Code Type-Specific Tables for Interpretation of MMPI-2 Harris and Lingoes Subscales: Consideration of Gender and Code Type Definition

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Normative tables for various MMPI-2 code types, which may be used to enhance the interpretation of the Harris and Lingoes subscales, were developed. It was found that scores on the subscales covaried significantly as a function of code type. Gender and code type definition strategy were considered as moderators of the relationship between code type and subscale scores, but neither accounted for a large enough proportion of variance to justify consideration in the tables. © 1998 John Wiley & Sons, Inc. J Clin Psychol 54: 655–664, 1998.

The Harris and Lingoes (1955) subscales were developed to aid the interpretation of six clinical scales from the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1983). For each of the six scales, the authors intuitively grouped the items according to content. For example, Harris and Lingoes identified five general content areas for the MMPI Depression scale (scale 2): Subjective Depression, Psychomotor Retardation, Physical Malfunctioning, Mental Dullness, and Brooding. Two individuals with similar *T* scores on scale 2 are expected to be roughly equivalent in terms of the severity of their depression, but if one has an elevated score on the Subjective Depression subscale, whereas the Psychomotor Retardation and Mental Dullness scores are elevated for the other, the presentation of the depression is expected to be very different.

Questions have been raised about the development of the subscales. Miller and Steiner (1985) found that when independent judges were asked to develop subscales for the same six

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clinical scales, they generally did not suggest the Harris and Lingoes content categories. Even so, some research indicates the subscales can enhance interpretation of the profile (e.g., Hyer, Harkey, & Harrison, 1986), and standard texts on the MMPI tend to recommend them as an adjunct to the traditional scales (Graham, 1987; Greene, 1991). Item numbers and *T* score conversion tables for the Harris and Lingoes subscales are provided in the manual for the revised MMPI (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989), and continued use of the subscales is insured by their inclusion in automated scoring programs for the MMPI.

Interpretation of the Harris and Lingoes subscales is traditionally based on *T* scores derived from the normative MMPI sample. The *T* score conversion table provided in the MMPI-2 manual reflects scores on the Harris and Lingoes subscales for a general sample of 2600 adults. In the next section we will make the case that more precise interpretation of the subscales is possible when they are also compared to code type-specific norms.

CODE TYPE-SPECIFIC INTERPRETATION

Once an MMPI profile is determined to be valid, the code type becomes the central element in the interpretation. The code type is defined by the one to three most clinically elevated scales ($T \geq 65$). For example, a person whose Depression scale is the only clinically elevated scale demonstrates a "Spike 2" code type, whereas an individual whose highest elevations are on scales 1 and 2 demonstrates a 1–2 two-point code type. Some three-point code types have also been studied, such as the 1–2–3 and 2–7–8 code types.

In most actuarial studies of the MMPI, respondents are divided into groups primarily on the basis of code type (Gilberstadt & Duker, 1965; Gynther, Altman, & Sletten, 1973b; Kelley & King, 1979a,b; Marks & Seeman, 1963; Marks, Seeman, & Haller, 1974), although this point merits qualification. Greene (1991) has suggested a strategy for interpreting the other clinical scales in light of the code type. For each MMPI code type, Greene provided prototypic scores for each of the traditionally scored scales. The interpretation of other scales can then be modified to account for the expected elevation for individuals with a given code type.

For example, a *T* score of 65 on the Psychopathic Deviate scale (scale 4) would traditionally be interpreted as suggesting an individual with significant family conflict, a generalized sense of dissatisfaction, and, perhaps, the potential to react to stress in an impulsive and possibly hostile manner. Greene (1991) found that among individuals with a 6–8/8–6 code type, a code type traditionally associated with the presence of paranoid schizophrenia, the mean *T* score for the Psychopathic Deviate scale was 73.7 ($SD = 12.9$). If an individual with a 6–8/8–6 code type achieves a *T* score of 65 on scale 4, this individual may actually demonstrate less of a tendency toward such behaviors than the typical paranoid schizophrenic, although one would still expect the tendency to be greater than in the average person. In other words, the MMPI scales should be interpreted in light of general normative data. However, a more precise interpretation of the scales is possible when code type-specific data are also considered.

