0.2192
45	19999F	0.2083	0.0972	0.0694	0.1667	0.2639	0.1944
46	19999G	0.1351	0.0811	0.0946	0.1892	0.2703	0.2297

Appendix D

obs	OU	R	I	A	S	E	C
47	21102	0.1127	0.1690	0.0845	0.1268	0.2113	0.2958
48	21105	0.1177	0.1471	0.0735	0.1324	0.2206	0.3088
49	21108	0.0986	0.1127	0.0986	0.2254	0.2817	0.1831
50	21111	0.1343	0.1194	0.0746	0.1343	0.2239	0.3134
51	21114A	0.1194	0.1642	0.0746	0.1194	0.2090	0.3134
52	21114B	0.1233	0.1644	0.0685	0.1233	0.2329	0.2877
53	21114C	0.1757	0.1757	0.0811	0.1081	0.1757	0.2838
54	21117	0.1528	0.1250	0.0833	0.1250	0.2361	0.2778
55	21199B	0.1029	0.1177	0.1177	0.2794	0.2059	0.1765
56	21199D	0.1194	0.1194	0.0746	0.1642	0.2388	0.2836
57	21302	0.1081	0.1216	0.1081	0.1622	0.2568	0.2432
58	21305A	0.1944	0.1111	0.0833	0.1250	0.2639	0.2222
59	21308A	0.1528	0.1111	0.0833	0.1389	0.2917	0.2222
60	21308B	0.2055	0.2055	0.0685	0.0959	0.1781	0.2466
61	21308C	0.1594	0.2174	0.0870	0.0870	0.1739	0.2754
62	21502	0.1015	0.1159	0.0870	0.2464	0.1884	0.2609
63	21505	0.1286	0.1000	0.0714	0.1857	0.3000	0.2143
64	21508	0.1061	0.1061	0.1061	0.2727	0.2273	0.1818
65	21511A	0.1081	0.2432	0.0811	0.1622	0.1757	0.2297
66	21511B	0.1015	0.1159	0.0870	0.2754	0.2464	0.1739
67	21511C	0.1045	0.1194	0.1045	0.2985	0.2090	0.1642
68	21511D	0.1000	0.1000	0.1143	0.2714	0.2429	0.1714
69	21511E	0.1096	0.1233	0.1096	0.2329	0.2740	0.1507
70	21511F	0.1127	0.1127	0.0845	0.2535	0.2676	0.1690
71	21902	0.1409	0.1268	0.0845	0.1549	0.2254	0.2676
72	21905	0.1125	0.2250	0.0750	0.1375	0.2250	0.2250
73	21908A	0.2105	0.1974	0.0921	0.0921	0.1579	0.2500
74	21908B	0.2394	0.1549	0.0845	0.1127	0.1549	0.2535
75	21911A	0.1143	0.2286	0.1000	0.2143	0.1714	0.1714
76	21911B	0.1944	0.2500	0.0833	0.0972	0.1528	0.2222
77	21911C	0.1733	0.1600	0.0800	0.1333	0.2000	0.2533
78	21911D	0.1774	0.1129	0.0807	0.1452	0.1936	0.2903
79	21911E	0.1644	0.1233	0.0822	0.2192	0.1918	0.2192
80	21911F	0.0909	0.1061	0.1061	0.2576	0.2576	0.1818
81	21911H	0.1159	0.1449	0.0870	0.1884	0.2609	0.2029
82	21911J	0.0986	0.1549	0.0986	0.2113	0.2676	0.1690
83	21911K	0.2464	0.2174	0.0870	0.1015	0.1594	0.1884
84	21911L	0.2698	0.1270	0.0952	0.0952	0.1587	0.2540
85	21911M	0.1690	0.1549	0.0845	0.1690	0.2394	0.1831
86	21911N	0.2143	0.1143	0.0857	0.1286	0.1857	0.2714
87	21911P	0.1831	0.2535	0.0845	0.1268	0.1549	0.1972
88	21911R	0.2647	0.2206	0.0882	0.1177	0.1324	0.1765
89	21911T	0.2424	0.1970	0.0909	0.1061	0.1364	0.2273
90	21914	0.1270	0.1270	0.0794	0.1111	0.2540	0.3016
91	21917	0.1406	0.1406	0.0781	0.1094	0.2344	0.2969
92	21921	0.1000	0.1333	0.1000	0.1667	0.2000	0.3000
93	21999A	0.2090	0.2687	0.1045	0.1045	0.1194	0.1940
94	21999B	0.0822	0.1781	0.1233	0.1644	0.2329	0.2192

Appendix D

obs	OU	R	I	A	S	E	C
95	21999C	0.1143	0.1143	0.1000	0.1571	0.2286	0.2857
96	21999D	0.1343	0.0896	0.1194	0.1642	0.2537	0.2388
97	21999F	0.1304	0.0870	0.1159	0.1739	0.2609	0.2319
98	21999G	0.1143	0.1143	0.0857	0.2143	0.2571	0.2143
99	21999H	0.1449	0.1159	0.0870	0.1449	0.2174	0.2899
100	21999J	0.1231	0.1077	0.0923	0.1692	0.2308	0.2769
101	22102	0.2500	0.2632	0.1316	0.0790	0.1184	0.1579
102	22105A	0.2603	0.2603	0.1370	0.0822	0.1096	0.1507
103	22105B	0.2464	0.2754	0.1159	0.0725	0.1159	0.1739
104	22105C	0.2754	0.2609	0.1159	0.1015	0.1015	0.1449
105	22105D	0.2537	0.2687	0.1194	0.0896	0.1194	0.1493
106	22108	0.2533	0.2533	0.0933	0.0933	0.1467	0.1600
107	22111	0.2778	0.2361	0.0972	0.1111	0.1389	0.1389
108	22114	0.2329	0.2740	0.1096	0.1096	0.1233	0.1507
109	22117	0.2394	0.2817	0.1127	0.0845	0.1127	0.1690
110	22121	0.2667	0.2267	0.1200	0.1067	0.1200	0.1600
111	22123	0.2500	0.2500	0.0972	0.1111	0.1250	0.1667
112	22126A	0.2603	0.2603	0.0959	0.0959	0.1370	0.1507
113	22126B	0.2533	0.2667	0.1067	0.0933	0.1333	0.1467
114	22127	0.2500	0.2500	0.0921	0.0790	0.1316	0.1974
115	22128	0.1818	0.2078	0.0909	0.1299	0.2338	0.1558
116	22132A	0.1600	0.2267	0.0800	0.1600	0.2133	0.1600
117	22132B	0.1600	0.2400	0.0800	0.1467	0.2000	0.1733
118	22132C	0.2143	0.2571	0.0857	0.1286	0.1429	0.1714
119	22135	0.2740	0.2192	0.1096	0.1096	0.1370	0.1507
120	22138	0.2609	0.2464	0.1015	0.1015	0.1159	0.1739
121	22197	0.2286	0.2714	0.1429	0.1000	0.1000	0.1571
122	22199	0.2639	0.2500	0.1111	0.0833	0.1250	0.1667
123	22302	0.1975	0.1852	0.2346	0.1111	0.1482	0.1235
124	22305	0.2466	0.2192	0.1644	0.0959	0.1370	0.1370
125	22308	0.2222	0.1852	0.2222	0.1111	0.1358	0.1235
126	22311A	0.1972	0.1972	0.1831	0.0845	0.0986	0.2394
127	22311B	0.1688	0.2468	0.1039	0.1169	0.2078	0.1558
128	22502	0.2794	0.2353	0.1029	0.0882	0.1177	0.1765
129	22505A	0.2877	0.2192	0.1096	0.0959	0.1233	0.1644
130	22505B	0.2703	0.1892	0.1216	0.0946	0.1216	0.2027
131	22505C	0.2857	0.2143	0.1143	0.1000	0.1429	0.1429
132	22508	0.1515	0.2727	0.1061	0.1212	0.1212	0.2273
133	22511	0.2857	0.2571	0.1143	0.0857	0.1000	0.1571
134	22514A	0.2647	0.1618	0.1912	0.1029	0.1029	0.1765
135	22514B	0.2676	0.2113	0.1268	0.0845	0.0845	0.2254
136	22514C	0.2609	0.1594	0.1594	0.1015	0.1159	0.2029
137	22514D	0.2714	0.1857	0.1429	0.0857	0.0857	0.2286
138	22517	0.2188	0.2031	0.0938	0.0938	0.1094	0.2813
139	22521A	0.2676	0.1831	0.1268	0.0845	0.1127	0.2254
140	22521B	0.2424	0.1667	0.1212	0.0909	0.0909	0.2879
141	22599A	0.2568	0.1622	0.2027	0.0811	0.1487	0.1487
142	22599B	0.2647	0.2353	0.1029	0.0882	0.1177	0.1912

Appendix D

obs	OU	R	I	A	S	E	C
143	22599C	0.2388	0.2836	0.1045	0.0896	0.1045	0.1791
144	22599D	0.2639	0.1806	0.1667	0.0833	0.0972	0.2083
145	22599E	0.2308	0.2769	0.1077	0.0923	0.1077	0.1846
146	22599F	0.2308	0.2769	0.1077	0.0923	0.1077	0.1846
147	22599G	0.2836	0.2388	0.1045	0.0896	0.1045	0.1791
148	24102A	0.2055	0.2877	0.1507	0.0822	0.0822	0.1918
149	24102B	0.2192	0.2877	0.1507	0.0822	0.0822	0.1781
150	24105	0.2432	0.2838	0.1216	0.0811	0.0811	0.1892
151	24108	0.2267	0.2800	0.1200	0.1200	0.1067	0.1467
152	24111A	0.2466	0.2877	0.1233	0.0822	0.0959	0.1644
153	24111B	0.2329	0.2877	0.1233	0.0822	0.1096	0.1644
154	24199A	0.2319	0.2899	0.1304	0.0870	0.1015	0.1594
155	24199B	0.2319	0.3044	0.1159	0.0870	0.1015	0.1594
156	24199C	0.2429	0.3000	0.1143	0.0857	0.1000	0.1571
157	24302A	0.2794	0.2500	0.1029	0.1029	0.1324	0.1324
158	24302B	0.2424	0.2727	0.1061	0.0909	0.1061	0.1818
159	24302C	0.2344	0.2813	0.1094	0.0938	0.1094	0.1719
160	24302D	0.2462	0.2923	0.1077	0.0923	0.1077	0.1539
161	24302E	0.2113	0.1690	0.1409	0.2394	0.1409	0.0986
162	24305A	0.2361	0.2917	0.0972	0.0972	0.1250	0.1528
163	24305B	0.2361	0.2917	0.0972	0.0833	0.1250	0.1667
164	24305C	0.2466	0.2740	0.1096	0.0822	0.1233	0.1644
165	24305D	0.2535	0.2958	0.0986	0.0845	0.1127	0.1549
166	24308A	0.2206	0.3088	0.1324	0.0882	0.0882	0.1618
167	24308B	0.2143	0.3000	0.1429	0.0857	0.1000	0.1571
168	24308C	0.2113	0.2958	0.1409	0.0845	0.0986	0.1690
169	24308D	0.2319	0.3044	0.1304	0.0870	0.1015	0.1449
170	24308E	0.2537	0.3134	0.1045	0.0896	0.0896	0.1493
171	24308F	0.2206	0.3088	0.1324	0.1029	0.0882	0.1471
172	24308G	0.2388	0.3134	0.1194	0.0896	0.0896	0.1493
173	24308H	0.2239	0.3134	0.1194	0.1045	0.0896	0.1493
174	24308J	0.2000	0.3000	0.1286	0.1286	0.1000	0.1429
175	24311	0.1867	0.2533	0.1200	0.1733	0.1333	0.1333
176	24502A	0.2258	0.2903	0.1290	0.0968	0.1129	0.1452
177	24502B	0.3016	0.2222	0.0952	0.0952	0.1111	0.1746
178	24502C	0.2969	0.2031	0.0938	0.1094	0.1094	0.1875
179	24502D	0.2879	0.1818	0.1364	0.1212	0.1061	0.1667
180	24505A	0.2879	0.2424	0.1061	0.0909	0.0909	0.1818
181	24505B	0.2836	0.2388	0.1045	0.0896	0.1045	0.1791
182	24505C	0.2969	0.2344	0.0938	0.0938	0.1094	0.1719
183	24505D	0.3065	0.1936	0.1129	0.0968	0.1129	0.1774
184	24505E	0.2615	0.2923	0.0923	0.0923	0.1077	0.1539
185	24508A	0.3279	0.1967	0.0984	0.1148	0.1148	0.1475
186	24508B	0.3115	0.2459	0.0984	0.0984	0.0984	0.1475
187	24511B	0.2923	0.1846	0.0923	0.0923	0.1077	0.2308
188	24511E	0.3115	0.2295	0.0984	0.0984	0.0984	0.1639
189	24599A	0.2459	0.2951	0.0984	0.0984	0.0984	0.1639
190	24599B	0.2162	0.2432	0.0811	0.0946	0.1351	0.2297

Appendix D

obs	OU	R	I	A	S	E	C
191	24599C	0.2609	0.2174	0.0870	0.0870	0.1159	0.2319
192	25102	0.2029	0.2464	0.1015	0.0870	0.1449	0.2174
193	25103A	0.1765	0.2500	0.1029	0.1471	0.1324	0.1912
194	25103B	0.2000	0.2400	0.1067	0.0800	0.1333	0.2400
195	25104	0.1918	0.2192	0.0959	0.1507	0.1233	0.2192
196	25105	0.2154	0.2769	0.1077	0.0923	0.1077	0.2000
197	25111	0.2571	0.2143	0.0857	0.0857	0.1143	0.2429
198	25199A	0.1940	0.2687	0.1045	0.1045	0.1642	0.1642
199	25302	0.1842	0.2500	0.0790	0.1053	0.1711	0.2105
200	25312	0.1549	0.2676	0.1127	0.0845	0.1268	0.2535
201	25313	0.1667	0.2222	0.0833	0.0833	0.1528	0.2917
202	25315	0.1127	0.2535	0.0845	0.1409	0.1972	0.2113
203	25319A	0.1528	0.2917	0.1667	0.0833	0.1111	0.1944
204	25319B	0.1563	0.2813	0.0938	0.1094	0.1250	0.2344
205	25319C	0.1781	0.2740	0.1233	0.0822	0.1370	0.2055
206	25323	0.1970	0.3030	0.1061	0.0909	0.1061	0.1970
207	27102A	0.1351	0.2568	0.1081	0.1351	0.1892	0.1757
208	27102B	0.1286	0.2571	0.1143	0.1143	0.2143	0.1714
209	27105	0.1200	0.2400	0.1467	0.1333	0.2133	0.1467
210	27108A	0.1000	0.2857	0.1714	0.2286	0.0857	0.1286
211	27108C	0.1286	0.3000	0.1571	0.1571	0.0857	0.1714
212	27108D	0.1000	0.3000	0.1571	0.2286	0.1000	0.1143
213	27108E	0.1177	0.2941	0.1765	0.2059	0.0882	0.1177
214	27108G	0.0833	0.2639	0.2083	0.1944	0.1250	0.1250
215	27108H	0.0800	0.2267	0.1867	0.2667	0.1067	0.1333
216	27108J	0.0833	0.2500	0.1806	0.1667	0.2083	0.1111
217	27199A	0.1015	0.2754	0.1739	0.1449	0.1594	0.1449
218	27199B	0.0857	0.2857	0.1857	0.1857	0.1143	0.1429
219	27199C	0.0870	0.2899	0.1884	0.2029	0.0870	0.1449
220	27199D	0.0882	0.2941	0.2059	0.1912	0.0882	0.1324
221	27199E	0.0870	0.2754	0.2174	0.1594	0.1159	0.1449
222	27199F	0.0845	0.2676	0.1268	0.1268	0.2254	0.1690
223	27199G	0.0845	0.2676	0.1409	0.1690	0.1409	0.1972
224	27199H	0.1842	0.2632	0.1579	0.1184	0.1184	0.1579
225	27302	0.0959	0.1781	0.1644	0.2877	0.1370	0.1370
226	27305A	0.1053	0.1316	0.1579	0.2763	0.1711	0.1579
227	27305B	0.1081	0.1351	0.1622	0.2838	0.1622	0.1487
228	27305C	0.1449	0.1159	0.1159	0.2899	0.1449	0.1884
229	27307	0.1286	0.1000	0.1429	0.3000	0.1429	0.1857
230	27308	0.1143	0.1000	0.1571	0.2857	0.1429	0.2000
231	27311	0.1867	0.0800	0.1867	0.2800	0.1200	0.1467
232	27502	0.0959	0.1233	0.1781	0.2877	0.1781	0.1370
233	27505	0.0946	0.1216	0.1757	0.2703	0.1892	0.1487
234	27599	0.1067	0.0933	0.1733	0.2667	0.1733	0.1867
235	28102	0.0822	0.1507	0.1370	0.2192	0.2603	0.1507
236	28105	0.0811	0.1622	0.1216	0.2162	0.2568	0.1622
237	28108	0.1200	0.1600	0.1200	0.1600	0.2667	0.1733
238	28302	0.0811	0.1622	0.1487	0.1757	0.2297	0.2027

