Demographic and Psychometric Characteristics, Waves 1 through 3, from the Project "Dynamics of Dispositional Change" (Gerard Saucier, PI; Sanjay Srivastava, Co-I), National Science Foundation (Award Number 0921842)

We submit this interim report of considerable success in retaining a large majority of Wave 1 and Wave 2 participants in our third wave of assessments.

Earlier reports describe our recruitment and characteristics of Wave 1 and Wave 2 participation. A major focus in this report is on retention/attrition evident in Wave 3. An important qualification is that those participants who participated in Wave 1 but not Wave 2 and Wave 3 (either or both) are, almost without exception, still available to participate in future waves. Thus, this is not attrition strictly speaking, but rather failure to respond to an opportunity to respond in one particular subsequent wave. The proportion of the Wave 1 sample with whom we have clearly lost contact is only 1% (11 participants). Later in this report, we report also on internal consistency and retest stability across all waves, and some broad indications of mean-level change over time in our personality variables.

Retention versus Attrition Among Our Main Participants

The tables below present a comparison of the participants in the three waves that have been completed, in terms of overall participation, ethnic composition, and age range. Retention percentages are with reference to Wave 1, since all Wave 1 participants remain eligible to participate in any subsequent wave

Table 1. Comparison of Participation Between Waves

	Wave 1	Wave 2	Wave 3
National sample	887	636 (72% retention)	601 (68% retention)
Young Adult sample	277	229 (83% retention)	167 (60% retention)

Table 2a. Comparison of Ethnic Composition Between Waves for National Sample

	Wave 1	Wave 2	Wave 3
American Indian or Alaska Native (Native American)	15 1.71% of wave 1	12 1.91% of wave 2	7 1.18% of wave 3

Asian (or Asian-American)	47 5.37% of wave 1	39 6.22% of wave 2	37 6.22% of wave 3
Black or African-American	109 12.44% of wave 1	70 11.17% of wave 2	73 12.27% of wave 3
Hispanic, Latino, or Spanish	68 7.76% of wave 1	46 7.34% of wave 2	47 7.90% of wave 3
Native Hawaiian or other Pacific Islander	9 1.03% of wave 1	2 0.32% of wave 2	4 0.67% of wave 3
White or Caucasian (European-American)	628 71.69% of wave 1	458 73.05% of wave 2	427 71.76% of wave 3

Table 2b. Comparison of Ethnic Composition Between Waves for Young Adult Sample			
	Wave 1	Wave 2	Wave 3
American Indian or Alaska Native (Native American)	5 1.80% of wave 1	5 2.56% of wave 2	4 2.40% of wave 3
Asian (or Asian-American)	25 8.99% of wave 1	15 7.69% of wave 2	12 7.19% of wave 3
Black or African-American	14 5.04% of wave 1	7 3.59% of wave 2	9 5.39% of wave 3
Hispanic, Latino, or Spanish	13 4.68% of wave 1	11 5.64% of wave 2	10 5.99% of wave 3
Native Hawaiian or other Pacific Islander	4 1.44% of wave 1	3 1.54% of wave 2	3 1.80% of wave 3
White or Caucasian (European-American)	217	154	129

	78.06% of wave 1	78.97% of wave 2	77.25% of wave 3

In our national sample, 601 of 887 Wave 1 participants completed questionnaires in Wave 3, a 68% retention rate relative to Wave 1, down only slightly from Wave 2 (which had retained 72% from Wave 1). In our young adult sample 167 of 277 Wave 1 participants completed questionnaires in Wave 3, a 60% retention rate relative to Wave 1, down from Wave 2's 83% retention rate. In terms of ethnic composition, Wave 3 shows the same pattern as did Wave 2: ethnic minority proportions in the samples remaining approximately constant across time. In Wave 3, over 28% of the national sample is categorized as ethnic minority, just as in Wave 1; in wave 3, nearly 23% of the young adult sample is so categorized, whereas this was 22% in wave 1. The ages of the young adult sample are of course restricted in range, but the age range of the national sample is more diverse (age 20 to 55 on recruitment). Breaking the national sample into subgroups by 5-year spans, the subgroups in Wave 1 ranged from 10% (45-49) up to 18% (25-29) of the total sample, each of the seven being very roughly 1/7 of the total sample. In Wave 2, the subgroups (referencing 2010 age) ranged from 10% (45-49) to 20% (25-29), Similarly, in Wave 3 the subgroups ranged from 10% (35-39 and 45-49) to 20% (25-29), still not extremely far from each being 1/7 of the total sample.