The same strategy is equally applicable to the Harris and Lingoes subscales. It is expected that the interpretation of the Harris and Lingoes subscales can be enhanced by comparing the subscale scores to both general and code type-specific normative data.

CODE TYPE DEFINITION

In conducting a study involving code types, it is important to consider what strategy will be used to determine code type. Tellegen and Ben-Porath (1993) have pointed out that the optimal strategy for defining code types will demonstrate both inclusiveness (allowing classification of most profiles) and group homogeneity. Earlier actuarial studies (Gilberstadt & Duker, 1965; Marks & Seeman, 1963) emphasized group homogeneity. In addition to demonstrating a particular code type, to be included in a given code type group these authors required that the

profile meet as many as eight additional conditions. The additional conditions usually required subclinical elevation on designated clinical scales or a minimum difference between the code type scales and designated clinical scales.

The rigorous conditions required by these authors insured that the resulting groups were very homogeneous. However, application of their rule sets in other settings often allowed less than half of MMPIs to be classified (e.g., Fowler & Coyle, 1968). Subsequent actuarial studies have tended to base classification on the code type alone to improve inclusiveness (Archer, Griffin, & Aiduk, 1995; Gynther, Altman, Warbin, & Sletten, 1972; Kelley & King, 1979a,b).

Gynther et al. (1972) described the most inclusive approach. If two or more clinical scales were tied for the second position, the numerically lowest scale was given precedence. For example, if scales 1, 2, and 3 were all equally elevated, the profile was assigned to the 1–2 code type group. This strategy is the only one described in the literature that allowed classification of all valid profiles.

Tellegen and Ben-Porath (1993) have criticized the Gynther et al. (1972) strategy for producing overly heterogeneous code type groups. One piece of evidence used to support this contention is the small number of descriptors Gynther and his colleagues reported for their code types compared to earlier actuarial studies. However, the relatively small number of correlates Gynther et al. reported largely resulted from their decision to report only replicated findings. This requirement reduced the number of significant findings from 207 to 65 (Gynther, Altman, & Sletten, 1973a). When they updated their research, Marks et al. (1974) were sufficiently impressed by the work of Gynther and his colleagues (1973) that they relaxed their classification rules, in many cases eliminating all requirements except the code type requirement.

A more compelling argument for suggesting that the Gynther et al. (1972) strategy will produce heterogeneous groups is derived from work by Graham, Smith, and Schwartz (1986), who found that poorly defined code types (in which the second highest scale in 2-point code type differs from the third highest scale by only 0–2 *T* points) are not stable over time. This led Graham, Timbrook, Ben-Porath, and Butcher (1991) to recommend only interpreting well-defined code types; that is, code types in which the lowest *T* score for a code type scale is at least 5 points higher than that of the next highest clinical scale.

THE PRESENT STUDY

The issue of group homogeneity has clear relevance to the present study. If the goal of generating code type-specific data for the Harris and Lingoes subscales is to allow comparison to a more specific normative group, it is important to insure a reasonable level of specificity in that group. However, the more stringent the requirements for inclusion in the comparison group, the less clinically useful the data will be because the number of profiles that can be compared to that group is reduced. The well-defined code type seems to provide something of a middle ground because it requires only two rules for inclusion. On the other hand, Dahlstrom (1992; see also Humphrey & Dahlstrom, 1995) has criticized the well-defined criterion on the grounds that it is arbitrary and untested. Although the former criticism seems unjustified (the 5-point criterion was clearly based on empirical data), the impact of eliminating purely defined code types on the validity coefficients associated with actuarial statements has not yet been evaluated.

The decision was made to base code type definition in the present study on the most inclusive set of guidelines, which we have been calling the "Gynther et al. strategy.'' At the same time, we decided it was important to evaluate whether or not limiting the analysis to well-defined code types would affect the results.