Appendix D

obs	OU	R	I	A	S	E	C
239	28305	0.0845	0.1549	0.1549	0.1690	0.2254	0.2113
240	28308	0.1194	0.1642	0.1194	0.1045	0.1940	0.2985
241	28311	0.1061	0.1818	0.1061	0.1061	0.1818	0.3182
242	28399	0.0870	0.1884	0.1304	0.1304	0.1884	0.2754
243	31114	0.1299	0.2208	0.1429	0.2468	0.1429	0.1169
244	31117	0.1053	0.1974	0.1711	0.2368	0.0921	0.1974
245	31202	0.1324	0.2647	0.1618	0.2206	0.1029	0.1177
246	31204	0.1750	0.2250	0.1375	0.2125	0.1125	0.1375
247	31206	0.1750	0.2250	0.1375	0.2125	0.1125	0.1375
248	31209	0.1772	0.2279	0.1392	0.2152	0.1139	0.1266
249	31210	0.1000	0.2286	0.1714	0.2571	0.1286	0.1143
250	31212	0.1343	0.2687	0.1493	0.2090	0.1194	0.1194
251	31216	0.0857	0.1857	0.2571	0.2286	0.1286	0.1143
252	31218	0.1250	0.1806	0.2778	0.2361	0.0833	0.0972
253	31222	0.2051	0.2308	0.1282	0.2051	0.1154	0.1154
254	31224	0.1707	0.2195	0.1220	0.1951	0.0976	0.1951
255	31226	0.1493	0.2687	0.1343	0.1493	0.1194	0.1791
256	31299	0.1558	0.1948	0.1688	0.2208	0.1169	0.1429
257	31303	0.1169	0.1558	0.1948	0.2727	0.1039	0.1558
258	31304	0.1184	0.1579	0.1974	0.2763	0.1053	0.1447
259	31305	0.1139	0.1772	0.1772	0.2658	0.1139	0.1519
260	31308	0.1184	0.1711	0.1711	0.2763	0.1184	0.1447
261	31311A	0.1667	0.1539	0.1539	0.2692	0.1154	0.1410
262	31311B	0.1467	0.1600	0.1733	0.2800	0.1067	0.1333
263	31311C	0.1351	0.1622	0.1757	0.2838	0.1081	0.1351
264	31311D	0.1282	0.1795	0.1667	0.2692	0.1154	0.1410
265	31311E	0.1622	0.1757	0.1487	0.2838	0.1216	0.1081
266	31314	0.1948	0.1429	0.1169	0.2597	0.1558	0.1299
267	31317	0.1299	0.1429	0.1948	0.2597	0.1299	0.1429
268	31321	0.2027	0.1216	0.1216	0.2432	0.1757	0.1351
269	31323	0.1899	0.1392	0.1013	0.2405	0.1772	0.1519
270	31399	0.1266	0.1646	0.1899	0.2532	0.1266	0.1392
271	31502A	0.1067	0.1600	0.2400	0.1467	0.1467	0.2000
272	31502B	0.0959	0.2055	0.1781	0.1644	0.1507	0.2055
273	31505	0.1493	0.1493	0.1493	0.1940	0.0896	0.2687
274	31508	0.1594	0.1304	0.1594	0.1884	0.1449	0.2174
275	31511A	0.1205	0.2048	0.2169	0.1446	0.1687	0.1446
276	31511B	0.0986	0.2535	0.1549	0.1549	0.1127	0.2254
277	31511C	0.1351	0.2432	0.2027	0.1487	0.1216	0.1487
278	31511D	0.2025	0.1646	0.2405	0.1266	0.1266	0.1392
279	31511E	0.1944	0.1389	0.1944	0.2361	0.1250	0.1111
280	31514	0.1053	0.1447	0.1711	0.2632	0.1579	0.1579
281	31517A	0.0921	0.1711	0.1579	0.2632	0.1711	0.1447
282	31517B	0.1111	0.1528	0.1389	0.2500	0.1528	0.1944
283	31517C	0.1892	0.2432	0.1081	0.1351	0.1757	0.1487
284	31517D	0.1325	0.2048	0.1687	0.2169	0.1446	0.1325
285	31521	0.1389	0.1250	0.1528	0.2778	0.1250	0.1806
286	32102A	0.1566	0.2530	0.1205	0.1687	0.1687	0.1325

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obs	OU	R	I	A	S	E	C
287	32102B	0.1585	0.2561	0.1220	0.1707	0.1585	0.1342
288	32102E	0.1216	0.2568	0.1757	0.1757	0.1487	0.1216
289	32102F	0.2000	0.2400	0.1333	0.1600	0.1200	0.1467
290	32102J	0.1882	0.2471	0.1412	0.1647	0.1294	0.1294
291	32102U	0.1852	0.2593	0.1482	0.1482	0.1111	0.1482
292	32105A	0.1795	0.2692	0.1410	0.1539	0.1154	0.1410
293	32105B	0.1951	0.2561	0.1220	0.1707	0.1342	0.1220
294	32105D	0.1905	0.2500	0.1310	0.1786	0.1310	0.1191
295	32105F	0.1781	0.2603	0.1370	0.1644	0.1233	0.1370
296	32105G	0.1882	0.2353	0.1412	0.1765	0.1412	0.1177
297	32108	0.2000	0.2353	0.1294	0.1647	0.1412	0.1294
298	32111	0.1519	0.2152	0.1266	0.2405	0.1519	0.1139
299	32113	0.1928	0.2169	0.1446	0.1807	0.1446	0.1205
300	32114A	0.1899	0.2658	0.1392	0.1266	0.1266	0.1519
301	32114B	0.2051	0.2564	0.1410	0.1410	0.1410	0.1154
302	32114C	0.2143	0.2571	0.1000	0.1286	0.1286	0.1714
303	32199	0.1519	0.2405	0.1392	0.1899	0.1519	0.1266
304	32302	0.1948	0.2338	0.1558	0.1818	0.1169	0.1169
305	32305	0.1818	0.1688	0.1558	0.2597	0.1169	0.1169
306	32308	0.2208	0.1818	0.1299	0.2468	0.1039	0.1169
307	32311A	0.2254	0.1409	0.1690	0.2676	0.0845	0.1127
308	32311B	0.2029	0.1739	0.1449	0.2754	0.0870	0.1159
309	32314	0.1579	0.2237	0.1447	0.2632	0.1053	0.1053
310	32317	0.1818	0.1169	0.1948	0.2727	0.1169	0.1169
311	32399A	0.2025	0.1772	0.1392	0.2279	0.1266	0.1266
312	32399B	0.1857	0.1429	0.1571	0.2857	0.1000	0.1286
313	32502	0.1539	0.1923	0.1410	0.2564	0.1154	0.1410
314	32505	0.1842	0.1711	0.1184	0.2763	0.1053	0.1447
315	32508	0.2000	0.1733	0.1200	0.2533	0.1200	0.1333
316	32511	0.1482	0.2346	0.1605	0.1975	0.1358	0.1235
317	32514	0.1795	0.1282	0.1154	0.1539	0.2308	0.1923
318	32517	0.1728	0.2346	0.1111	0.1111	0.1482	0.2222
319	32518	0.2027	0.1622	0.0946	0.1487	0.1487	0.2432
320	32521	0.1625	0.2250	0.1125	0.1750	0.1875	0.1375
321	32523	0.1974	0.1842	0.1184	0.2237	0.1316	0.1447
322	32902	0.2055	0.2466	0.1233	0.1507	0.1233	0.1507
323	32905	0.2273	0.2121	0.1212	0.1212	0.1364	0.1818
324	32908	0.1688	0.1429	0.1039	0.2338	0.1558	0.1948
325	32911	0.1818	0.1364	0.1061	0.1364	0.1364	0.3030
326	32913	0.1974	0.1842	0.1053	0.2368	0.1184	0.1579
327	32914	0.2083	0.2361	0.1250	0.1528	0.1250	0.1528
328	32919	0.2647	0.2206	0.0882	0.1765	0.1177	0.1324
329	32921	0.2609	0.1739	0.0870	0.1304	0.1304	0.2174
330	32923	0.2174	0.2464	0.0870	0.1739	0.1159	0.1594
331	32925	0.2286	0.2429	0.0857	0.1714	0.1286	0.1429
332	32926	0.2254	0.2394	0.0845	0.1690	0.1268	0.1549
333	32928	0.2609	0.1594	0.1015	0.1884	0.1159	0.1739
334	32931	0.1714	0.1571	0.1429	0.2714	0.1143	0.1429

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obs	OU	R	I	A	S	E	C
335	32996A	0.1015	0.1304	0.1159	0.2174	0.2609	0.1739
336	32996B	0.0986	0.1409	0.1127	0.2676	0.2113	0.1690
337	32996C	0.0959	0.1781	0.1096	0.2603	0.2055	0.1507
338	32999A	0.1806	0.1944	0.1111	0.2639	0.1250	0.1250
339	32999B	0.2083	0.1806	0.0972	0.2500	0.1111	0.1528
340	32999C	0.2113	0.1409	0.0986	0.2535	0.1409	0.1549
341	32999D	0.2388	0.1791	0.1045	0.1940	0.1194	0.1642
342	32999E	0.2055	0.1918	0.1096	0.2329	0.1096	0.1507
343	34002A	0.0946	0.1757	0.2703	0.1622	0.1892	0.1081
344	34002B	0.0968	0.1774	0.3226	0.1613	0.1290	0.1129
345	34002C	0.0984	0.1639	0.3279	0.1475	0.1475	0.1148
346	34002D	0.0933	0.1467	0.2400	0.1867	0.1867	0.1467
347	34002E	0.0921	0.1316	0.2105	0.1447	0.2500	0.1711
348	34002F	0.0986	0.0986	0.2394	0.1549	0.2535	0.1549
349	34002G	0.0972	0.1250	0.2500	0.1528	0.2500	0.1250
350	34002H	0.0811	0.1757	0.2432	0.1757	0.1622	0.1622
351	34002J	0.0938	0.1563	0.2344	0.1875	0.1406	0.1875
352	34002L	0.0870	0.1304	0.2609	0.1739	0.2174	0.1304
353	34002M	0.0870	0.2609	0.2174	0.1304	0.1304	0.1739
354	34005	0.1389	0.2083	0.2500	0.1250	0.1389	0.1389
355	34008	0.0857	0.1286	0.2143	0.1857	0.2571	0.1286
356	34011	0.0811	0.2162	0.2568	0.1351	0.1757	0.1351
357	34014	0.1039	0.1558	0.2597	0.1948	0.1688	0.1169
358	34017	0.1013	0.1392	0.2279	0.2152	0.2025	0.1139
359	34021	0.1177	0.0882	0.2059	0.2647	0.1912	0.1324
360	34023A	0.1806	0.1111	0.2778	0.1528	0.1667	0.1111
361	34023B	0.1972	0.1831	0.2535	0.1268	0.1268	0.1127
362	34026	0.2113	0.1268	0.2535	0.1268	0.1549	0.1268
363	34028B	0.2754	0.1449	0.1739	0.1304	0.1304	0.1449
364	34028C	0.2941	0.1618	0.1618	0.1177	0.1324	0.1324
365	34032	0.1528	0.1528	0.2778	0.1389	0.1667	0.1111
366	34035A	0.1970	0.1515	0.2576	0.1364	0.1515	0.1061
367	34035B	0.1944	0.1250	0.2778	0.1528	0.1528	0.0972
368	34035C	0.1622	0.1216	0.2703	0.1351	0.1757	0.1351
369	34035D	0.1644	0.1096	0.2740	0.1644	0.1781	0.1096
370	34035E	0.2329	0.1370	0.2740	0.1370	0.1233	0.0959
371	34038A	0.1688	0.1169	0.2597	0.1429	0.2208	0.0909
372	34038B	0.2027	0.1487	0.2703	0.0946	0.1892	0.0946
373	34038C	0.2113	0.1549	0.2817	0.0986	0.1409	0.1127
374	34038D	0.2000	0.1333	0.2667	0.1200	0.1733	0.1067
375	34038E	0.1507	0.1233	0.2740	0.1370	0.1918	0.1233
376	34038F	0.2083	0.1111	0.2778	0.1111	0.1806	0.1111
377	34041	0.1646	0.1266	0.2532	0.1392	0.2025	0.1139
378	34044	0.2267	0.1200	0.2400	0.1200	0.1867	0.1067
379	34047A	0.1159	0.1159	0.2899	0.1884	0.1884	0.1015
380	34047B	0.1231	0.1539	0.3077	0.1385	0.1231	0.1539
381	34047C	0.1045	0.1194	0.2985	0.1642	0.2090	0.1045
382	34047E	0.1061	0.1364	0.3030	0.1515	0.1667	0.1364

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obs	OU	R	I	A	S	E	C
383	34047F	0.0870	0.1159	0.2319	0.1739	0.1884	0.2029
384	34051	0.1549	0.1409	0.2817	0.1549	0.1549	0.1127
385	34053A	0.1714	0.1143	0.2857	0.1714	0.1571	0.1000
386	34053B	0.1392	0.1266	0.2532	0.1899	0.1772	0.1139
387	34056A	0.1096	0.1233	0.2740	0.1781	0.2055	0.1096
388	34056B	0.1692	0.0923	0.2769	0.1692	0.1692	0.1231
389	34056D	0.1733	0.1067	0.2400	0.1600	0.2000	0.1200
390	34056E	0.2603	0.0822	0.1918	0.1781	0.2055	0.0822
391	34056F	0.1250	0.1111	0.2500	0.1667	0.2083	0.1389
392	34056G	0.1392	0.1013	0.2532	0.1646	0.2152	0.1266
393	34056H	0.1216	0.0946	0.2027	0.1622	0.2568	0.1622
394	34056J	0.0921	0.0921	0.2500	0.1974	0.2368	0.1316
395	34056K	0.2279	0.1266	0.1899	0.1392	0.1772	0.1392
396	34058A	0.2239	0.0896	0.1045	0.1791	0.2687	0.1343
397	34058B	0.2254	0.1690	0.0986	0.2394	0.1690	0.0986
398	34058C	0.2206	0.0882	0.1324	0.1765	0.2647	0.1177
399	34058E	0.2754	0.1015	0.0870	0.1449	0.2319	0.1594
400	34058F	0.3065	0.0968	0.1129	0.1452	0.2419	0.0968
401	34058G	0.3167	0.1000	0.1167	0.1667	0.1667	0.1333
402	34058L	0.2394	0.0845	0.0845	0.1549	0.1972	0.2394
403	39002	0.2113	0.1268	0.0845	0.1268	0.1831	0.2676
404	39005	0.2676	0.2254	0.0845	0.1268	0.1127	0.1831
405	39008	0.2794	0.1471	0.1029	0.1177	0.1618	0.1912
406	39011	0.1333	0.1067	0.1200	0.2133	0.2533	0.1733
407	39014	0.2727	0.1515	0.1364	0.1212	0.1364	0.1818
408	39999A	0.0972	0.1806	0.2222	0.2083	0.1250	0.1667
409	39999B	0.1096	0.1096	0.1644	0.1781	0.2740	0.1644
410	39999C	0.1385	0.1846	0.1077	0.1231	0.1539	0.2923
411	39999D	0.2714	0.1714	0.1857	0.1000	0.1286	0.1429
412	39999E	0.2817	0.1549	0.1690	0.0845	0.1549	0.1549
413	39999G	0.1286	0.2143	0.0857	0.1714	0.1429	0.2571
414	39999H	0.2537	0.1791	0.1343	0.1493	0.1343	0.1493
415	41002	0.1026	0.1282	0.1282	0.1667	0.2564	0.2180
416	43002	0.1015	0.1015	0.0870	0.2319	0.2899	0.1884
417	43008	0.1447	0.0921	0.1053	0.1974	0.2632	0.1974
418	43011	0.1733	0.1067	0.1067	0.1733	0.2533	0.1867
419	43014A	0.0972	0.1389	0.0972	0.1667	0.2778	0.2222
420	43014B	0.0986	0.1268	0.0986	0.1831	0.2817	0.2113
421	43017	0.0986	0.1268	0.1127	0.1831	0.2817	0.1972
422	43021	0.1053	0.1053	0.1579	0.1974	0.2500	0.1842
423	43023A	0.1177	0.0882	0.1177	0.1765	0.2941	0.2059
424	43023B	0.1029	0.0882	0.1618	0.1765	0.2941	0.1765
425	43099A	0.1127	0.0845	0.1268	0.1972	0.2817	0.1972
426	43099B	0.0822	0.1096	0.1370	0.2192	0.2740	0.1781
427	49002	0.1842	0.1711	0.1053	0.1447	0.2500	0.1447
428	49005A	0.2222	0.0833	0.0833	0.1806	0.2639	0.1667
429	49005B	0.1842	0.1447	0.0790	0.1842	0.2500	0.1579
430	49005C	0.1918	0.1507	0.0822	0.1644	0.2603	0.1507