As in Wave 2, participants in wave 3 were compensated via their choice of: a $30 gift coupon on Amazon.com, or a $30 check. Approximately 37% of participants selected the check option, the other approximately 63% choosing to receive Amazon coupons.

Reports by Others

The research design of our study involves our main participants, at each wave, nominating several individuals who know them well, so that these might be administered a brief personality questionnaire regarding the main participant's personality tendencies. We received 897 such reports in total for wave 3. Although in absolute number this is lower than we received in Wave 1 (1,094) or Wave 2 (1,010), the rate of response is identical to Wave 2 and higher than Wave 1. In Wave 1, we received 0.94 reports per main study participant, whereas in both Wave 2 and Wave 3 we received 1.17 reports per main study participant. Thus, we were able to sustain the 24% increase in number of other-reports per main participant that we had seen with Wave 2. Why the increase? In Wave 1, there was no compensation whatever for individuals who completed other-reports. In both Wave 2 and Wave 3, those individuals who actually completed descriptions of another person were entered into a drawing for $20 Amazon gift-coupons. In Wave 3 about 400 of these individuals (44.6%) actually received a coupon based on results of our random drawing. We intend in Wave 4 to continue this incentive for the brief other-reports, as it seems to significantly boost returns.

Psychometric Characteristics

One advantage of a longitudinal sample is that one can estimate the reliability of the measures using retest stability, arguably a better index of reliability than is provided by the more commonly used internal consistency coefficients (e.g., Cronbach's coefficient Alpha). Key to our study are the personality

scales, those on which we are measuring change over time. The tables below present the between-wave retest stabilities for the five scales of the Big Five Inventory (BFI), as well as a sixth factor, which is a supplementary Honesty/Propriety scale using BFI-format items. It can be seen that the retest stabilities are all quite good, ranging from .70 to .88 for the one-year interval (Wave 2 to Wave 3), and .65 to .87 for the two-year interval (Wave 1 to Wave 3). As one would expect (it is well known that personality is somewhat less stable in early adulthood), the stabilities are slightly lower in the young adult sample.

Table 3a. BFI Retest Correlations Between Waves for National Sample

	Wave 1 – Wave 2	Wave 2 – Wave 3	Wave 1 – Wave 3
Extraversion	0.87	0.88	0.87
Agreeableness	0.81	0.82	0.80
Conscientiousness	0.80	0.80	0.77
Neuroticism	0.79	0.84	0.79
Openness	0.82	0.81	0.80
Honesty/Propriety	0.76	0.77	0.75

Table 3b. BFI Retest Correlations Between Waves for Young Adult Sample

	Wave 1 – Wave 2	Wave 2 – Wave 3	Wave 1 – Wave 3
Extraversion	0.85	0.83	0.77
Agreeableness	0.74	0.70	0.66
Conscientiousness	0.75	0.79	0.69
Neuroticism	0.72	0.75	0.68
Openness	0.81	0.80	0.75
Honesty/Propriety	0.73	0.72	0.68

The between wave retest stabilities for the Big Five Aspect Scales (BFAS), which divide each of the Big Five into two subcomponents are presented in the tables below. Retest stabilities were similar. They ranged from .68 to .85 for the new one-year interval (Wave 2 to 3), and .58 to .83 for the two-year interval (Wave 1 to 3). Again, the young adult sample showed lower stability, as would be expected.