The present study focused on several issues. First, a code type-specific interpretive strategy only makes sense if Harris and Lingoes subscale scores covary significantly with code type; therefore, the strength of the relationship between code type and subscale scores was evaluated. Second, to determine whether more specifically defined groups would affect the

data, gender and code type definition strategy were considered to be moderators of the relationship between code type and subscale scores. Finally, code type-specific normative tables for the Harris and Lingoes subscales were developed.

METHOD

Participants

The initial sample consisted of 988 psychiatric inpatients who completed the MMPI-2 during the period 1993–1995. The questionnaire was administered at the time of hospitalization. As a safeguard against invalid protocols, any patient who left more than 15 items blank, had a *T* score greater than 64 on scale *L* or *K*, or had a *T* score greater than 90 on scale *F* was eliminated from the sample. Using the guidelines for code type identification outlined below, 14 code types were retained for the data analysis. Patients who did not demonstrate one of the 14 target code types were also eliminated from the sample, which reduced the number of usable MMPI-2s to 483. The frequency of each code type and other descriptive statistics for the final sample may be found in Table 1.

Procedure

The following rules were used to determine code type. Scales *Mf* and *Si* were not considered when defining code type because code types including these scales are relatively unusual and

Table 1. *Code Types Occurring with Sufficient Frequency and Demographic Data*

	Frequency
Code Type	
1-2	18
1-3	21
2-3	58
2-4	57
2-6	35
2-7	72
2-8	30
3-7	20
4	19
4-6	40
4-8	34
4-9	19
6-8	25
7-8	35
Gender	
Female	266
Male	217
Marital status	
Divorced	67
Married	150
Separated	31
Single	217
Widowed	14
Age	
M	37.0
SD	13.6
Education	
M	13.6
SD	4.1

have not been commonly studied. Profiles in which none of the remaining eight clinical scales was elevated ($T \geq 65$) were excluded. Order of the code type scales was also not considered, thus a profile would fit the 1–2 code type whether scale 1 or scale 2 was higher.

In cases in which only one of the remaining eight clinical scales as elevated, this scale was used as the code type. Identification of a 2-point code type for the remaining profiles was based on the Gynther et al. (1972) strategy, such that in cases of ties, numerically lower scales took precedence.[1] A code type was retained for additional analyses if at least 18 patients demonstrated the code type. This minimum is consistent with recent code type research on the MMPI (e.g., Archer et al., 1995). Table 1 demonstrates that of the 14 code types retained, only three were associated with group sizes smaller than 20.

RESULTS

Covariation of Code Type and Subscales

The question of whether a relationship exists between code type and subscale score elevations was addressed from two perspectives. The first set of analyses, summarized in Table 2, was conducted to evaluate how well code type accounted for scores on each of the 28 Harris and Lingoes subscales. The second set, summarized in Table 3, examined how well Harris and Lingoes subscale scores accounted for variability in code type classification.

Prediction of Subscale Scores. Univariate analyses of variance using code type as the categorical variable and individual Harris and Lingoes subscales as the dependent variables were conducted. All 28 analyses were significant; code type was found to be a predictor of every Harris and Lingoes subscale. The proportion of subscale variance accounted for by code type varied between .123 and .399 ($M = .238$).

We were interested in whether these relationships could be explained primarily by the difference one would expect in subscale elevation depending on whether or not the corresponding scale is present in the code type. For example, the relationship between code type and the Subjective Depression subscale score could be considered trivial if the relationship exists purely because code types containing scale 2 are associated with more subjective depression than code types that do not contain scale 2.

To address this possibility, a second binary predictor was generated for each subscale based on whether or not the corresponding MMPI scale was contained in the code type. For the scale 4 subscales, for example, this meant that code types were categorized according to those including or not including scale 4. Simultaneous regression demonstrated that in every case code type remained a significant predictor of subscale score even after controlling for the binary predictor (see Table 2). It was concluded that the relationship between code type and subscale scores could not be explained by the presence or absence of the corresponding scale in the code type.

Prediction of Code Type. The second set of analyses began with a multivariate analysis of variance using code type as the categorical variable and the Harris and Lingoes raw subscale scores as dependent variables. The test was significant, $F(364,5268) = 5.833$, $p < .001$, and the first canonical correlation was .826, suggesting that overall a relationship existed between code type and the linear combination of subscale elevations.