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obs	OU	R	I	A	S	E	C
431	49005D	0.1972	0.1268	0.0845	0.1690	0.2676	0.1549
432	49005F	0.1733	0.1467	0.0800	0.1867	0.2533	0.1600
433	49005G	0.1974	0.1316	0.0790	0.1842	0.2500	0.1579
434	49008	0.1690	0.1127	0.0986	0.1831	0.2676	0.1690
435	49011	0.1618	0.1029	0.1177	0.1912	0.2794	0.1471
436	49014	0.2222	0.0833	0.0833	0.1667	0.2639	0.1806
437	49017	0.1791	0.0896	0.0896	0.1493	0.2239	0.2687
438	49021	0.2727	0.0909	0.0909	0.1364	0.1970	0.2121
439	49023A	0.1875	0.0938	0.0938	0.1406	0.2031	0.2813
440	49023B	0.1970	0.0909	0.0758	0.1364	0.1970	0.3030
441	49026	0.1177	0.0882	0.0882	0.1912	0.2794	0.2353
442	49032A	0.1884	0.0870	0.1159	0.1884	0.2754	0.1449
443	49032B	0.1324	0.0882	0.2647	0.1765	0.2206	0.1177
444	49999A	0.1370	0.1096	0.0959	0.1781	0.2603	0.2192
445	49999B	0.1765	0.0882	0.1177	0.1324	0.2206	0.2647
446	49999C	0.1127	0.0845	0.1268	0.2254	0.2676	0.1831
447	49999D	0.1471	0.1029	0.1029	0.1765	0.2647	0.2059
448	51002A	0.1250	0.0972	0.1111	0.1944	0.2778	0.1944
449	51002B	0.1304	0.1015	0.1015	0.1739	0.2754	0.2174
450	53102	0.1618	0.1029	0.0735	0.1618	0.2059	0.2941
451	53105	0.1177	0.0882	0.0735	0.1912	0.2647	0.2647
452	53108	0.1500	0.1000	0.0833	0.1333	0.2000	0.3333
453	53114	0.1385	0.1231	0.0923	0.1385	0.2154	0.2923
454	53117	0.1304	0.1304	0.0870	0.1449	0.2319	0.2754
455	53121	0.1177	0.1177	0.0882	0.1618	0.2206	0.2941
456	53123	0.1000	0.1286	0.0857	0.2000	0.2143	0.2714
457	53126	0.1111	0.1111	0.0952	0.1746	0.1905	0.3175
458	53128	0.1148	0.1148	0.0820	0.1475	0.2131	0.3279
459	53302	0.1111	0.1944	0.0833	0.1667	0.2778	0.1667
460	53305	0.2162	0.1081	0.0946	0.1487	0.1757	0.2568
461	53311	0.1364	0.1364	0.0758	0.1515	0.1970	0.3030
462	53314	0.1111	0.1429	0.0794	0.1587	0.1905	0.3175
463	53502	0.1061	0.1061	0.0909	0.2576	0.1970	0.2424
464	53505	0.1111	0.1429	0.0794	0.1587	0.1905	0.3175
465	53508	0.1231	0.1231	0.0769	0.1539	0.2308	0.2923
466	53702	0.1077	0.1385	0.0923	0.1692	0.2000	0.2923
467	53705	0.1177	0.1471	0.0882	0.1618	0.1912	0.2941
468	53708	0.1111	0.1270	0.0952	0.1429	0.2064	0.3175
469	53802	0.1177	0.0882	0.1177	0.2206	0.2059	0.2500
470	53805	0.1493	0.0896	0.0896	0.1791	0.2090	0.2836
471	53808	0.1194	0.0896	0.0896	0.1940	0.2388	0.2687
472	53902	0.1831	0.1409	0.1127	0.1549	0.1549	0.2535
473	53905	0.1549	0.1127	0.1268	0.2676	0.1127	0.2254
474	53908	0.1290	0.0968	0.1290	0.1452	0.1774	0.3226
475	53911	0.1094	0.1563	0.1406	0.1406	0.1406	0.3125
476	53914	0.1129	0.1129	0.0968	0.1452	0.2097	0.3226
477	55102	0.1015	0.1594	0.1015	0.1449	0.2174	0.2754
478	55105	0.1304	0.1594	0.0870	0.1594	0.1739	0.2899

Appendix D

obs	OU	R	I	A	S	E	C
479	55108	0.1343	0.0896	0.1045	0.1791	0.1940	0.2985
480	55302A	0.1936	0.0968	0.0807	0.1290	0.1774	0.3226
481	55302B	0.1695	0.1017	0.0848	0.1356	0.1695	0.3390
482	55305	0.1029	0.0882	0.0882	0.2206	0.2353	0.2647
483	55307	0.1724	0.1035	0.0862	0.1379	0.1552	0.3448
484	55314	0.1000	0.1143	0.0857	0.1857	0.2286	0.2857
485	55317	0.1312	0.1312	0.0820	0.1475	0.1967	0.3115
486	55321	0.1552	0.1035	0.0862	0.1379	0.1724	0.3448
487	55323	0.1270	0.0952	0.0952	0.1587	0.2222	0.3016
488	55326	0.1525	0.1186	0.0848	0.1186	0.1864	0.3390
489	55328A	0.1452	0.1613	0.0968	0.0968	0.1774	0.3226
490	55328B	0.1500	0.1667	0.1000	0.1333	0.1167	0.3333
491	55332	0.1061	0.1212	0.0909	0.2121	0.1970	0.2727
492	55335	0.1194	0.1194	0.0896	0.1940	0.2090	0.2687
493	55338A	0.1312	0.1475	0.0984	0.1148	0.1803	0.3279
494	55338B	0.1111	0.1587	0.0952	0.1111	0.2064	0.3175
495	55341	0.1639	0.1312	0.0820	0.0984	0.1967	0.3279
496	55344	0.1639	0.1312	0.0820	0.0984	0.1967	0.3279
497	55347	0.1695	0.1017	0.0848	0.1356	0.1695	0.3390
498	56002	0.2333	0.1000	0.0833	0.1000	0.1500	0.3333
499	56005	0.2131	0.0984	0.0984	0.1148	0.1639	0.3115
500	56008	0.3065	0.1129	0.0807	0.0968	0.1290	0.2742
501	56011	0.2656	0.1406	0.0781	0.1094	0.1406	0.2656
502	56014	0.3115	0.1475	0.0820	0.0820	0.1148	0.2623
503	56017	0.2500	0.1167	0.0833	0.0833	0.1333	0.3333
504	56021	0.2615	0.1077	0.1231	0.1077	0.1385	0.2615
505	56099	0.2542	0.1186	0.0848	0.1017	0.1356	0.3051
506	57102	0.2154	0.0923	0.0769	0.1846	0.1692	0.2615
507	57105	0.2000	0.0923	0.0769	0.1846	0.1692	0.2769
508	57108	0.2031	0.0938	0.0781	0.1875	0.1719	0.2656
509	57111	0.2581	0.1129	0.0807	0.1290	0.1452	0.2742
510	57199	0.2295	0.0984	0.0820	0.1475	0.1639	0.2787
511	57302	0.2069	0.1379	0.0862	0.1207	0.1379	0.3103
512	57305	0.2540	0.0952	0.0952	0.1587	0.1270	0.2698
513	57308	0.2462	0.0923	0.0769	0.1231	0.1692	0.2923
514	57311A	0.2857	0.0952	0.0794	0.1429	0.1587	0.2381
515	58002	0.1719	0.0938	0.0938	0.2656	0.1250	0.2500
516	58005	0.2188	0.1250	0.0781	0.1406	0.1563	0.2813
517	58008	0.1515	0.1212	0.0758	0.1364	0.2273	0.2879
518	58011	0.2097	0.0968	0.0807	0.1290	0.1774	0.3065
519	58014	0.2576	0.1061	0.0758	0.1061	0.1667	0.2879
520	58017	0.2203	0.1017	0.0848	0.1186	0.1525	0.3220
521	58021	0.2333	0.1000	0.0833	0.1167	0.1667	0.3000
522	58023	0.2419	0.0968	0.0807	0.1129	0.1613	0.3065
523	58026	0.1774	0.1129	0.0807	0.1129	0.1936	0.3226
524	58028	0.2258	0.1129	0.0807	0.1129	0.1613	0.3065
525	58099A	0.2188	0.1719	0.0938	0.1094	0.1250	0.2813
526	58099B	0.1967	0.1312	0.0820	0.1148	0.1639	0.3115

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obs	OU	R	I	A	S	E	C
527	58099C	0.2034	0.1186	0.0848	0.1186	0.1695	0.3051
528	59999	0.1936	0.1129	0.0807	0.1290	0.1774	0.3065
529	61002A	0.2647	0.1324	0.0882	0.1765	0.2206	0.1177
530	61002B	0.2857	0.1286	0.0857	0.1714	0.2000	0.1286
531	61005	0.1714	0.1286	0.0857	0.2143	0.2571	0.1429
532	61008	0.2029	0.0870	0.0870	0.1449	0.2609	0.2174
533	61099A	0.2206	0.0882	0.1618	0.1471	0.2500	0.1324
534	61099B	0.2031	0.0938	0.1250	0.1406	0.2656	0.1719
535	61099C	0.1765	0.0882	0.1177	0.1765	0.2647	0.1765
536	61099D	0.2286	0.0857	0.0857	0.1571	0.2429	0.2000
537	61099E	0.1791	0.0896	0.0896	0.1642	0.2687	0.2090
538	62031	0.2615	0.0923	0.0923	0.2308	0.1539	0.1692
539	62041	0.1613	0.0968	0.1936	0.3065	0.1129	0.1290
540	62061	0.1972	0.0986	0.1268	0.2817	0.1549	0.1409
541	63002A	0.2143	0.1286	0.0857	0.1714	0.1429	0.2571
542	63002B	0.1948	0.1948	0.1039	0.1299	0.1818	0.1948
543	63005	0.2899	0.1739	0.0870	0.1015	0.1739	0.1739
544	63008A	0.2899	0.1304	0.0870	0.2029	0.1594	0.1304
545	63008B	0.3125	0.1094	0.0938	0.2188	0.1406	0.1250
546	63011A	0.1507	0.1644	0.0959	0.2055	0.2466	0.1370
547	63011B	0.2083	0.1389	0.0833	0.1667	0.1528	0.2500
548	63014A	0.2174	0.1159	0.0870	0.2174	0.1884	0.1739
549	63014B	0.2535	0.1690	0.0845	0.1549	0.1831	0.1549
550	63017	0.2687	0.0896	0.0896	0.2239	0.1642	0.1642
551	63021	0.2188	0.0938	0.0781	0.1563	0.1719	0.2813
552	63023	0.1493	0.0896	0.0896	0.2687	0.2239	0.1791
553	63026	0.1765	0.1177	0.0882	0.2647	0.2059	0.1471
554	63028A	0.1268	0.2113	0.0845	0.1690	0.2535	0.1549
555	63028B	0.1389	0.1528	0.0833	0.2222	0.2222	0.1806
556	63032	0.2000	0.1143	0.0857	0.2143	0.2143	0.1714
557	63035	0.1733	0.1333	0.0800	0.2133	0.2533	0.1467
558	63038	0.1806	0.1111	0.0833	0.2222	0.2639	0.1389
559	63041	0.2571	0.2143	0.0857	0.1714	0.1571	0.1143
560	63044	0.2154	0.0923	0.0923	0.2923	0.1231	0.1846
561	63047	0.1594	0.1015	0.0870	0.2609	0.2174	0.1739
562	63099B	0.2727	0.0758	0.0909	0.2424	0.1667	0.1515
563	63099C	0.2174	0.1304	0.1015	0.2609	0.1594	0.1304
564	63099D	0.2813	0.0938	0.0781	0.1094	0.1875	0.2500
565	63099E	0.2388	0.0896	0.0896	0.1791	0.2090	0.1940
566	65002	0.1818	0.0758	0.0909	0.2273	0.2576	0.1667
567	65005	0.1791	0.0896	0.1045	0.2239	0.2687	0.1343
568	65008A	0.1690	0.0845	0.1127	0.2535	0.2113	0.1690
569	65008B	0.1111	0.1250	0.1806	0.2222	0.2639	0.0972
570	65011	0.2353	0.0882	0.0882	0.2500	0.1765	0.1618
571	65014	0.2540	0.0794	0.0794	0.2064	0.2064	0.1746
572	65017	0.2388	0.0896	0.0896	0.2388	0.1791	0.1642
573	65021	0.2857	0.0952	0.1746	0.1270	0.1746	0.1429
574	65023	0.2969	0.0938	0.1094	0.1406	0.2031	0.1563

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obs	OU	R	I	A	S	E	C
575	65026	0.2338	0.1039	0.1688	0.1299	0.2208	0.1429
576	65028	0.2639	0.0972	0.0833	0.1806	0.1528	0.2222
577	65032	0.3333	0.0877	0.1053	0.1404	0.1579	0.1754
578	65035	0.2857	0.0794	0.1111	0.1429	0.2064	0.1746
579	65038A	0.3393	0.0893	0.1071	0.1250	0.1607	0.1786
580	65038B	0.3636	0.0909	0.1091	0.1273	0.1273	0.1818
581	65041	0.3220	0.0848	0.1186	0.1356	0.1695	0.1695
582	65099A	0.3636	0.0909	0.1091	0.1455	0.1273	0.1636
583	65099B	0.2542	0.0848	0.0848	0.1695	0.1864	0.2203
584	66002	0.2113	0.1268	0.0845	0.2535	0.1690	0.1549
585	66005	0.1690	0.1409	0.0986	0.2535	0.1268	0.2113
586	66008	0.2254	0.1127	0.0986	0.2676	0.1690	0.1268
587	66011	0.2258	0.0968	0.1129	0.3065	0.1129	0.1452
588	66014	0.1930	0.1228	0.1053	0.3158	0.1053	0.1579
589	66017	0.2344	0.1406	0.1094	0.2656	0.0938	0.1563
590	66021	0.2090	0.1194	0.1493	0.2836	0.0896	0.1493
591	66023	0.2353	0.1029	0.0882	0.2794	0.1765	0.1177
592	66097	0.2969	0.1563	0.1094	0.1250	0.1094	0.2031
593	66099A	0.3065	0.1290	0.1129	0.1613	0.1290	0.1613
594	66099B	0.2807	0.1053	0.0877	0.2632	0.0877	0.1754
595	66099D	0.2113	0.1549	0.0845	0.2535	0.1268	0.1690
596	67002	0.3448	0.0862	0.1035	0.1724	0.1207	0.1724
597	67005	0.3774	0.0943	0.0943	0.1321	0.1321	0.1698
598	67008	0.3333	0.1167	0.1000	0.1167	0.1500	0.1833
599	67011	0.3333	0.0926	0.0926	0.1852	0.1111	0.1852
600	67099	0.3455	0.0909	0.0909	0.1636	0.1273	0.1818
601	68002	0.2727	0.0909	0.1061	0.2273	0.1818	0.1212
602	68005A	0.1409	0.0845	0.1972	0.1972	0.2535	0.1268
603	68005B	0.2000	0.1000	0.2714	0.1571	0.1571	0.1143
604	68005C	0.2394	0.0986	0.1268	0.1831	0.2113	0.1409
605	68008	0.1912	0.0882	0.1177	0.2353	0.2500	0.1177
606	68014A	0.2500	0.0833	0.0972	0.1528	0.1944	0.2222
607	68014B	0.1594	0.0870	0.1015	0.1594	0.2754	0.2174
608	68017A	0.1447	0.1053	0.1711	0.2105	0.2500	0.1184
609	68017B	0.1563	0.0938	0.1406	0.2656	0.2031	0.1406
610	68021	0.1343	0.0896	0.1045	0.2687	0.1940	0.2090
611	68023	0.2273	0.0909	0.0909	0.1818	0.2727	0.1364
612	68026	0.1159	0.0870	0.1884	0.2174	0.2609	0.1304
613	68028	0.1667	0.0909	0.1061	0.2424	0.2576	0.1364
614	68032A	0.1833	0.1000	0.1000	0.2667	0.1333	0.2167
615	68032B	0.2206	0.0882	0.2500	0.1765	0.1471	0.1177
616	68035	0.2295	0.0984	0.0984	0.2951	0.1475	0.1312
617	68038	0.1406	0.1250	0.1719	0.3125	0.1250	0.1250
618	68041	0.1690	0.0986	0.1268	0.2535	0.2113	0.1409
619	69999A	0.1475	0.0984	0.0984	0.2951	0.2295	0.1312
620	69999B	0.1452	0.0968	0.1129	0.2903	0.2258	0.1290
621	69999D	0.1563	0.0938	0.1094	0.2344	0.2813	0.1250
622	69999E	0.1613	0.0968	0.1129	0.2581	0.2419	0.1290