Table 4a. BFAS Retest Correlations Between Waves for National Sample			
	Wave 1 – Wave 2	Wave 2 – Wave 3	Wave 1 – Wave 3
Assertiveness	0.85	0.85	0.83
Enthusiasm	0.84	0.85	0.82
Compassion	0.79	0.82	0.75
Politeness	0.78	0.80	0.77
Industriousness	0.80	0.80	0.75
Orderliness	0.80	0.82	0.78
Volatility	0.82	0.83	0.77
Withdrawal	0.82	0.84	0.78
Intellect	0.81	0.81	0.78
Openness	0.81	0.82	0.78

Table 4b. BFAS Retest Correlations Between Waves for Young Adult Sample			
	Wave 1 – Wave 2	Wave 2 – Wave 3	Wave 1 – Wave 3
Assertiveness	0.82	0.84	0.80
Enthusiasm	0.81	0.74	0.73
Compassion	0.79	0.77	0.71
Politeness	0.75	0.77	0.77
Industriousness	0.75	0.75	0.71
Orderliness	0.78	0.72	0.66
Volatility	0.76	0.69	0.58
Withdrawal	0.71	0.73	0.63
Intellect	0.79	0.80	0.76

Openness	0.82	0.85	0.77

For Waves 1, 2, and 3, internal consistency coefficients for our personality measures have fallen into a similar range regardless of the wave. For the Big Five Inventory in the national sample, Coefficient Alpha values have ranged from .70 to .87, and for the Big Five Aspect scales they have ranged from .78 to .90, regardless of the specific scale or the specific wave. For the Big Five Inventory in the national sample, Coefficient Alpha values have ranged from .64 to .88, and for the Big Five Aspect scales they have ranged from .73 to .90, regardless of the specific scale or the specific wave. Overall, the reliability indices indicate relatively high-quality data.

When comparing Wave 1 and Wave 2 data, we previously reported that paired-sample *t* tests of the difference scores (for the two samples combined) for the BFI indicate only one personality variable showing significant change over time: Openness had decreased slightly (about 1/15 of a standard deviation) between Wave 1 and Wave 2. With waves 1 through 3, we have conducted repeated-measures analysis of variance to test both for linear and quadratic effects in change over time. In the national sample, both BFI Neuroticism and BFI Openness show significant linear decreases over time. In the young-adult sample, BFI Extraversion shows a significant quadratic effect: It decreased from Wave 1 to Wave 2, then increased again from Wave 2 to Wave 3. It will be important to examine whether and how these patterns persist in Wave 4 data in 2013, and to look for ways to account for them.

Because personality change is far better assessed by four data points (and thus four waves of data) rather than just three, we are not yet in an optimal position to test our main hypotheses regarding the sources of personality change.

We have however conducted analyses to determine the within-wave internal consistency of the measures we intend to use in examining sources of change. We have eight measures of social (role) investment, and Alpha values (internal consistency) for these have ranged from .82 to .98, regardless of the wave, sample, or specific measure. Regardless of the wave or sample or specific measure, internal consistencies for our seven goal measures have ranged from .54 to .88, for our individualism-collectivism scales from .49 to .71, for our measure of relationship satisfaction from .89 to .93, for the self-determination scale from .67 to .83, and for the unmitigated self-interest measure from .65 to .73. Besides indicating high data quality, these generally good reliability coefficients indicate that our across-four-wave analyses relating these variables to personality change will have a high component of 'signal' and only a modest component of 'noise', which should facilitate detection of effects.

Conclusion

We were successful in facilitating a high level of participation in Wave 3. About 89% as many participants overall responded in wave 3 as did in Wave 2. Overall, about 2/3 (66%) of our original (Wave 1) participants responded in wave 3. It is possible that this retention rate will actually improve in Wave 4, since our compensation-incentive will be higher in Wave 4. The demographic profile of our participants remained relatively unchanged, although of course they were all one year older. We

sustained the improved rate (observed in wave 2) at which reports by others that were solicited actually were returned. Good stability and internal consistency for our personality-measurement instruments indicates relatively high-quality data in all three waves. We look forward to retaining these encouraging degrees of sample retention and data quality during the final, fourth wave, putting us in a position to test our main hypotheses with data from all four waves.