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[1] Originally we also considered several commonly researched 3-point code types. Those that were present in sufficient numbers were associated with relatively poor results in the classification analysis, suggesting that in terms of Harris and Lingoes subscale scores, 3-point code types are not clearly distinguishable from similar 2-point codes. Therefore, we decided to eliminate the 3-point codes from the analysis.

Table 2. *Results for Individual Harris and Lingoes Subscales*

Subscale	η^2	Incremental Validity *F*
D1	.399**	10.475**
D2	.290**	4.637**
D3	.239**	5.639**
D4	.292**	8.979**
D5	.270**	7.032**
Hy1	.357**	13.787**
Hy2	.219**	2.096*
Hy3	.308**	14.838**
Hy4	.275**	10.402**
Hy5	.123**	1.841*
Pd1	.197**	2.730**
Pd2	.243**	3.222**
Pd3	.325**	14.162**
Pd4	.144**	5.761**
Pd5	.137**	6.139**
Pa1	.269**	3.846**
Pa2	.202**	6.436**
Pa3	.173**	7.446**
Sc1	.294**	6.872**
Sc2	.203**	7.127**
Sc3	.282**	9.965**
Sc4	.288**	12.778**
Sc5	.224**	5.304**
Sc6	.251**	5.877**
Ma1	.157**	3.450**
Ma2	.128**	3.848**
Ma3	.237**	9.863**
Ma4	.150**	5.433**

Note.—Degrees of freedom for *F* tests associated with η^2 were (13,469). Incremental validity *F* refers to the *F* value when evaluating code type over and above the presence or absence of the corresponding scale in the code type. Degrees of freedom for these *F* values were (12,469).
*$p < .05$ **$p < .001$

A discriminant function analysis was then conducted to examine how accurately the Harris and Lingoes subscales could classify patients into each of the 14 code types. Table 3 provides classification accuracy for the discriminant function analysis. Harris and Lingoes subscale scores correctly identified code type in 72% of cases. Six code types (1–2, 3–7, 4, 4–6, 4–9, and 6–8) reached accuracy rates of 80% or greater, suggesting that these code types are associated with particularly unique patterns of subscale results. For those code types in which the accuracy rate was relatively low (2–4, 2–7, and 2–8), the pattern of Harris and Lingoes data is likely to be more diverse and will frequently resemble that of other code types.

Summary. To summarize, the results of the first set of analyses indicated that Harris and Lingoes subscale scores covary significantly with code type. This is true for every Harris and Lingoes subscale (see Table 2) and does not seem to be a function of whether or not the clinical scale on which the subscale resides is a component of the code type. In addition, the classification analysis indicates that most code types can be identified well from the pattern of Harris and Lingoes subscale scores.

Table 3. *Results for Code Type Classification Analyses*

Code Type	Classification Rate
1-2	89
1-3	67
2-3	72
2-4	61
2-6	74
2-7	51
2-8	63
3-7	85
4	84
4-6	88
4-8	76
4-9	89
6-8	92
7-8	69
Overall	72

Note.—Values report the percent of cases for each code type correctly classified.

Gender and Code Type Definition Strategy

Gender differences were not examined for a code type unless there were at least 18 females and 18 males in the group. Three code types met this criterion. To examine code type definition strategy, code types were divided into well-defined and poorly defined groups using the criterion suggested by Graham et al. (1991). A well-defined code type was one in which the *T* score for the least elevated code type scale was at least 5 points greater than that of the next highest scale. A poorly defined code type did not meet this criterion. Again, definition strategy was not examined for a code type unless the group included at least 18 well-defined and 18 poorly defined protocols, which was true for four of the code types.