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obs	OU	R	I	A	S	E	C
623	72002A	0.2394	0.1409	0.0845	0.1409	0.2394	0.1549
624	72002B	0.2571	0.1143	0.0857	0.1286	0.2571	0.1571
625	72002C	0.2571	0.1286	0.1000	0.1714	0.2143	0.1286
626	72002D	0.2500	0.1250	0.1250	0.1389	0.2083	0.1528
627	72002E	0.2535	0.1127	0.1549	0.1409	0.2113	0.1268
628	72002F	0.2813	0.1094	0.0938	0.1563	0.2188	0.1406
629	72002G	0.2794	0.1177	0.0735	0.1177	0.2500	0.1618
630	73002	0.3636	0.1091	0.0909	0.1091	0.1455	0.1818
631	73005	0.3704	0.1111	0.0926	0.1111	0.1482	0.1667
632	73011	0.3704	0.1111	0.0926	0.1296	0.1482	0.1482
633	73099A	0.4039	0.1154	0.0962	0.1154	0.1346	0.1346
634	73099B	0.3509	0.1053	0.0877	0.0877	0.1228	0.2456
635	73099C	0.3333	0.1000	0.0833	0.1167	0.1667	0.2000
636	73099D	0.2571	0.1143	0.0714	0.1143	0.2143	0.2286
637	73099E	0.3704	0.1111	0.0926	0.1111	0.1667	0.1482
638	79002A	0.3226	0.1936	0.1129	0.1129	0.1290	0.1290
639	79002B	0.2687	0.1194	0.0896	0.1493	0.1493	0.2239
640	79005	0.3509	0.1404	0.1053	0.1228	0.1404	0.1404
641	79008	0.2540	0.1270	0.0952	0.0952	0.1746	0.2540
642	79011	0.2833	0.1167	0.0833	0.1000	0.1667	0.2500
643	79015	0.2576	0.2121	0.0909	0.1061	0.1667	0.1667
644	79016	0.2239	0.1194	0.0896	0.2687	0.1791	0.1194
645	79017A	0.3273	0.1273	0.1273	0.1636	0.1273	0.1273
646	79017B	0.3846	0.1154	0.1154	0.0962	0.1346	0.1539
647	79017C	0.3276	0.1035	0.1724	0.1379	0.1379	0.1207
648	79017D	0.3393	0.1786	0.1250	0.1071	0.1250	0.1250
649	79021	0.3571	0.1250	0.0893	0.1071	0.1607	0.1607
650	79030B	0.3509	0.1228	0.1754	0.0877	0.1228	0.1404
651	79033	0.3448	0.1379	0.1724	0.0862	0.1379	0.1207
652	79036	0.3585	0.1321	0.0943	0.0943	0.1509	0.1698
653	79041	0.3704	0.1482	0.1296	0.0926	0.1296	0.1296
654	79806	0.2432	0.2027	0.1351	0.1757	0.1216	0.1216
655	79855	0.3571	0.1429	0.0893	0.1071	0.1786	0.1250
656	79856	0.3448	0.1552	0.1207	0.1035	0.1379	0.1379
657	79858	0.3226	0.1774	0.0968	0.0968	0.1129	0.1936
658	79999A	0.3115	0.1639	0.0984	0.0820	0.1312	0.2131
659	79999B	0.3774	0.1321	0.0943	0.1132	0.1321	0.1509
660	79999C	0.2714	0.2143	0.1000	0.1143	0.1714	0.1286
661	79999D	0.2740	0.1233	0.0822	0.1233	0.2192	0.1781
662	79999E	0.2879	0.1212	0.0909	0.1212	0.2273	0.1515
663	79999F	0.3571	0.1250	0.1071	0.0893	0.1607	0.1607
664	79999G	0.3279	0.1803	0.0984	0.0820	0.1475	0.1639
665	79999H	0.3636	0.1455	0.1273	0.0909	0.1273	0.1455
666	79999J	0.3279	0.1803	0.0984	0.0984	0.1639	0.1312
667	79999K	0.2162	0.1351	0.0811	0.1216	0.2568	0.1892
668	79999L	0.2105	0.1447	0.0790	0.1316	0.2500	0.1842
669	79999M	0.2133	0.1333	0.0800	0.1333	0.2533	0.1867
670	79999N	0.3636	0.1091	0.1091	0.1091	0.1636	0.1455

Appendix D

obs	OU	R	I	A	S	E	C
671	79999P	0.3509	0.1228	0.1053	0.1053	0.1579	0.1579
672	81002	0.2329	0.1233	0.0685	0.1233	0.2466	0.2055
673	81005A	0.2535	0.1127	0.0704	0.1268	0.2535	0.1831
674	81005B	0.2647	0.0882	0.0735	0.1177	0.2794	0.1765
675	81008	0.2267	0.0933	0.0800	0.1333	0.2533	0.2133
676	81011	0.2297	0.0946	0.0811	0.1351	0.2568	0.2027
677	81017	0.2162	0.0811	0.0811	0.1487	0.2568	0.2162
678	83002A	0.2769	0.1385	0.0923	0.0923	0.1539	0.2462
679	83002B	0.2769	0.1539	0.0923	0.0769	0.1539	0.2462
680	83002C	0.2857	0.1429	0.0952	0.1111	0.1270	0.2381
681	83002D	0.2813	0.1719	0.0938	0.0781	0.1250	0.2500
682	83005A	0.2742	0.1452	0.0968	0.0807	0.1452	0.2581
683	83005B	0.2615	0.1231	0.0923	0.1077	0.1692	0.2462
684	83008A	0.2787	0.1312	0.0984	0.0984	0.1475	0.2459
685	83008C	0.2903	0.1290	0.0968	0.0968	0.1452	0.2419
686	83008D	0.2500	0.1250	0.0938	0.1094	0.1563	0.2656
687	83099	0.2656	0.1250	0.0938	0.0938	0.1719	0.2500
688	85112	0.3448	0.1552	0.1035	0.0862	0.1379	0.1724
689	85113	0.3509	0.1404	0.1228	0.0877	0.1228	0.1754
690	85116A	0.3571	0.1429	0.1071	0.0893	0.1250	0.1786
691	85116B	0.3571	0.1607	0.1071	0.0893	0.1250	0.1607
692	85116C	0.3636	0.1636	0.1091	0.0909	0.1273	0.1455
693	85118	0.3571	0.1786	0.1071	0.0893	0.1250	0.1429
694	85119A	0.3636	0.1636	0.1091	0.0909	0.1273	0.1455
695	85119B	0.3571	0.1429	0.1071	0.0893	0.1250	0.1786
696	85119C	0.3636	0.1636	0.1091	0.0909	0.1273	0.1455
697	85123A	0.3030	0.1818	0.0909	0.1364	0.1515	0.1364
698	85123B	0.3509	0.1754	0.1053	0.0877	0.1228	0.1579
699	85126	0.3704	0.1482	0.1111	0.0926	0.1296	0.1482
700	85128A	0.3636	0.1273	0.1091	0.0909	0.1273	0.1818
701	85128B	0.3774	0.1132	0.0943	0.0943	0.1321	0.1887
702	85132	0.3571	0.1429	0.0893	0.0893	0.1429	0.1786
703	85302A	0.3333	0.1667	0.0833	0.0833	0.1500	0.1833
704	85302B	0.3448	0.1552	0.0862	0.0862	0.1379	0.1897
705	85305A	0.3455	0.1273	0.0909	0.0909	0.1636	0.1818
706	85305B	0.3448	0.1207	0.1379	0.0862	0.1379	0.1724
707	85305C	0.3704	0.1296	0.0926	0.0926	0.1482	0.1667
708	85305D	0.2727	0.0909	0.0909	0.1364	0.2121	0.1970
709	85308	0.3636	0.1455	0.0909	0.0909	0.1455	0.1636
710	85311A	0.3509	0.1579	0.0877	0.0877	0.1404	0.1754
711	85311B	0.3509	0.1579	0.0877	0.0877	0.1404	0.1754
712	85314	0.3704	0.1482	0.0926	0.0926	0.1296	0.1667
713	85317	0.3636	0.1273	0.0909	0.0909	0.1455	0.1818
714	85321	0.3636	0.1636	0.0909	0.0909	0.1455	0.1455
715	85323A	0.3390	0.1864	0.0848	0.0848	0.1356	0.1695
716	85323B	0.3509	0.1579	0.0877	0.0877	0.1404	0.1754
717	85326	0.3390	0.1864	0.0848	0.0848	0.1356	0.1695
718	85328A	0.3571	0.1786	0.0893	0.0893	0.1429	0.1429

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obs	OU	R	I	A	S	E	C
719	85328B	0.3509	0.1404	0.0877	0.0877	0.1579	0.1754
720	85502	0.3509	0.1754	0.0877	0.0877	0.1228	0.1754
721	85505	0.3636	0.1455	0.0909	0.0909	0.1273	0.1818
722	85508	0.3571	0.1429	0.0893	0.0893	0.1250	0.1964
723	85511	0.3509	0.1579	0.0877	0.0877	0.1228	0.1930
724	85514	0.3390	0.1864	0.0848	0.0848	0.1186	0.1864
725	85599A	0.3704	0.1296	0.0926	0.0926	0.1296	0.1852
726	85599B	0.3103	0.1724	0.0862	0.1035	0.1724	0.1552
727	85599C	0.3636	0.1636	0.0909	0.0909	0.1273	0.1636
728	85702	0.3704	0.1482	0.0926	0.0926	0.1296	0.1667
729	85705	0.3448	0.1724	0.0862	0.0862	0.1035	0.2069
730	85708	0.3448	0.1552	0.1035	0.0862	0.1379	0.1724
731	85711A	0.3704	0.1296	0.0926	0.1111	0.1296	0.1667
732	85711B	0.3704	0.1296	0.0926	0.1111	0.1482	0.1482
733	85714A	0.3519	0.1482	0.0926	0.0926	0.1296	0.1852
734	85714B	0.3654	0.1346	0.0962	0.0962	0.1346	0.1731
735	85714C	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539
736	85714D	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539
737	85717A	0.3448	0.1897	0.0862	0.0862	0.1207	0.1724
738	85717B	0.3509	0.1404	0.0877	0.0877	0.1228	0.2105
739	85721	0.3509	0.1754	0.0877	0.0877	0.1228	0.1754
740	85723	0.3704	0.1482	0.0926	0.0926	0.1111	0.1852
741	85726	0.3704	0.1296	0.0926	0.0926	0.1296	0.1852
742	85728A	0.3448	0.1897	0.0862	0.0862	0.1035	0.1897
743	85728B	0.3571	0.1607	0.0893	0.0893	0.1250	0.1786
744	85799	0.3571	0.1429	0.0893	0.0893	0.1250	0.1964
745	85902A	0.3636	0.1273	0.0909	0.0909	0.1273	0.2000
746	85902B	0.3636	0.1273	0.0909	0.0909	0.1273	0.2000
747	85905	0.3390	0.1864	0.1017	0.0848	0.1186	0.1695
748	85908	0.3509	0.1930	0.1053	0.0877	0.1228	0.1404
749	85911	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539
750	85914	0.3571	0.1429	0.1250	0.0893	0.1250	0.1607
751	85917	0.3448	0.1379	0.1035	0.0862	0.1379	0.1897
752	85921A	0.3175	0.1270	0.1905	0.0952	0.1111	0.1587
753	85921B	0.3175	0.1270	0.1905	0.0952	0.1111	0.1587
754	85921C	0.3279	0.1312	0.1967	0.0984	0.1148	0.1312
755	85921D	0.3220	0.1356	0.2034	0.1017	0.1186	0.1186
756	85923	0.3455	0.1455	0.0909	0.0909	0.1455	0.1818
757	85926	0.3571	0.1250	0.0893	0.0893	0.1250	0.2143
758	85928A	0.3704	0.1296	0.0926	0.0926	0.1296	0.1852
759	85928B	0.3704	0.1296	0.0926	0.0926	0.1296	0.1852
760	85928C	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539
761	85928D	0.3654	0.1154	0.0962	0.0962	0.1346	0.1923
762	85932	0.3774	0.1321	0.0943	0.0943	0.1321	0.1698
763	85935	0.3115	0.1312	0.0820	0.1148	0.1967	0.1639
764	85938	0.3774	0.1321	0.0943	0.1132	0.1509	0.1321
765	85944	0.3774	0.1321	0.0943	0.0943	0.1509	0.1509
766	85947	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539

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obs	OU	R	I	A	S	E	C
767	85951	0.3846	0.1154	0.0962	0.0962	0.1346	0.1731
768	85953	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
769	85956A	0.3846	0.1154	0.0962	0.0962	0.1346	0.1731
770	85956C	0.3654	0.1154	0.1154	0.0962	0.1346	0.1731
771	85998	0.3654	0.1346	0.0962	0.0962	0.1346	0.1731
772	85999A	0.3774	0.1321	0.0943	0.0943	0.1321	0.1698
773	85999B	0.3636	0.1273	0.0909	0.0909	0.1273	0.2000
774	85999C	0.3774	0.1132	0.0943	0.0943	0.1321	0.1887
775	85999D	0.3704	0.1296	0.0926	0.0926	0.1482	0.1667
776	85999E	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539
777	85999F	0.3846	0.1539	0.0962	0.0962	0.1346	0.1346
778	85999G	0.3774	0.1321	0.0943	0.0943	0.1321	0.1698
779	87102A	0.3636	0.1273	0.0909	0.0909	0.1636	0.1636
780	87102B	0.3704	0.1111	0.0926	0.0926	0.1482	0.1852
781	87102C	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
782	87102D	0.3846	0.1154	0.0962	0.0962	0.1346	0.1731
783	87102E	0.3448	0.1379	0.0862	0.0862	0.1379	0.2069
784	87102F	0.3774	0.1132	0.0943	0.0943	0.1509	0.1698
785	87105	0.3846	0.1154	0.0962	0.1154	0.1539	0.1346
786	87108	0.3774	0.1132	0.0943	0.0943	0.1509	0.1698
787	87111	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
788	87114	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
789	87121	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
790	87202A	0.3390	0.1864	0.0848	0.0848	0.1356	0.1695
791	87202C	0.3333	0.1500	0.0833	0.1333	0.1333	0.1667
792	87302	0.3846	0.1154	0.1154	0.0962	0.1539	0.1346
793	87305B	0.3846	0.1154	0.1154	0.0962	0.1539	0.1346
794	87308	0.3704	0.1111	0.0926	0.0926	0.1482	0.1852
795	87311	0.3704	0.1111	0.1111	0.0926	0.1482	0.1667
796	87314	0.3704	0.1111	0.0926	0.0926	0.1482	0.1852
797	87317	0.3704	0.1111	0.0926	0.0926	0.1482	0.1852
798	87402A	0.3774	0.1132	0.1132	0.0943	0.1509	0.1509
799	87402B	0.3774	0.1132	0.0943	0.0943	0.1509	0.1698
800	87502A	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
801	87502B	0.3704	0.1296	0.0926	0.0926	0.1667	0.1482
802	87505	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
803	87508	0.3846	0.1154	0.0962	0.0962	0.1346	0.1731
804	87511	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
805	87602	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
806	87605	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
807	87608	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
808	87702	0.4000	0.1200	0.1000	0.1000	0.1400	0.1400
809	87705	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
810	87708	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
811	87711	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
812	87714A	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
813	87714B	0.3846	0.1154	0.0962	0.0962	0.1539	0.1539
814	87714C	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569

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obs	OU	R	I	A	S	E	C
815	87802	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
816	87808	0.3846	0.1154	0.1154	0.0962	0.1346	0.1539
817	87811	0.3774	0.1132	0.1132	0.0943	0.1321	0.1698
818	87814	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
819	87817	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
820	87899A	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539
821	87899B	0.3585	0.1132	0.0943	0.1132	0.1509	0.1698
822	87899C	0.3636	0.1091	0.0909	0.1091	0.1636	0.1636
823	87899D	0.3774	0.1132	0.0943	0.0943	0.1321	0.1887
824	87899E	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
825	87899F	0.3774	0.1321	0.0943	0.0943	0.1321	0.1698
826	87899G	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
827	87899H	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
828	87899J	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
829	87899K	0.3846	0.1154	0.1154	0.0962	0.1346	0.1539
830	87899L	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
831	87899M	0.3846	0.1154	0.0962	0.0962	0.1346	0.1731
832	87902A	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
833	87902B	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539
834	87905	0.3704	0.1296	0.0926	0.0926	0.1296	0.1852
835	87908	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
836	87911	0.3704	0.1296	0.0926	0.0926	0.1296	0.1852
837	87914	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
838	87917	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
839	87921	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
840	87923	0.3774	0.1132	0.0943	0.0943	0.1321	0.1887
841	87941	0.3774	0.1132	0.0943	0.0943	0.1321	0.1887
842	87943	0.3846	0.1154	0.0962	0.0962	0.1346	0.1731
843	87949A	0.3654	0.1154	0.0962	0.0962	0.1346	0.1923
844	87949B	0.3922	0.1177	0.0980	0.0980	0.1373	0.1569
845	87989A	0.3774	0.1132	0.0943	0.0943	0.1321	0.1887
846	87989B	0.3846	0.1154	0.0962	0.0962	0.1346	0.1731
847	87999	0.3846	0.1154	0.0962	0.0962	0.1346	0.1731
848	89102	0.3509	0.1579	0.0877	0.0877	0.1228	0.1930
849	89105	0.3333	0.2000	0.0833	0.0833	0.1167	0.1833
850	89108	0.3333	0.2000	0.0833	0.0833	0.1167	0.1833
851	89111	0.3774	0.1132	0.0943	0.0943	0.1321	0.1887
852	89114A	0.3448	0.1724	0.0862	0.0862	0.1207	0.1897
853	89114B	0.3704	0.1296	0.0926	0.0926	0.1296	0.1852
854	89117	0.3455	0.1273	0.0909	0.0909	0.1273	0.2182
855	89121	0.3704	0.1111	0.0926	0.0926	0.1296	0.2037
856	89123A	0.2603	0.0959	0.1370	0.1096	0.2055	0.1918
857	89123B	0.3333	0.1228	0.1579	0.0877	0.1228	0.1754
858	89126C	0.3519	0.1296	0.1482	0.0926	0.1296	0.1482
859	89126E	0.2754	0.0870	0.1159	0.1304	0.1594	0.2319
860	89126K	0.3519	0.1296	0.1482	0.0926	0.1296	0.1482
861	89128	0.3393	0.1250	0.1607	0.0893	0.1250	0.1607
862	89132	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539

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obs	OU	R	I	A	S	E	C
863	89135	0.3846	0.1346	0.0962	0.0962	0.1346	0.1539
864	89199	0.3774	0.1321	0.1132	0.0943	0.1321	0.1509
865	89302A	0.3636	0.1273	0.1091	0.0909	0.1273	0.1818
866	89302C	0.3846	0.1154	0.0962	0.0962	0.1346	0.1731
867	89305	0.3585	0.1132	0.0943	0.0943	0.1321	0.2076
868	89308	0.3704	0.1111	0.1111	0.0926	0.1296	0.1852
869	89311	0.3571	0.1250	0.1607	0.0893	0.1250	0.1429
870	89314	0.3393	0.1250	0.1607	0.0893	0.1429	0.1429
871	89397A	0.3455	0.1273	0.1636	0.0909	0.1091	0.1636
872	89397B	0.3571	0.1250	0.1607	0.0893	0.1071	0.1607
873	89398	0.3704	0.1111	0.1111	0.0926	0.1111	0.2037
874	89502A	0.3393	0.1071	0.1071	0.0893	0.1250	0.2321
875	89502B	0.3333	0.1053	0.1579	0.0877	0.1228	0.1930
876	89502D	0.3455	0.1091	0.1273	0.0909	0.1273	0.2000
877	89505A	0.3158	0.1053	0.1579	0.1053	0.1404	0.1754
878	89505B	0.2951	0.1148	0.1967	0.0984	0.1475	0.1475
879	89508	0.3519	0.1296	0.1296	0.0926	0.1296	0.1667
880	89511	0.3390	0.1017	0.1864	0.0848	0.1356	0.1525
881	89514	0.3462	0.1346	0.0962	0.0962	0.1346	0.1923
882	89517	0.3333	0.1373	0.0980	0.0980	0.1373	0.1961
883	89521	0.3036	0.1786	0.1250	0.0893	0.1250	0.1786
884	89599A	0.3519	0.1111	0.1296	0.0926	0.1296	0.1852
885	89599B	0.3167	0.1167	0.2000	0.0833	0.1333	0.1500
886	89599C	0.3519	0.1111	0.1111	0.0926	0.1296	0.2037
887	89599D	0.3279	0.1312	0.1312	0.1148	0.1475	0.1475
888	89599E	0.3654	0.1154	0.1154	0.0962	0.1346	0.1731
889	89599F	0.3455	0.1273	0.1455	0.0909	0.1273	0.1636
890	89702	0.2836	0.1045	0.1194	0.1045	0.1493	0.2388
891	89705	0.3051	0.1186	0.1017	0.0848	0.1356	0.2542
892	89706	0.3273	0.1091	0.1091	0.0909	0.1273	0.2364
893	89707	0.3167	0.1167	0.2000	0.0833	0.1167	0.1667
894	89712	0.3455	0.1091	0.1818	0.0909	0.1273	0.1455
895	89713	0.2714	0.1429	0.2143	0.1000	0.1143	0.1571
896	89715	0.3393	0.1250	0.1250	0.0893	0.1250	0.1964
897	89717	0.3519	0.1111	0.1296	0.0926	0.1296	0.1852
898	89718	0.3654	0.1154	0.1154	0.0962	0.1346	0.1731
899	89719A	0.3269	0.1154	0.1346	0.0962	0.1346	0.1923
900	89719B	0.3208	0.1321	0.1132	0.0943	0.1321	0.2076
901	89721	0.3220	0.1186	0.1864	0.0848	0.1186	0.1695
902	89799A	0.3333	0.1053	0.1404	0.0877	0.1228	0.2105
903	89799B	0.3654	0.1154	0.1154	0.0962	0.1346	0.1731
904	89802	0.3922	0.1177	0.1177	0.0980	0.1373	0.1373
905	89805	0.3704	0.1296	0.1111	0.0926	0.1296	0.1667
906	89808	0.3571	0.1250	0.1607	0.0893	0.1250	0.1429
907	89899	0.3333	0.1228	0.1579	0.0877	0.1228	0.1754
908	89902	0.3571	0.1429	0.1071	0.0893	0.1250	0.1786
909	89905A	0.3571	0.1250	0.1071	0.0893	0.1250	0.1964
910	89905B	0.3571	0.1250	0.1071	0.0893	0.1250	0.1964

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obs	OU	R	I	A	S	E	C
911	89905C	0.2969	0.1094	0.2344	0.0938	0.1094	0.1563
912	89905D	0.3509	0.1053	0.1579	0.0877	0.1228	0.1754
913	89905F	0.3509	0.1053	0.2105	0.0877	0.1228	0.1228
914	89908A	0.3115	0.1475	0.1639	0.0820	0.1148	0.1803
915	89908B	0.3455	0.1091	0.1273	0.0909	0.1273	0.2000
916	89908C	0.3519	0.1111	0.1296	0.0926	0.1296	0.1852
917	89908D	0.2609	0.1015	0.2174	0.1304	0.1159	0.1739
918	89911A	0.2206	0.0882	0.2647	0.1177	0.1324	0.1765
919	89911B	0.3333	0.1053	0.1930	0.0877	0.1228	0.1579
920	89911C	0.3220	0.1017	0.2034	0.0848	0.1186	0.1695
921	89911D	0.3220	0.1017	0.2373	0.0848	0.1186	0.1356
922	89911E	0.2769	0.0923	0.1846	0.1077	0.1077	0.2308
923	89911G	0.3455	0.1091	0.1818	0.0909	0.1273	0.1455
924	89914A	0.2206	0.1471	0.2647	0.1177	0.1177	0.1324
925	89914B	0.3269	0.1154	0.1346	0.0962	0.1346	0.1923
926	89914C	0.3158	0.1404	0.1754	0.0877	0.1228	0.1579
927	89914D	0.3091	0.1636	0.1455	0.0909	0.1273	0.1636
928	89917A	0.3273	0.1455	0.1273	0.0909	0.1273	0.1818
929	89917D	0.3214	0.1607	0.1071	0.0893	0.1250	0.1964
930	89921	0.3175	0.2064	0.0952	0.0952	0.1111	0.1746
931	89923	0.2985	0.1940	0.1045	0.1194	0.1194	0.1642
932	89926A	0.3333	0.1500	0.1500	0.0833	0.1167	0.1667
933	89999A	0.3276	0.1207	0.1724	0.0862	0.1207	0.1724
934	89999B	0.3393	0.1071	0.1786	0.0893	0.1250	0.1607
935	89999C	0.3333	0.1228	0.1579	0.0877	0.1228	0.1754
936	91102	0.3704	0.1296	0.1111	0.0926	0.1111	0.1852
937	91105	0.3774	0.1321	0.0943	0.0943	0.1132	0.1887
938	91108	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
939	91111	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
940	91114A	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
941	91114B	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
942	91117	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
943	91302	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
944	91305	0.3654	0.1154	0.0962	0.0962	0.1154	0.2115
945	91308	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
946	91311	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
947	91314	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
948	91317	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
949	91321	0.3774	0.1132	0.0943	0.0943	0.1132	0.2076
950	91502	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
951	91505	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
952	91508	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
953	91702	0.3774	0.1132	0.0943	0.0943	0.1132	0.2076
954	91705	0.3774	0.1321	0.0943	0.0943	0.1132	0.1887
955	91708	0.3774	0.1132	0.0943	0.0943	0.1132	0.2076
956	91711	0.3774	0.1132	0.0943	0.0943	0.1132	0.2076
957	91714	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
958	91902	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765

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obs	OU	R	I	A	S	E	C
959	91905	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
960	91908	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
961	91911	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
962	91914	0.3800	0.1200	0.1000	0.1000	0.1200	0.1800
963	91917	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
964	91921	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
965	91923	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
966	91926	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
967	91928	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
968	91932	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
969	91935	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
970	91938	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
971	92197	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
972	92198	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
973	92302	0.3704	0.1296	0.0926	0.0926	0.1111	0.2037
974	92305	0.4000	0.1200	0.1000	0.1000	0.1200	0.1600
975	92308	0.3846	0.1154	0.1154	0.0962	0.1154	0.1731
976	92311	0.3774	0.1321	0.1132	0.0943	0.1132	0.1698
977	92314	0.3704	0.1296	0.1111	0.0926	0.1111	0.1852
978	92512	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
979	92515	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
980	92519	0.3585	0.1321	0.1132	0.0943	0.1132	0.1887
981	92522A	0.3585	0.1321	0.1321	0.0943	0.1132	0.1698
982	92522B	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
983	92524	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
984	92525	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
985	92529A	0.3726	0.1177	0.1177	0.0980	0.1177	0.1765
986	92529B	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
987	92529C	0.3726	0.1177	0.1177	0.0980	0.1177	0.1765
988	92529D	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
989	92529E	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
990	92541	0.3455	0.1273	0.0909	0.0909	0.1091	0.2364
991	92543	0.3585	0.1132	0.1132	0.0943	0.1132	0.2076
992	92545	0.3585	0.1132	0.1321	0.0943	0.1132	0.1887
993	92546	0.3519	0.1296	0.1111	0.0926	0.1111	0.2037
994	92549	0.3585	0.1132	0.1132	0.0943	0.1132	0.2076
995	92702	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
996	92705	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
997	92708	0.3519	0.1482	0.1111	0.0926	0.1111	0.1852
998	92711	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
999	92714	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
1000	92717	0.3654	0.1154	0.1154	0.0962	0.1154	0.1923
1001	92721	0.3654	0.1154	0.0962	0.0962	0.1154	0.2115
1002	92723	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
1003	92726	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
1004	92728	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
1005	92902A	0.3654	0.1346	0.0962	0.0962	0.1154	0.1923
1006	92902B	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961

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obs	OU	R	I	A	S	E	C
1007	92902C	0.3016	0.2540	0.0952	0.0952	0.1111	0.1429
1008	92902D	0.3774	0.1321	0.0943	0.0943	0.1132	0.1887
1009	92902E	0.3585	0.1321	0.0943	0.0943	0.1132	0.2076
1010	92902G	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
1011	92905	0.3462	0.1154	0.1154	0.0962	0.1154	0.2115
1012	92908	0.3462	0.1346	0.1154	0.0962	0.1154	0.1923
1013	92911	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1014	92914	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1015	92917	0.3800	0.1200	0.1000	0.1000	0.1200	0.1800
1016	92921	0.3726	0.1373	0.0980	0.0980	0.1177	0.1765
1017	92923	0.3585	0.1321	0.0943	0.0943	0.1132	0.2076
1018	92926	0.3585	0.1321	0.0943	0.0943	0.1132	0.2076
1019	92928	0.3585	0.1321	0.0943	0.0943	0.1132	0.2076
1020	92932	0.3654	0.1346	0.0962	0.0962	0.1154	0.1923
1021	92935	0.3585	0.1509	0.0943	0.0943	0.1132	0.1887
1022	92938	0.3462	0.1539	0.0962	0.0962	0.1154	0.1923
1023	92941A	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
1024	92941B	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1025	92941D	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1026	92944	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1027	92947	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
1028	92951	0.3654	0.1346	0.0962	0.0962	0.1154	0.1923
1029	92953	0.3585	0.1321	0.0943	0.0943	0.1132	0.2076
1030	92956	0.3654	0.1154	0.0962	0.0962	0.1154	0.2115
1031	92958	0.3654	0.1154	0.0962	0.0962	0.1154	0.2115
1032	92962	0.3654	0.1346	0.0962	0.0962	0.1154	0.1923
1033	92965	0.3774	0.1132	0.0943	0.0943	0.1132	0.2076
1034	92968	0.3800	0.1200	0.1000	0.1000	0.1200	0.1800
1035	92971	0.3800	0.1200	0.1000	0.1000	0.1200	0.1800
1036	92974	0.3800	0.1200	0.1000	0.1000	0.1200	0.1800
1037	92997	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
1038	92998	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
1039	93102B	0.3774	0.1509	0.0943	0.0943	0.1132	0.1698
1040	93102C	0.3774	0.1509	0.0943	0.0943	0.1132	0.1698
1041	93102D	0.3774	0.1509	0.0943	0.0943	0.1132	0.1698
1042	93105	0.3704	0.1482	0.0926	0.0926	0.1111	0.1852
1043	93108	0.3846	0.1346	0.0962	0.0962	0.1154	0.1731
1044	93111A	0.3774	0.1509	0.0943	0.0943	0.1132	0.1698
1045	93111B	0.3509	0.1930	0.1053	0.0877	0.1053	0.1579
1046	93114	0.3519	0.1482	0.1111	0.0926	0.1111	0.1852
1047	93117	0.3393	0.1429	0.1071	0.0893	0.1071	0.2143
1048	93197A	0.3585	0.1321	0.1321	0.0943	0.1132	0.1698
1049	93197C	0.3519	0.1482	0.1111	0.0926	0.1111	0.1852
1050	93902	0.3585	0.1321	0.1132	0.0943	0.1132	0.1887
1051	93905A	0.3726	0.1177	0.1177	0.0980	0.1177	0.1765
1052	93905B	0.3571	0.1429	0.1071	0.0893	0.1071	0.1964
1053	93905C	0.3636	0.1455	0.0909	0.0909	0.1091	0.2000
1054	93905D	0.3704	0.1296	0.0926	0.0926	0.1111	0.2037