For each of the code types with sufficient sample sizes, two-tailed *t* tests were computed for each Harris and Lingoes subscale using either gender or definition group as the categorical variable. Table 4 provides the mean proportion of subscale variance accounted for by each potential moderator. Overall, the results suggested that at least in terms of the relationship between code type and Harris and Lingoes subscale scores, neither gender nor code type definition strategy is an important moderator. Out of 84 *t* tests involving gender as the categorical variable and individual subscales as the continuous variables, only 12 were significant at $\alpha = .05$. Although this exceeds chance expectation, it does not suggest gender was consistently important as a predictor

Table 4. *Mean Proportion of Variance Accounted for by Gender and Code Type Definition Strategy for Selected Code Type*

Code Type	Gender	Definition
2-3	—	.012
2-4	.045	.026
2-7	.016	.053
4-6	.058	.032

Note.—The 2-3 code type did not meet requirements for inclusion in the gender analysis.

of variability. In the three code types examined, gender never accounted for as much as 6% of subscale variability. Similarly, out of 112 *t* tests conducted using poorly defined versus well-defined code type as the categorical variable, only 17 were significant, and definition never accounted for as much as 6% of subscale variability. Therefore, in developing the code type-specific tables, it was determined that neither gender nor definition would be considered.

Code Type-Specific Interpretive Tables

The Appendix contains information that may be used for the code type-specific interpretation of Harris and Lingoes subscales. For each code type included in the study, the mean and standard deviation for each subscale is provided.

DISCUSSION

To demonstrate the use of the code type-specific tables, consider a male with a 2–4 code type. Table 5 provides raw scores for the *Sc* subscales, as well as normative data from the MMPI-2 manual (Butcher et al., 1989) and the corresponding values from the Appendix.

Compared to the normative sample, the patient's scores are elevated on five out of six scales. However, for three of these scales the patient's score is within 1.5 standard deviations of the code type-specific mean. The extent to which this patient reports bizarre sensory experiences, feels socially alienated, and experiences uncontrolled thought processes is consistent with the pathology associated with the 2–4 code type in this sample. However, the patient's sense of emotional alienation and inability to inhibit personal behavior are high even for an individual with a 2–4 code type, suggesting that the patient's level of general affective distress, as well as the frequency of impulsive behaviors, may be beyond the norm even for individuals with this code type.

In generating these tables, the decision was made to ignore the degree to which the code type was well-defined. We do not wish this decision to be taken as evidence against the well-defined code type criterion suggested by Graham and his colleagues (1991). After all, we made the same decision about gender, clearly not a trivial moderator of personality prediction under certain circumstances. These decisions do not have generality beyond the context of the relationship between code type and Harris and Lingoes subscale elevations. Additional research is needed to determine in what contexts code type definition serves as a useful moderator of MMPI relationships, as Graham et al. (1986) did in the context of code type stability.

Table 5. *Comparison of Schizophrenia Subscale Scores for a 2-4 Patient to Normative Sample and Code Type-Specific Norms*

Sc Subscale	Raw Score (*T*)	Normative Sample *M* (*SD*)	Code Type-Specific Sample *M* (*SD*)
Alienation			
Social (Sc1)	9 (76)	2.72 (2.42)*	6.60 (2.90)
Emotional (Sc2)	8 (117)	1.05 (1.04)*	3.39 (1.60)*
Lack of ego mastery			
Cognitive (Sc3)	4 (66)	1.31 (1.66)*	4.00 (2.52)
Conative (Sc4)	4 (60)	2.13 (1.85)	6.67 (2.57
Defective inhibition (Sc5)	6 (82)	1.42 (1.43)*	2.60 (1.90)*
Bizarre sensory experiences (Sc6)	6 (70)	1.90 (2.04)*	3.25 (2.32)

*The patient's raw score differs from the normative mean by more than 1.5 standard deviations.