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obs	OU	R	I	A	S	E	C
1055	93908	0.4000	0.1200	0.1000	0.1000	0.1200	0.1600
1056	93914A	0.3878	0.1225	0.1020	0.1020	0.1225	0.1633
1057	93914B	0.3704	0.1296	0.0926	0.0926	0.1111	0.2037
1058	93914C	0.3333	0.2167	0.1000	0.0833	0.1000	0.1667
1059	93917A	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1060	93917B	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1061	93921	0.3726	0.1177	0.0980	0.0980	0.1177	0.1961
1062	93923B	0.3800	0.1200	0.1000	0.1000	0.1200	0.1800
1063	93926B	0.4000	0.1200	0.1000	0.1000	0.1200	0.1600
1064	93926D	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1065	93926E	0.3922	0.1177	0.1177	0.0980	0.1177	0.1569
1066	93928	0.3922	0.1177	0.1177	0.0980	0.1177	0.1569
1067	93932	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1068	93935	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1069	93938	0.4000	0.1000	0.1000	0.1000	0.1200	0.1800
1070	93941	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1071	93944A	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1072	93944D	0.4082	0.1225	0.1020	0.1020	0.1225	0.1429
1073	93947B	0.3529	0.1177	0.1765	0.0980	0.1177	0.1373
1074	93947E	0.3846	0.1154	0.1346	0.0962	0.1154	0.1539
1075	93951A	0.3519	0.1111	0.1296	0.0926	0.1111	0.2037
1076	93951B	0.3455	0.1091	0.1818	0.0909	0.1091	0.1636
1077	93951C	0.3455	0.1091	0.1818	0.0909	0.1091	0.1636
1078	93951D	0.3455	0.1091	0.1818	0.0909	0.1091	0.1636
1079	93953	0.3922	0.1177	0.1177	0.0980	0.1177	0.1569
1080	93956	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1081	93997	0.3704	0.1296	0.1111	0.0926	0.1111	0.1852
1082	93998	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1083	93999	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1084	95002A	0.3509	0.1404	0.1053	0.0877	0.1228	0.1930
1085	95002B	0.3333	0.1296	0.0926	0.0926	0.1296	0.2222
1086	95005A	0.3519	0.1296	0.0926	0.0926	0.1296	0.2037
1087	95005B	0.3519	0.1296	0.0926	0.0926	0.1296	0.2037
1088	95008	0.3220	0.1525	0.1017	0.0848	0.1356	0.2034
1089	95011	0.3509	0.1228	0.0877	0.0877	0.1404	0.2105
1090	95014	0.3016	0.2064	0.0952	0.0794	0.1270	0.1905
1091	95017	0.3273	0.1455	0.0909	0.0909	0.1091	0.2364
1092	95021	0.3455	0.1455	0.0909	0.0909	0.1273	0.2000
1093	95023	0.3455	0.1455	0.0909	0.0909	0.1273	0.2000
1094	95026	0.3091	0.1455	0.1091	0.0909	0.1273	0.2182
1095	95028	0.2909	0.1455	0.1091	0.0909	0.1273	0.2364
1096	95032	0.3393	0.1250	0.0893	0.0893	0.1250	0.2321
1097	95099	0.3273	0.1273	0.0909	0.0909	0.1273	0.2364
1098	97102A	0.3774	0.0943	0.0943	0.0943	0.1698	0.1698
1099	97102B	0.3846	0.0962	0.0962	0.0962	0.1539	0.1731
1100	97105	0.3704	0.0926	0.0926	0.0926	0.1482	0.2037
1101	97108	0.3175	0.0952	0.0794	0.1905	0.1429	0.1746
1102	97111	0.3125	0.0938	0.0781	0.2188	0.1406	0.1563

Appendix D

obs	OU	R	I	A	S	E	C
1103	97114	0.3226	0.0968	0.0807	0.1613	0.1774	0.1613
1104	97117	0.2273	0.0909	0.0909	0.1818	0.2727	0.1364
1105	97199	0.3390	0.1017	0.0848	0.1525	0.1525	0.1695
1106	97302	0.2754	0.0870	0.0870	0.1304	0.2319	0.1884
1107	97305	0.3390	0.1356	0.0848	0.1017	0.1186	0.2203
1108	97308	0.3704	0.1111	0.0926	0.0926	0.1296	0.2037
1109	97311	0.3396	0.1321	0.0943	0.0943	0.1132	0.2264
1110	97314	0.3016	0.0952	0.0952	0.1587	0.1429	0.2064
1111	97317A	0.3519	0.1296	0.0926	0.0926	0.1111	0.2222
1112	97317B	0.3519	0.1296	0.0926	0.0926	0.1111	0.2222
1113	97399A	0.3585	0.1132	0.0943	0.0943	0.1132	0.2264
1114	97399B	0.3519	0.1296	0.0926	0.0926	0.1111	0.2222
1115	97502A	0.2368	0.1316	0.0921	0.1447	0.2368	0.1579
1116	97505	0.2740	0.1233	0.0822	0.1370	0.2055	0.1781
1117	97508	0.2676	0.1549	0.0845	0.1268	0.1972	0.1690
1118	97511	0.3077	0.1077	0.0769	0.1385	0.2000	0.1692
1119	97514	0.3509	0.1228	0.0877	0.0877	0.1404	0.2105
1120	97517	0.3704	0.1111	0.0926	0.0926	0.1111	0.2222
1121	97521	0.2432	0.1487	0.0811	0.1216	0.2297	0.1757
1122	97702B	0.2667	0.1733	0.0800	0.1200	0.2000	0.1600
1123	97702C	0.2941	0.1765	0.0882	0.1029	0.1618	0.1765
1124	97702D	0.2533	0.1733	0.0800	0.1733	0.1600	0.1600
1125	97702E	0.2609	0.1884	0.0870	0.1015	0.1304	0.2319
1126	97702H	0.2754	0.2029	0.0870	0.1015	0.1304	0.2029
1127	97702J	0.2778	0.1667	0.0833	0.1250	0.1944	0.1528
1128	97802	0.3158	0.1404	0.0877	0.0877	0.1579	0.2105
1129	97805	0.3030	0.1061	0.0758	0.1364	0.1970	0.1818
1130	97808	0.3279	0.0984	0.0820	0.1312	0.1967	0.1639
1131	97899A	0.3390	0.1356	0.0848	0.1017	0.1695	0.1695
1132	97899B	0.3571	0.1250	0.0893	0.1071	0.1429	0.1786
1133	97902	0.3704	0.1296	0.0926	0.0926	0.1296	0.1852
1134	97905	0.3704	0.1296	0.0926	0.0926	0.1482	0.1667
1135	97908	0.3636	0.1455	0.0909	0.0909	0.1091	0.2000
1136	97911	0.3065	0.1129	0.0968	0.1129	0.1452	0.2258
1137	97914	0.3571	0.1786	0.0893	0.0893	0.1071	0.1786
1138	97917	0.3636	0.1455	0.0909	0.0909	0.1273	0.1818
1139	97921	0.3704	0.1482	0.0926	0.0926	0.1111	0.1852
1140	97923A	0.3774	0.1132	0.0943	0.0943	0.1132	0.2076
1141	97923B	0.3400	0.1200	0.1000	0.1000	0.1200	0.2200
1142	97926	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1143	97928	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1144	97932	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1145	97935	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1146	97938	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1147	97941	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1148	97944	0.3846	0.1154	0.0962	0.0962	0.1154	0.1923
1149	97947	0.3774	0.1132	0.0943	0.0943	0.1321	0.1887
1150	97951	0.3462	0.1346	0.0962	0.0962	0.1154	0.2115

Appendix D

obs	OU	R	I	A	S	E	C
1151	97953	0.3585	0.1321	0.0943	0.0943	0.1132	0.2076
1152	97956	0.3636	0.1818	0.0909	0.0909	0.1091	0.1636
1153	97989A	0.3704	0.1296	0.0926	0.0926	0.1111	0.2037
1154	97989B	0.3774	0.1321	0.0943	0.0943	0.1132	0.1887
1155	98102	0.3726	0.1177	0.0980	0.1177	0.1177	0.1765
1156	98311	0.3726	0.1177	0.0980	0.1177	0.1177	0.1765
1157	98312	0.3726	0.1177	0.0980	0.1177	0.1177	0.1765
1158	98313	0.3726	0.1177	0.0980	0.1177	0.1177	0.1765
1159	98314	0.3726	0.1177	0.0980	0.1177	0.1177	0.1765
1160	98315	0.3846	0.1154	0.0962	0.1154	0.1154	0.1731
1161	98319	0.3846	0.1154	0.0962	0.1154	0.1154	0.1731
1162	98323	0.3846	0.1154	0.0962	0.1154	0.1154	0.1731
1163	98502	0.3750	0.1042	0.1042	0.1042	0.1250	0.1875
1164	98702	0.3800	0.1200	0.1000	0.1000	0.1200	0.1800
1165	98705	0.4000	0.1000	0.1000	0.1000	0.1200	0.1800
1166	98799A	0.3333	0.1053	0.1228	0.1053	0.1579	0.1754
1167	98799B	0.3922	0.0980	0.0980	0.0980	0.1177	0.1961
1168	98902A	0.4000	0.1000	0.1000	0.1000	0.1200	0.1800
1169	98905	0.3922	0.1177	0.0980	0.0980	0.1177	0.1765
1170	98999A	0.4167	0.1042	0.1042	0.1042	0.1042	0.1667
1171	98999B	0.4167	0.1042	0.1042	0.1042	0.1042	0.1667
1172	99003	0.2687	0.1343	0.0746	0.1493	0.1940	0.1791

Appendix E

Holland High-point Profiles based on a .17 Cutoff Criterion

Appendix E

Note. H1, H2, and H3 refer to the first, second, and third positions in the ordered Holland profile of each OU. In each case, if a RIASEC code is reported, the rating proportion was greater than .17.

OUs with codes that were revised using expert review are indicated with an asterisk. These changes in high-point codes were: 21911J Financial Examiners from ES to EC, 32911 Medical Records Technician from CR to C, 34002F Programming and Script Editors and Coordinators from EA to AE, 34002G Book Editors from AE (tied) to AE, 34058L Umpires, Referees, and other Sports Officials, and 55328A Statistical Data Clerks from CE to C.

Appendix E

obs	OU	H1	H2	H3
1	13002A	E	C	
2	13002B	E	C	S
3	13005A	E	S	C
4	13005B	E	S	C
5	13005C	E	S	C
6	13005E	S	E	C
7	13008	E	C	S
8	13011A	A	E	
9	13011B	E	C	
10	13011C	E	C	
11	13011D	E	S	C
12	13014A	E	C	
13	13014B	E	C	S
14	13017A	E	R	I
15	13017B	I	E	
16	13017C	E	C	I
17	15002	E	C	S
18	15005A	E	S	C
19	15005B	S	E	I
20	15008A	S	E	I
21	15008B	E	S	
22	15011A	E	C	
23	15011B	E	C	
24	15011C	E	C	
25	15014	E	C	
26	15017A	E	C	R
27	15017B	E	R	C
28	15021A	E	R	C
29	15021C	E	C	R
30	15023A	E	C	
31	15023B	E	C	
32	15023C	E	C	R
33	15023D	E	C	R
34	15026A	E	C	S
35	15026B	E	C	S
36	15031	E	R	C
37	15032	E	R	C
38	19005A	E	C	S
39	19005B	E	C	S
40	19999A	E	C	S
41	19999B	S	E	
42	19999C	E	C	S
43	19999D	E	C	S
44	19999E	E	C	
45	19999F	E	R	C
46	19999G	E	C	S

Appendix E

obs	OU	H1	H2	H3
47	21102	C	E	
48	21105	C	E	
49	21108	E	S	C
50	21111	C	E	
51	21114A	C	E	
52	21114B	C	E	
53	21114C	C	E	R
54	21117	C	E	
55	21199B	S	E	C
56	21199D	C	E	
57	21302	E	C	
58	21305A	E	C	R
59	21308A	E	C	
60	21308B	C	R	I
61	21308C	C	I	E
62	21502	C	S	E
63	21505	E	C	S
64	21508	S	E	C
65	21511A	I	C	E
66	21511B	S	E	C
67	21511C	S	E	
68	21511D	S	E	C
69	21511E	E	S	
70	21511F	E	S	
71	21902	C	E	
72	21905	E	C	I
73	21908A	C	R	I
74	21908B	C	R	
75	21911A	I	S	C
76	21911B	I	C	R
77	21911C	C	E	R
78	21911D	C	E	R
79	21911E	C	S	E
80	21911F	S	E	C
81	21911H	E	C	S
82	21911J*	E	C	
83	21911K	R	I	C
84	21911L	R	C	
85	21911M	E	C	
86	21911N	C	R	E
87	21911P	I	C	R
88	21911R	R	I	C
89	21911T	R	C	I
90	21914	C	E	
91	21917	C	E	
92	21921	C	E	
93	21999A	I	R	C
94	21999B	E	C	I

Appendix E

obs	OU	H1	H2	H3
95	21999C	C	E	
96	21999D	E	C	
97	21999F	E	C	S
98	21999G	E	C	S
99	21999H	C	E	
100	21999J	C	E	
101	22102	I	R	
102	22105A	I	R	
103	22105B	I	R	C
104	22105C	R	I	
105	22105D	I	R	
106	22108	I	R	
107	22111	R	I	
108	22114	I	R	
109	22117	I	R	
110	22121	R	I	
111	22123	I	R	
112	22126A	I	R	
113	22126B	I	R	
114	22127	I	R	C
115	22128	E	I	R
116	22132A	I	E	
117	22132B	I	E	C
118	22132C	I	R	C
119	22135	R	I	
120	22138	R	I	C
121	22197	I	R	
122	22199	R	I	
123	22302	A	R	I
124	22305	R	I	
125	22308	A	R	I
126	22311A	C	R	I
127	22311B	I	E	
128	22502	R	I	C
129	22505A	R	I	
130	22505B	R	C	I
131	22505C	R	I	
132	22508	I	C	
133	22511	R	I	
134	22514A	R	A	C
135	22514B	R	C	I
136	22514C	R	C	
137	22514D	R	C	I
138	22517	C	R	I
139	22521A	R	C	I
140	22521B	C	R	
141	22599A	R	A	
142	22599B	R	I	C

Appendix E

obs	OU	H1	H2	H3
143	22599C	I	R	C
144	22599D	R	C	I
145	22599E	I	R	C
146	22599F	I	R	C
147	22599G	R	I	C
148	24102A	I	R	C
149	24102B	I	R	C
150	24105	I	R	C
151	24108	I	R	
152	24111A	I	R	
153	24111B	I	R	
154	24199A	I	R	
155	24199B	I	R	
156	24199C	I	R	
157	24302A	R	I	
158	24302B	I	R	C
159	24302C	I	R	C
160	24302D	I	R	
161	24302E	S	R	
162	24305A	I	R	
163	24305B	I	R	
164	24305C	I	R	
165	24305D	I	R	
166	24308A	I	R	
167	24308B	I	R	
168	24308C	I	R	
169	24308D	I	R	
170	24308E	I	R	
171	24308F	I	R	
172	24308G	I	R	
173	24308H	I	R	
174	24308J	I	R	
175	24311	I	R	S
176	24502A	I	R	
177	24502B	R	I	C
178	24502C	R	I	C
179	24502D	R	I	
180	24505A	R	I	C
181	24505B	R	I	C
182	24505C	R	I	C
183	24505D	R	I	C
184	24505E	I	R	
185	24508A	R	I	
186	24508B	R	I	
187	24511B	R	C	I
188	24511E	R	I	
189	24599A	I	R	
190	24599B	I	C	R

Appendix E

obs	OU	H1	H2	H3
191	24599C	R	C	I
192	25102	I	C	R
193	25103A	I	C	R
194	25103B	I	C	R
195	25104	I	C	R
196	25105	I	R	C
197	25111	R	C	I
198	25199A	I	R	
199	25302	I	C	R
200	25312	I	C	
201	25313	C	I	
202	25315	I	C	E
203	25319A	I	C	
204	25319B	I	C	
205	25319C	I	C	R
206	25323	I	R	C
207	27102A	I	E	C
208	27102B	I	E	C
209	27105	I	E	
210	27108A	I	S	A
211	27108C	I	C	
212	27108D	I	S	
213	27108E	I	S	A
214	27108G	I	A	S
215	27108H	S	I	A
216	27108J	I	E	A
217	27199A	I	A	
218	27199B	I	A	S
219	27199C	I	S	A
220	27199D	I	A	S
221	27199E	I	A	
222	27199F	I	E	
223	27199G	I	C	
224	27199H	I	R	
225	27302	S	I	
226	27305A	S	E	
227	27305B	S		
228	27305C	S	C	
229	27307	S	C	
230	27308	S	C	
231	27311	S	A	R
232	27502	S	A	E
233	27505	S	E	A
234	27599	S	C	E
235	28102	E	S	
236	28105	E	S	
237	28108	E	C	
238	28302	E	C	S

Appendix E

obs	OU	H1	H2	H3
239	28305	E	C	
240	28308	C	E	
241	28311	C	E	I
242	28399	C	E	I
243	31114	S	I	
244	31117	S	I	C
245	31202	I	S	
246	31204	I	S	R
247	31206	I	S	R
248	31209	I	S	R
249	31210	S	I	A
250	31212	I	S	
251	31216	A	S	I
252	31218	A	S	I
253	31222	I	R	S
254	31224	I	S	C
255	31226	I	C	
256	31299	S	I	
257	31303	S	A	
258	31304	S	A	
259	31305	S	A	I
260	31308	S	A	I
261	31311A	S		
262	31311B	S	A	
263	31311C	S	A	
264	31311D	S	I	
265	31311E	S	I	
266	31314	S	R	
267	31317	S	A	
268	31321	S	R	E
269	31323	S	R	E
270	31399	S	A	
271	31502A	A	C	
272	31502B	I	C	A
273	31505	C	S	
274	31508	C	S	
275	31511A	A	I	
276	31511B	I	C	
277	31511C	I	A	
278	31511D	A	R	
279	31511E	S	A	R
280	31514	S	A	
281	31517A	S	E	I
282	31517B	S	C	
283	31517C	I	R	E
284	31517D	S	I	
285	31521	S	C	
286	32102A	I		

Appendix E

obs	OU	H1	H2	H3
287	32102B	I	S	
288	32102E	I	A	S
289	32102F	I	R	
290	32102J	I	R	
291	32102U	I	R	
292	32105A	I	R	
293	32105B	I	R	S
294	32105D	I	R	S
295	32105F	I	R	
296	32105G	I	R	S
297	32108	I	R	
298	32111	S	I	
299	32113	I	R	S
300	32114A	I	R	
301	32114B	I	R	
302	32114C	I	R	C
303	32199	I	S	
304	32302	I	R	S
305	32305	S	R	
306	32308	S	R	I
307	32311A	S	R	
308	32311B	S	R	I
309	32314	S	I	
310	32317	S	A	R
311	32399A	S	R	I
312	32399B	S	R	
313	32502	S	I	
314	32505	S	R	I
315	32508	S	R	I
316	32511	I	S	
317	32514	E	C	R
318	32517	I	C	R
319	32518	C	R	
320	32521	I	E	S
321	32523	S	R	I
322	32902	I	R	
323	32905	R	I	C
324	32908	S	C	
325	32911*	C		
326	32913	S	R	I
327	32914	I	R	
328	32919	R	I	S
329	32921	R	C	I
330	32923	I	R	S
331	32925	I	R	S
332	32926	I	R	
333	32928	R	S	C
334	32931	S	R	

Appendix E

obs	OU	H1	H2	H3
335	32996A	E	S	C
336	32996B	S	E	
337	32996C	S	E	I
338	32999A	S	I	R
339	32999B	S	R	I
340	32999C	S	R	
341	32999D	R	S	I
342	32999E	S	R	I
343	34002A	A	E	I
344	34002B	A	I	
345	34002C	A		
346	34002D	A	S	E
347	34002E	E	A	C
348	34002F*	A	E	
349	34002G*	A	E	
350	34002H	A	S	I
351	34002J	A	S	C
352	34002L	A	E	S
353	34002M	I	A	C
354	34005	A	I	
355	34008	E	A	S
356	34011	A	I	E
357	34014	A	S	
358	34017	A	S	E
359	34021	S	A	E
360	34023A	A	R	
361	34023B	A	R	I
362	34026	A	R	
363	34028B	R	A	
364	34028C	R		
365	34032	A		
366	34035A	A	R	
367	34035B	A	R	
368	34035C	A	E	
369	34035D	A	E	
370	34035E	A	R	
371	34038A	A	E	
372	34038B	A	R	E
373	34038C	A	R	
374	34038D	A	R	E
375	34038E	A	E	
376	34038F	A	R	E
377	34041	A	E	
378	34044	A	R	E
379	34047A	A	S	E
380	34047B	A		
381	34047C	A	E	
382	34047E	A		

Appendix E

obs	OU	H1	H2	H3
383	34047F	A	C	E
384	34051	A		
385	34053A	A	S	R
386	34053B	A	S	E
387	34056A	A	E	S
388	34056B	A		
389	34056D	A	E	R
390	34056E	R	E	A
391	34056F	A	E	
392	34056G	A	E	
393	34056H	E	A	
394	34056J	A	E	S
395	34056K	R	A	E
396	34058A	E	R	S
397	34058B	S	R	
398	34058C	E	R	S
399	34058E	R	E	
400	34058F	R	E	
401	34058G	R		
402	34058L	E	S	R
403	39002	C	R	E
404	39005	R	I	C
405	39008	R	C	
406	39011	E	S	C
407	39014	R	C	
408	39999A	A	S	I
409	39999B	E	S	
410	39999C	C	I	
411	39999D	R	A	I
412	39999E	R		
413	39999G	C	I	S
414	39999H	R	I	
415	41002	E	C	
416	43002	E	S	C
417	43008	E	S	C
418	43011	E	C	S
419	43014A	E	C	
420	43014B	E	C	S
421	43017	E	C	S
422	43021	E	S	C
423	43023A	E	C	S
424	43023B	E	S	C
425	43099A	E	S	C
426	43099B	E	S	C
427	49002	E	R	I
428	49005A	E	R	S
429	49005B	E	S	R
430	49005C	E	R	

Appendix E

obs	OU	H1	H2	H3
431	49005D	E	R	
432	49005F	E	S	R
433	49005G	E	R	S
434	49008	E	S	
435	49011	E	S	
436	49014	E	R	C
437	49017	C	E	R
438	49021	R	C	E
439	49023A	C	E	R
440	49023B	C	R	E
441	49026	E	C	S
442	49032A	E	S	R
443	49032B	A	E	S
444	49999A	E	C	S
445	49999B	C	E	R
446	49999C	E	S	C
447	49999D	E	C	S
448	51002A	E	S	C
449	51002B	E	C	S
450	53102	C	E	
451	53105	C	E	S
452	53108	C	E	
453	53114	C	E	
454	53117	C	E	
455	53121	C	E	
456	53123	C	E	S
457	53126	C	E	S
458	53128	C	E	
459	53302	E	I	
460	53305	C	R	E
461	53311	C	E	
462	53314	C	E	
463	53502	S	C	E
464	53505	C	E	
465	53508	C	E	
466	53702	C	E	
467	53705	C	E	
468	53708	C	E	
469	53802	C	S	E
470	53805	C	E	S
471	53808	C	E	S
472	53902	C	R	
473	53905	S	C	
474	53908	C	E	
475	53911	C		
476	53914	C	E	
477	55102	C	E	
478	55105	C	E	

Appendix E

obs	OU	H1	H2	H3
479	55108	C	E	S
480	55302A	C	R	E
481	55302B	C		
482	55305	C	E	S
483	55307	C	R	
484	55314	C	E	S
485	55317	C	E	
486	55321	C	E	
487	55323	C	E	
488	55326	C	E	
489	55328A*	C		
490	55328B	C		
491	55332	C	S	E
492	55335	C	E	S
493	55338A	C	E	
494	55338B	C	E	
495	55341	C	E	
496	55344	C	E	
497	55347	C		
498	56002	C	R	
499	56005	C	R	
500	56008	R	C	
501	56011	C	R	
502	56014	R	C	
503	56017	C	R	
504	56021	C	R	
505	56099	C	R	
506	57102	C	R	S
507	57105	C	R	S
508	57108	C	R	S
509	57111	C	R	
510	57199	C	R	
511	57302	C	R	
512	57305	C	R	
513	57308	C	R	
514	57311A	R	C	
515	58002	S	C	R
516	58005	C	R	
517	58008	C	E	
518	58011	C	R	E
519	58014	C	R	
520	58017	C	R	
521	58021	C	R	
522	58023	C	R	
523	58026	C	E	R
524	58028	C	R	
525	58099A	C	R	I
526	58099B	C	R	

Appendix E

obs	OU	H1	H2	H3
527	58099C	C	R	
528	59999	C	R	E
529	61002A	R	E	S
530	61002B	R	E	S
531	61005	E	S	R
532	61008	E	C	R
533	61099A	E	R	
534	61099B	E	R	C
535	61099C	E	C	S
536	61099D	E	R	C
537	61099E	E	C	R
538	62031	R	S	
539	62041	S	A	
540	62061	S	R	
541	63002A	C	R	S
542	63002B	I	R	C
543	63005	R	C	I
544	63008A	R	S	
545	63008B	R	S	
546	63011A	E	S	
547	63011B	C	R	
548	63014A	S	R	E
549	63014B	R	E	
550	63017	R	S	
551	63021	C	R	E
552	63023	S	E	C
553	63026	S	E	R
554	63028A	E	I	
555	63028B	E	S	C
556	63032	S	E	R
557	63035	E	S	R
558	63038	E	S	R
559	63041	R	I	S
560	63044	S	R	C
561	63047	S	E	C
562	63099B	R	S	
563	63099C	S	R	
564	63099D	R	C	E
565	63099E	R	E	C
566	65002	E	S	R
567	65005	E	S	R
568	65008A	S	E	
569	65008B	E	S	A
570	65011	S	R	E
571	65014	R	E	S
572	65017	S	R	E
573	65021	R	A	E
574	65023	R	E	

Appendix E

obs	OU	H1	H2	H3
575	65026	R	E	
576	65028	R	C	S
577	65032	R	C	
578	65035	R	E	C
579	65038A	R	C	
580	65038B	R	C	
581	65041	R		
582	65099A	R		
583	65099B	R	C	E
584	66002	S	R	
585	66005	S	C	
586	66008	S	R	
587	66011	S	R	
588	66014	S	R	
589	66017	S	R	
590	66021	S	R	
591	66023	S	R	E
592	66097	R	C	
593	66099A	R		
594	66099B	R	S	C
595	66099D	S	R	
596	67002	R	C	S
597	67005	R		
598	67008	R	C	
599	67011	R	C	S
600	67099	R	C	
601	68002	R	S	E
602	68005A	E	S	A
603	68005B	A	R	
604	68005C	R	E	S
605	68008	E	S	R
606	68014A	R	C	E
607	68014B	E	C	
608	68017A	E	S	A
609	68017B	S	E	
610	68021	S	C	E
611	68023	E	R	S
612	68026	E	S	A
613	68028	E	S	
614	68032A	S	C	R
615	68032B	A	R	S
616	68035	S	R	
617	68038	S	A	
618	68041	S	E	
619	69999A	S	E	
620	69999B	S	E	
621	69999D	E	S	
622	69999E	S	E	

Appendix E

obs	OU	H1	H2	H3
623	72002A	E	R	
624	72002B	E	R	
625	72002C	R	E	S
626	72002D	R	E	
627	72002E	R	E	
628	72002F	R	E	
629	72002G	R	E	
630	73002	R	C	
631	73005	R		
632	73011	R		
633	73099A	R		
634	73099B	R	C	
635	73099C	R	C	
636	73099D	R	C	E
637	73099E	R		
638	79002A	R	I	
639	79002B	R	C	
640	79005	R		
641	79008	R	C	E
642	79011	R	C	
643	79015	R	I	
644	79016	S	R	E
645	79017A	R		
646	79017B	R		
647	79017C	R	A	
648	79017D	R	I	
649	79021	R		
650	79030B	R	A	
651	79033	R	A	
652	79036	R		
653	79041	R		
654	79806	R	I	S
655	79855	R	E	
656	79856	R		
657	79858	R	C	I
658	79999A	R	C	
659	79999B	R		
660	79999C	R	I	E
661	79999D	R	E	C
662	79999E	R	E	
663	79999F	R		
664	79999G	R	I	
665	79999H	R		
666	79999J	R	I	
667	79999K	E	R	C
668	79999L	E	R	C
669	79999M	E	R	C
670	79999N	R		

Appendix E

obs	OU	H1	H2	H3
671	79999P	R		
672	81002	E	R	C
673	81005A	E	R	C
674	81005B	E	R	C
675	81008	E	R	C
676	81011	E	R	C
677	81017	E	C	R
678	83002A	R	C	
679	83002B	R	C	
680	83002C	R	C	
681	83002D	R	C	I
682	83005A	R	C	
683	83005B	R	C	
684	83008A	R	C	
685	83008C	R	C	
686	83008D	C	R	
687	83099	R	C	E
688	85112	R	C	
689	85113	R	C	
690	85116A	R	C	
691	85116B	R		
692	85116C	R		
693	85118	R	I	
694	85119A	R		
695	85119B	R	C	
696	85119C	R		
697	85123A	R	I	
698	85123B	R	I	
699	85126	R		
700	85128A	R	C	
701	85128B	R	C	
702	85132	R	C	
703	85302A	R	C	
704	85302B	R	C	
705	85305A	R	C	
706	85305B	R	C	
707	85305C	R		
708	85305D	R	E	C
709	85308	R		
710	85311A	R	C	
711	85311B	R	C	
712	85314	R		
713	85317	R	C	
714	85321	R		
715	85323A	R	I	
716	85323B	R	C	
717	85326	R	I	
718	85328A	R	I	

Appendix E

obs	OU	H1	H2	H3
719	85328B	R	C	
720	85502	R	I	C
721	85505	R	C	
722	85508	R	C	
723	85511	R	C	
724	85514	R	C	I
725	85599A	R	C	
726	85599B	R	I	E
727	85599C	R		
728	85702	R		
729	85705	R	C	I
730	85708	R	C	
731	85711A	R		
732	85711B	R		
733	85714A	R	C	
734	85714B	R	C	
735	85714C	R		
736	85714D	R		
737	85717A	R	I	C
738	85717B	R	C	
739	85721	R	I	C
740	85723	R	C	
741	85726	R	C	
742	85728A	R	I	C
743	85728B	R	C	
744	85799	R	C	
745	85902A	R	C	
746	85902B	R	C	
747	85905	R	I	
748	85908	R	I	
749	85911	R		
750	85914	R		
751	85917	R	C	
752	85921A	R	A	
753	85921B	R	A	
754	85921C	R	A	
755	85921D	R	A	
756	85923	R	C	
757	85926	R	C	
758	85928A	R	C	
759	85928B	R	C	
760	85928C	R		
761	85928D	R	C	
762	85932	R		
763	85935	R	E	
764	85938	R		
765	85944	R		
766	85947	R		

Appendix E

obs	OU	H1	H2	H3
767	85951	R	C	
768	85953	R		
769	85956A	R	C	
770	85956C	R	C	
771	85998	R	C	
772	85999A	R		
773	85999B	R	C	
774	85999C	R	C	
775	85999D	R		
776	85999E	R		
777	85999F	R		
778	85999G	R		
779	87102A	R		
780	87102B	R	C	
781	87102C	R		
782	87102D	R	C	
783	87102E	R	C	
784	87102F	R		
785	87105	R		
786	87108	R		
787	87111	R		
788	87114	R		
789	87121	R		
790	87202A	R	I	
791	87202C	R		
792	87302	R		
793	87305B	R		
794	87308	R	C	
795	87311	R		
796	87314	R	C	
797	87317	R	C	
798	87402A	R		
799	87402B	R		
800	87502A	R		
801	87502B	R		
802	87505	R		
803	87508	R	C	
804	87511	R		
805	87602	R		
806	87605	R		
807	87608	R		
808	87702	R		
809	87705	R		
810	87708	R		
811	87711	R		
812	87714A	R		
813	87714B	R		
814	87714C	R		