APPENDIX

Code Type-Specific Interpretive Table

		D1	D2	D3	D4	D5	Hy1	Hy2	Hy3	Hy4	Hy5	Pd1	Pd2	Pd3	Pd4	Pd5	Pa1	Pa2	Pa3	Sc1	Sc2	Sc3	Sc4	Sc5	Sc6	Ma1	Ma2	Ma3	Ma4
1–2	*M*	18.44	8.06	6.67	8.22	6.28	2.22	6.28	9.67	8.83	2.83	3.28	3.11	2.61	5.83	6.78	3.44	3.94	4.28	6.06	2.94	4.06	6.11	3.44	5.94	2.22	5.44	2.61	4.00
	SD	4.76	2.24	1.24	2.41	2.05	2.02	2.87	2.43	2.53	1.25	2.19	1.88	1.82	1.92	1.96	1.69	1.43	2.30	2.73	1.89	1.80	2.37	2.25	3.26	1.26	2.55	1.72	2.09
1–3	*M*	14.62	7.24	6.19	7.19	4.67	4.76	8.62	9.81	9.29	3.90	2.86	3.33	4.19	5.95	6.48	3.29	4.00	5.95	4.29	2.71	3.62	5.05	2.95	5.86	1.43	5.67	3.05	3.10
	SD	4.27	1.84	1.44	2.77	2.78	1.76	1.50	2.99	2.97	1.26	1.49	0.86	1.63	2.13	2.66	1.45	1.79	1.50	2.12	1.76	2.11	2.22	2.29	4.03	0.93	2.33	1.47	1.22
2–3	*M*	19.72	8.41	6.33	8.88	6.67	4.52	7.93	10.90	7.07	3.79	3.29	3.22	4.05	6.36	7.10	2.90	4.34	5.69	4.90	3.22	4.21	6.29	2.59	4.36	1.50	5.29	2.88	3.05
	SD	4.02	1.52	1.83	2.50	1.78	1.61	2.15	2.28	3.32	1.17	1.84	1.31	1.59	1.70	1.40	2.03	1.72	1.92	2.76	1.60	2.48	2.40	1.80	2.88	1.22	1.60	1.23	1.96
2–4	*M*	18.84	8.26	5.53	8.65	6.79	3.19	5.65	9.35	4.60	3.25	5.19	4.23	3.02	7.61	8.74	3.70	4.84	4.37	6.60	3.39	4.00	6.67	2.60	3.25	2.02	5.51	2.14	3.42
	SD	4.05	1.74	1.48	2.55	1.86	1.74	2.33	2.72	2.66	1.34	1.90	1.44	1.60	1.76	1.86	1.78	1.42	1.86	2.90	1.60	2.52	2.57	1.90	2.32	1.37	2.24	1.42	1.82
2–6	*M*	19.97	8.06	5.91	9.20	7.31	1.86	5.34	10.03	5.77	2.83	3.80	3.23	1.66	7.89	8.49	5.83	5.60	5.31	7.46	3.60	4.57	7.14	3.46	4.69	1.66	5.77	1.17	4.09
	SD	3.89	1.76	1.63	2.54	1.68	1.77	1.88	2.74	3.16	0.98	1.69	1.54	1.45	1.60	2.03	2.47	1.12	1.89	2.62	1.61	2.58	2.53	1.72	2.98	0.97	1.63	1.18	1.65
2–7	*M*	21.86	8.83	5.72	10.67	7.47	1.79	5.78	10.56	6.00	3.21	3.39	2.69	1.79	6.81	8.51	3.47	4.88	5.00	6.81	4.24	6.12	8.28	3.60	4.13	1.50	5.76	1.57	3.39
	SD	4.23	1.93	1.83	2.51	1.69	1.81	2.50	2.32	3.30	1.47	2.00	1.57	1.51	1.63	1.76	1.94	1.46	1.87	2.96	1.61	2.14	1.95	1.92	2.47	1.15	2.15	1.22	1.61
2–8	*M*	22.30	9.07	5.63	10.83	8.03	1.20	5.13	10.93	7.03	2.87	4.23	3.33	1.30	7.07	8.20	4.30	5.13	4.57	9.07	5.00	6.43	9.27	4.23	6.57	1.93	6.27	1.87	3.77
	SD	3.96	2.07	1.56	3.03	1.69	1.13	2.93	2.77	3.33	1.20	1.38	1.49	1.26	1.78	1.95	1.76	1.43	2.16	2.69	1.80	2.19	2.50	2.24	2.64	1.23	1.86	1.25	1.52