Appendix E

obs	OU	H1	H2	H3
815	87802	R		
816	87808	R		
817	87811	R		
818	87814	R		
819	87817	R		
820	87899A	R		
821	87899B	R		
822	87899C	R		
823	87899D	R	C	
824	87899E	R		
825	87899F	R		
826	87899G	R		
827	87899H	R		
828	87899J	R		
829	87899K	R		
830	87899L	R		
831	87899M	R	C	
832	87902A	R		
833	87902B	R		
834	87905	R	C	
835	87908	R		
836	87911	R	C	
837	87914	R		
838	87917	R		
839	87921	R		
840	87923	R	C	
841	87941	R	C	
842	87943	R	C	
843	87949A	R	C	
844	87949B	R		
845	87989A	R	C	
846	87989B	R	C	
847	87999	R	C	
848	89102	R	C	
849	89105	R	I	C
850	89108	R	I	C
851	89111	R	C	
852	89114A	R	C	I
853	89114B	R	C	
854	89117	R	C	
855	89121	R	C	
856	89123A	R	E	C
857	89123B	R	C	
858	89126C	R		
859	89126E	R	C	
860	89126K	R		
861	89128	R		
862	89132	R		

Appendix E

obs	OU	H1	H2	H3
863	89135	R		
864	89199	R		
865	89302A	R	C	
866	89302C	R	C	
867	89305	R	C	
868	89308	R	C	
869	89311	R		
870	89314	R		
871	89397A	R		
872	89397B	R		
873	89398	R	C	
874	89502A	R	C	
875	89502B	R	C	
876	89502D	R	C	
877	89505A	R	C	
878	89505B	R	A	
879	89508	R		
880	89511	R	A	
881	89514	R	C	
882	89517	R	C	
883	89521	R	I	C
884	89599A	R	C	
885	89599B	R	A	
886	89599C	R	C	
887	89599D	R		
888	89599E	R	C	
889	89599F	R		
890	89702	R	C	
891	89705	R	C	
892	89706	R	C	
893	89707	R	A	
894	89712	R	A	
895	89713	R	A	
896	89715	R	C	
897	89717	R	C	
898	89718	R	C	
899	89719A	R	C	
900	89719B	R	C	
901	89721	R	A	
902	89799A	R	C	
903	89799B	R	C	
904	89802	R		
905	89805	R		
906	89808	R		
907	89899	R	C	
908	89902	R	C	
909	89905A	R	C	
910	89905B	R	C	

Appendix E

obs	OU	H1	H2	H3
911	89905C	R	A	
912	89905D	R	C	
913	89905F	R	A	
914	89908A	R	C	
915	89908B	R	C	
916	89908C	R	C	
917	89908D	R	A	C
918	89911A	A	R	C
919	89911B	R	A	
920	89911C	R	A	
921	89911D	R	A	
922	89911E	R	C	A
923	89911G	R	A	
924	89914A	A	R	
925	89914B	R	C	
926	89914C	R	A	
927	89914D	R		
928	89917A	R	C	
929	89917D	R	C	
930	89921	R	I	C
931	89923	R	I	
932	89926A	R		
933	89999A	R	C	A
934	89999B	R	A	
935	89999C	R	C	
936	91102	R	C	
937	91105	R	C	
938	91108	R	C	
939	91111	R	C	
940	91114A	R	C	
941	91114B	R	C	
942	91117	R	C	
943	91302	R	C	
944	91305	R	C	
945	91308	R	C	
946	91311	R	C	
947	91314	R	C	
948	91317	R	C	
949	91321	R	C	
950	91502	R	C	
951	91505	R	C	
952	91508	R	C	
953	91702	R	C	
954	91705	R	C	
955	91708	R	C	
956	91711	R	C	
957	91714	R	C	
958	91902	R	C	

Appendix E

obs	OU	H1	H2	H3
959	91905	R	C	
960	91908	R	C	
961	91911	R	C	
962	91914	R	C	
963	91917	R	C	
964	91921	R	C	
965	91923	R	C	
966	91926	R	C	
967	91928	R	C	
968	91932	R	C	
969	91935	R	C	
970	91938	R	C	
971	92197	R	C	
972	92198	R	C	
973	92302	R	C	
974	92305	R		
975	92308	R	C	
976	92311	R		
977	92314	R	C	
978	92512	R	C	
979	92515	R	C	
980	92519	R	C	
981	92522A	R		
982	92522B	R	C	
983	92524	R	C	
984	92525	R	C	
985	92529A	R	C	
986	92529B	R	C	
987	92529C	R	C	
988	92529D	R	C	
989	92529E	R	C	
990	92541	R	C	
991	92543	R	C	
992	92545	R	C	
993	92546	R	C	
994	92549	R	C	
995	92702	R	C	
996	92705	R	C	
997	92708	R	C	
998	92711	R	C	
999	92714	R	C	
1000	92717	R	C	
1001	92721	R	C	
1002	92723	R	C	
1003	92726	R	C	
1004	92728	R	C	
1005	92902A	R	C	
1006	92902B	R	C	

Appendix E

obs	OU	H1	H2	H3
1007	92902C	R	I	
1008	92902D	R	C	
1009	92902E	R	C	
1010	92902G	R	C	
1011	92905	R	C	
1012	92908	R	C	
1013	92911	R	C	
1014	92914	R	C	
1015	92917	R	C	
1016	92921	R	C	
1017	92923	R	C	
1018	92926	R	C	
1019	92928	R	C	
1020	92932	R	C	
1021	92935	R	C	
1022	92938	R	C	
1023	92941A	R	C	
1024	92941B	R	C	
1025	92941D	R	C	
1026	92944	R	C	
1027	92947	R	C	
1028	92951	R	C	
1029	92953	R	C	
1030	92956	R	C	
1031	92958	R	C	
1032	92962	R	C	
1033	92965	R	C	
1034	92968	R	C	
1035	92971	R	C	
1036	92974	R	C	
1037	92997	R	C	
1038	92998	R	C	
1039	93102B	R		
1040	93102C	R		
1041	93102D	R		
1042	93105	R	C	
1043	93108	R	C	
1044	93111A	R		
1045	93111B	R	I	
1046	93114	R	C	
1047	93117	R	C	
1048	93197A	R		
1049	93197C	R	C	
1050	93902	R	C	
1051	93905A	R	C	
1052	93905B	R	C	
1053	93905C	R	C	
1054	93905D	R	C	

Appendix E

obs	OU	H1	H2	H3
1055	93908	R		
1056	93914A	R		
1057	93914B	R	C	
1058	93914C	R	I	
1059	93917A	R	C	
1060	93917B	R	C	
1061	93921	R	C	
1062	93923B	R	C	
1063	93926B	R		
1064	93926D	R	C	
1065	93926E	R		
1066	93928	R		
1067	93932	R	C	
1068	93935	R	C	
1069	93938	R	C	
1070	93941	R	C	
1071	93944A	R	C	
1072	93944D	R		
1073	93947B	R	A	
1074	93947E	R		
1075	93951A	R	C	
1076	93951B	R	A	
1077	93951C	R	A	
1078	93951D	R	A	
1079	93953	R		
1080	93956	R	C	
1081	93997	R	C	
1082	93998	R	C	
1083	93999	R	C	
1084	95002A	R	C	
1085	95002B	R	C	
1086	95005A	R	C	
1087	95005B	R	C	
1088	95008	R	C	
1089	95011	R	C	
1090	95014	R	I	C
1091	95017	R	C	
1092	95021	R	C	
1093	95023	R	C	
1094	95026	R	C	
1095	95028	R	C	
1096	95032	R	C	
1097	95099	R	C	
1098	97102A	R		
1099	97102B	R	C	
1100	97105	R	C	
1101	97108	R	S	C
1102	97111	R	S	

Appendix E

obs	OU	H1	H2	H3
1103	97114	R	E	
1104	97117	E	R	S
1105	97199	R		
1106	97302	R	E	C
1107	97305	R	C	
1108	97308	R	C	
1109	97311	R	C	
1110	97314	R	C	
1111	97317A	R	C	
1112	97317B	R	C	
1113	97399A	R	C	
1114	97399B	R	C	
1115	97502A	E	R	
1116	97505	R	E	C
1117	97508	R	E	
1118	97511	R	E	
1119	97514	R	C	
1120	97517	R	C	
1121	97521	R	E	C
1122	97702B	R	E	I
1123	97702C	R	I	C
1124	97702D	R	I	S
1125	97702E	R	C	I
1126	97702H	R	C	I
1127	97702J	R	E	
1128	97802	R	C	
1129	97805	R	E	C
1130	97808	R	E	
1131	97899A	R		
1132	97899B	R	C	
1133	97902	R	C	
1134	97905	R		
1135	97908	R	C	
1136	97911	R	C	
1137	97914	R	I	C
1138	97917	R	C	
1139	97921	R	C	
1140	97923A	R	C	
1141	97923B	R	C	
1142	97926	R	C	
1143	97928	R	C	
1144	97932	R	C	
1145	97935	R	C	
1146	97938	R	C	
1147	97941	R	C	
1148	97944	R	C	
1149	97947	R	C	
1150	97951	R	C	

Appendix E

obs	OU	H1	H2	H3
1151	97953	R	C	
1152	97956	R	I	
1153	97989A	R	C	
1154	97989B	R	C	
1155	98102	R	C	
1156	98311	R	C	
1157	98312	R	C	
1158	98313	R	C	
1159	98314	R	C	
1160	98315	R	C	
1161	98319	R	C	
1162	98323	R	C	
1163	98502	R	C	
1164	98702	R	C	
1165	98705	R	C	
1166	98799A	R	C	
1167	98799B	R	C	
1168	98902A	R	C	
1169	98905	R	C	
1170	98999A	R		
1171	98999B	R		
1172	99003	R	E	C

Appendix F

Selection Summary for the Complete Stepwise Discriminant Analysis for Empirical OU Method

Appendix F

Step	Variable Entered/Removed	Wilks' Lambda	ASCC
1	interpret meaning of info for others	0.33537410	.13292518
2	therapy and counseling	0.15785694	.23554327
3	Negotiation	0.07617631	.33348981
4	Clerical	0.03747772	.43319362
5	fine arts	0.02142386	.51601776
6	Science	0.01453650	.54983311
7	equipment maintenance	0.01084710	.57061381
8	staffing organization units	0.00942929	.58327218
9	sales and marketing	0.00812599	.59495220
10	keeping or regaining balance	0.00717204	.60144204
11	idea generation	0.00643088	.60999067
12	legal, government, and jurisprudence	0.00576936	.61661855
13	economics and accounting	0.00523587	.62473685
14	medicine and dentistry	0.00476801	.63266379
15	assisting and caring for others	0.00418886	.64140268
16	importance of exactness	0.00390358	.64647306
17	est. maintain interpersonal relationships	0.00365002	.65200887
18	comm. w/persons outside organization	0.00342253	.65705645
19	sociology and anthropology	0.00322019	.66078288
20	scheduling work and activities	0.00303253	.66583302
21	making decisions and solving problems	0.00286041	.66973812
22	persuade someone to a course of action	0.00269790	.67445593
23	Originality	0.00254861	.67824634
24	solution appraisal	0.00240513	.68196650
25	bending or twisting the body	0.00228184	.68569680
26	organizing, planning, prioritizing work	0.00216546	.68922579
27	Programming	0.00204975	.69214346
28	computers and electronics	0.00190959	.69655271
29	high places (degree)	0.00180638	.69851119
30	customer and personal service	0.00172658	.70182844
31	perform/work directly with public	0.00164771	.70433279
32	Transportation	0.00158248	.70631042
33	responsibility for work outcomes/results	0.00151762	.70907900
34	coaching and developing others	0.00144330	.71271186
35	foreign language	0.00138312	.71537333
36	job required social interaction	0.00132919	.71691468
37	hazardous situations	0.00128625	.71868829
38	specialized projective attire	0.00123376	.72054379
39	synthesis/reorganization	0.00119633	.72258147
40	Biology	0.00115990	.72434662
41	oral expression	0.00112168	.72567524
42	Persuasion	0.00108537	.72773103
43	objectivity vs. subjectivity of info	0.00105267	.72954666
44	how freq. job req. place worker...	0.00101643	.73153570
45	responsibility for others health/safety	0.00098384	.73325815
46	hazardous situations (degree)	0.00095568	.73493166
47	coordinate or lead others	0.00092640	.73665556
48	service orientation	0.00089868	.73814154
49	arm-hand steadiness	0.00087343	.73964777

Appendix F

Step	Variable Entered/Removed	Wilks' Lambda	ASCC
50	category flexibility	0.00084454	.74103630
51	take a position opposed to coworkers	0.00082004	.74253867
52	documenting/recording information	0.00079798	.74391481
53	sound/noise levels uncomfortable	0.00077596	.74518243
54	reading comprehension	0.00075498	.74593660
55	comm. w/ supervisors, peers, subordinates	0.00073574	.74716845
56	rate control	0.00071681	.74790148
57	mathematics (math and science)	0.00070082	.74937922
58	Mechanical	0.00068421	.75074282
59	performing administrative activities	0.00066923	.75182773
60	communications and media	0.00065526	.75307149
61	coordinating work & activities of others	0.00064151	.75437643
62	visual color discrimination	0.00062861	.75530253
63	Sitting	0.00061611	.75615048
64	manual dexterity	0.00060342	.75710801
65	Visioning	0.00059155	.75819662
66	philosophy and theology	0.00057773	.75932647
67	history and archeology	0.00056167	.76019508
68	technology design	0.00054924	.76153823
69	systems perception	0.00053568	.76276270
70	draft, lay-out, specify tech. Devices	0.00052364	.76399168
71	flexibility of closure	0.00051168	.76476653
72	perceptual speed	0.00049998	.76549737
73	inductive reasoning	0.00048844	.76646826
74	administration and management	0.00047813	.76747927
75*	sociology & anthropology	0.00048294	.76711927
76	speech recognition	0.00047311	.76820328
77	diseases/infections	0.00046420	.76870600
78	Writing	0.00045610	.76960081
79	identification of downstream consequences	0.00044796	.77040282
80	critical thinking	0.00043965	.77115539
81	monitor processes, materials…	0.00043242	.77213424
82	identifying objects, actions, and events	0.00042428	.77312454
83	problem identification	0.00041665	.77396468
84	get information needed to do the job	0.00040993	.77445369
85	control precision	0.00040264	.77506049
86	handling and moving objects	0.00039565	.77594789
87	monitoring and controlling resources	0.00038867	.77666586
88	consequences of error	0.00038191	.77745325
89	active learning	0.00037561	.77826733
90	Monitoring	0.00036886	.77900686
91	food production	0.00036295	.77971711
92	production and processing	0.00035704	.78026689
93	hazardous situations	0.00035098	.78068159
94	processing information	0.00034507	.78135565
95	wrist-finger dexterity	0.00033978	.78189634
96	management of financial resources	0.00033433	.78243970
97	Memorization	0.00032883	.78313897
98	information gathering	0.00032376	.78368516
99	selective attention	0.00031883	.78438986

Appendix F

Step	Variable Entered/Removed	Wilks' Lambda	ASCC
100	judge qualifications of objects, services…	0.00031409	.78512386
101	resolve conflicts and negotiate w/others	0.00030918	.78583443
102	reaction time	0.00030476	.78623773
103	inspect equip, structures, or materials	0.00030066	.78702413
104	far vision	0.00029668	.78747643
105*	rate control	0.00029992	.78703149
106	active listening	0.00029535	.78776782
107	public safety and security	0.00029146	.78817297
108	implementation planning	0.00028778	.78880450
109	importance of repeating same physical activities	0.00028375	.78934494
110	kneel, crouch, stoop, or crawl	0.00028002	.78993397
111	repair/maintain electronic equipment	0.00027609	.79045594
112*	equipment maintenance	0.00027833	.79014724
113*	bending or twisting body	0.00028123	.78957505
114	building and construction	0.00027711	.79021949
115	Radiation	0.00027323	.79104004
116	time sharing	0.00026963	.79158333
117	information organization	0.00026607	.79210718
118*	synthesis/reorganization	0.00026897	.79149439
119	Visualization	0.00026559	.79194724
120*	systems perception	0.00026858	.79146871
121	thinking creatively	0.00026496	.79213057
122	update and using job-relevant knowledge	0.00026102	.79294232
123	analyzing data	0.00025786	.79332660
124	radiation (var. removed)	0.00026076	.79270355
125*	mathematics (math & science)	0.00026356	.79207276
126	multi limb coordination	0.00026039	.79270949
127	how freq. job requires worker to deal...	0.00025724	.79323761
128	Instructing	0.00025410	.79384532
129	fluency of ideas	0.00025113	.79434967

Note. ASCC is the average squared canonical correlation. An asterisk after a step number indicates the variable has been removed in the selection process.