3–7	*M*	18.40	8.40	5.35	9.05	6.10	4.20	8.60	10.40	7.65	4.05	3.00	2.95	3.80	6.05	7.55	2.70	4.35	6.55	5.05	3.95	5.45	7.40	3.90	4.35	1.50	5.40	2.90	2.95
	SD	4.72	1.90	1.35	2.93	1.92	1.54	1.79	2.50	3.05	1.15	1.84	1.00	1.51	1.76	2.39	1.53	1.63	1.67	2.46	1.64	2.04	2.70	1.33	2.03	0.76	1.39	1.45	1.64
4	*M*	9.68	5.58	3.53	4.74	3.21	4.95	6.84	4.11	1.63	2.89	4.16	4.58	4.53	6.21	6.21	2.84	3.11	5.05	3.58	1.47	2.11	3.47	1.32	1.79	2.16	5.16	4.00	2.95
	SD	3.11	1.43	0.61	2.23	1.72	1.35	2.61	1.82	1.16	1.15	1.89	1.07	1.35	1.47	1.87	1.21	1.37	1.84	1.89	1.58	1.85	2.17	1.00	1.47	1.30	1.68	1.29	1.31
4–6	*M*	14.50	6.08	4.03	6.13	5.55	3.68	6.23	7.33	3.80	3.08	5.70	4.78	3.53	8.17	8.18	5.73	5.23	5.72	7.60	2.58	3.13	4.40	3.03	3.70	2.20	6.10	2.70	3.92
	SD	3.90	2.08	1.46	2.59	2.25	1.58	2.18	2.58	2.28	1.42	2.05	1.80	1.52	1.72	2.10	2.42	1.46	1.97	2.51	1.39	2.23	2.36	2.30	2.49	1.22	2.17	1.38	1.77
4–8	*M*	14.00	6.32	4.06	6.68	5.00	3.85	5.26	7.21	3.56	2.97	5.21	5.26	4.00	7.38	8.15	4.38	4.12	3.53	8.12	3.35	4.82	6.29	3.59	5.03	2.68	6.26	2.85	4.26
	SD	4.94	2.03	1.32	3.22	2.47	1.67	1.94	3.02	2.34	1.59	1.84	1.54	1.67	2.10	2.34	2.13	1.87	1.67	2.86	1.97	2.19	2.71	1.64	2.56	1.59	2.08	1.33	1.44
4–9	*M*	12.47	5.16	3.84	6.05	4.42	4.58	5.26	6.21	3.21	2.47	5.05	5.37	4.63	6.74	8.11	3.74	2.79	3.26	5.37	2.32	3.32	5.00	3.37	3.32	3.89	8.11	3.95	5.37
	SD	2.39	1.61	1.17	1.99	1.61	1.30	1.45	2.27	1.58	0.90	1.90	1.64	1.16	1.79	1.76	1.73	1.51	1.37	2.61	1.53	1.42	2.43	1.16	1.70	1.33	1.33	1.18	1.12
6–8	*M*	16.72	6.64	5.00	7.96	6.64	2.40	5.72	8.60	6.76	2.36	4.76	4.04	2.56	7.96	8.32	7.24	6.04	4.88	10.60	4.16	5.88	7.20	5.84	8.80	2.24	7.52	2.48	5.04
	SD	4.07	1.87	1.91	3.03	1.98	1.83	1.95	3.06	3.49	1.08	1.59	1.40	1.71	2.03	2.69	2.40	1.49	2.11	2.80	1.86	2.28	2.78	2.13	3.16	1.36	2.14	1.29	1.62
7–8	*M*	19.20	7.06	5.11	9.77	6.83	1.89	4.46	9.63	6.11	2.40	3.89	3.86	2.29	7.77	9.11	4.77	5.34	3.57	8.91	4.66	7.54	8.74	5.34	6.86	2.23	7.09	1.97	4.94
	SD	4.16	1.43	1.57	2.64	1.62	1.32	2.37	2.72	3.22	1.09	1.62	1.61	1.38	1.96	1.89	2.20	1.14	1.94	2.57	1.70	1.58	2.09	1.55	3.03	1.52	1.54	1.32	1.81

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