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On the Contextual Independence of Personality: Teachers' Assessments Predict Directly Observed Behavior after Four Decades

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Abstract

The continuity of personality's association with directly observed behavior is demonstrated across two contexts spanning four decades. During the 1960s, elementary school teachers rated personalities of members of the ethnically diverse Hawaii Personality and Health Cohort (Hampson & Goldberg, 2006). The same individuals were interviewed in a medical clinic over 40 years later. Trained coders viewed video recordings of a subset of these interviews (N = 144, 68 F, 76 M) and assessed the behavior they observed using the Riverside Behavioral Q-sort Version 3.0 (Funder, Furr & Colvin, 2000; Furr, Wagerman & Funder, 2010). Children rated by their teachers as "verbally fluent" (defined as unrestrained talkativeness) showed dominant and socially adept behavior as middle-aged adults. Early "adaptability" was associated with cheerful and intellectually curious behavior, early "impulsivity" was associated with later talkativeness and loud speech, and early rated tendencies to "self-minimize" were related to adult expressions of insecurity and humility.

Keywords

Personality; Directly Observed Behavior; Situations; Continuity

To an important degree, behavior is determined by the context in which it occurs. Psychology's recognition of this important fact has led, in some cases, to a denigration of the complementary importance of the personality of the individual who performs the behavior. One result was the "person-situation" debate, which was an important theme of personality research for more than 40 years (Donellan, Lucas & Fleeson, 2009). While the point of view that used to be called "situationism" (Bowers, 1973) has evolved over the years into a more sophisticated appreciation of how aspects of persons and situations interact, some psychologists continue to view personality, and its effect on behavior, as inextricably entwined with situational context. As one prominent researcher recently wrote, "...whatever way one chooses to define 'personality' it surely is not a de-contextualized 'entity within the mind'" (Mischel, 2009, p. 289).

This statement represents a point of view that continues to be widely held. The most important word in it is probably "decontextualized": the word implies that personality

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cannot be separated from context, and that to the degree that the behavior of the same individual might tend to be consistent over time, this must be the result of similarities in the situations he or she encounters.

A good deal of evidence already suggests that personality has an influence on behavior that to some degree transcends immediate context. For example, strong correlations have been reported between the directly-observed behavior of individuals in one laboratory situation and their behavior in another (e.g., Funder & Colvin, 1991), and personality has been shown to be relatively stable across major segments of the lifespan (Caspi & Roberts, 2001; Caspi, Roberts & Shiner, 2005; Hampson & Goldberg, 2006; Mischel, Shoda & Peake, 1988). Teachers' ratings of the personalities of children as young as 3 or 4 years old have been found to be meaningfully connected with behavioral assessments made in the laboratory a dozen years later (e.g., Funder & Block, 1989; Funder, Block & Block, 1983), and ratings of the Big Five traits made in elementary school correlate with self-reports of personality after 40 years (Hampson & Goldberg, 2006). Psychologists are also increasingly coming to appreciate the power of personality to predict consequential outcomes in domains such as career success, relationship quality, and educational attainment (Ozer & Benet-Martinez, 2006; Roberts et al., 2007). A recent review concluded that childhood personality is associated with adult physical health (Kubzansky, Martin & Buka, 2009) and, more specifically, a recent meta-analysis demonstrated that conscientiousness predicts life-long health and overall mortality (Kern & Friedman, 2008).

However, a strong “contextualist” – if that term is to replace “situationist” – could still point out that laboratory contexts might share an essential similarity, that the distance in time between childhood and early adolescence is small compared to the full lifetime of the adult personality, and that despite the impressive studies of lifetime outcomes few of the analyses just cited – particularly the ones spanning long periods of time – include direct observations of behavior.

To answer such a critic, something more is required. First, personality and behavior must be assessed independently in two highly different contexts, and the behavior must be directly observed. Second, an appreciable span of time should pass between the two assessments. If it could be shown that directly observed behavior were to be associated with personality as rated in very different contexts decades earlier, it might be difficult to escape the conclusion that something about personality is indeed “decontextualized.”

Consider, for example, these contexts: The first is an elementary school classroom on one of the Hawaiian Islands, in the mid-1960s. The second, 40 years later, is an interview room in a medical clinic at the Kaiser Permanente Center for Health Research in Honolulu, visited partway through a comprehensive, half-day health assessment. Would – could? – personality as observed and rated by teachers in the first context possibly be associated with behavior directly observed and recorded on video in the second? This question is the focus of the current study.

Direct Observation of Behavior

Examining what people do is a vital component of psychology. Yet behavior is largely understudied (Baumeister, Vohs, & Funder, 2007; Furr, 2009). When behavior is studied, it tends to be self-reported, or limited to a few ad hoc dimensions or, even more frequently, just one. Direct observation and recording of a wide range of behaviors is, in contrast, quite

¹The importance of this word is illuminated by the fact that it was added to a quote by another author (Funder, 2009) that was being contested.

rare (Furr, 2009). Strengths of direct behavioral observation include witnessing the phenomenon of interest, obtaining independent observations of a person's behavior while eliminating errors and biases associated with recall, and providing an independent benchmark for establishing the validity of other sources of information about personality (Furr, 2009). The current study employs direct observation to examine whether personality is related to behavior across different contexts and after a long period of time.

Longitudinal Assessment of Personality

Research that examines personality longitudinally across diverse contexts and extended periods of time is difficult and accordingly just as rare, if not more rare, than direct behavioral observation. The few exceptions stand out in the literature. Research by Walter Mischel and colleagues showed that delay of gratification observed in preschool predicted cognitive and academic competence as well as coping with stress years later, in adolescence (Shoda, Mischel, & Peake, 1990). The Dunedin longitudinal study (e.g., Caspi, 2000) found that ratings of personality and behavior of children as young as age three predicted important life outcomes. The LOGIC dataset (e.g., Asendorpf, 1994) used teacher ratings of behavior and personality beginning at age 4 to predict later behavior in the same context over six years later. In a 30-year longitudinal study of 128 nursery school children, Jack and Jeanne Block and their colleagues demonstrated, through numerous publications, that key personality variables such as ego resiliency and ego control were correlated with experimentally observed behavior and important life outcomes assessed over the years (Block & Block, 2006). And, previous research on the Hawaii Personality and Health Cohort (Hampson & Goldberg, 2006) has demonstrated consistency between teacher ratings of personality in elementary school and self-reported personality decades later.

The current study is distinct from this last-named study in that it uses ratings of adult behavior based on direct observation rather than self-reports of personality. More generally, the current study differs from all the prior investigations just noted because it connects childhood ratings of personality to a broad set of behaviors directly observed in the same individuals as middle-aged adults, in a very different context after a long span of time. Specifically, it uses the Hawaii Personality and Health Cohort to associate personality ratings made by classroom teachers to behaviors directly observed in a personality interview conducted at a medical clinic over 40 years later.

Necessary Conditions for Detecting the Cross-Contextual Influence of Personality

What would it take for this analysis to be successful? At least six difficult conditions are necessary (See Figure 1). First, researchers must develop good personality items that capture important aspects of personality that elementary school teachers can understand and observe. Second, teachers must provide accurate ratings based on their observations, successfully discriminating between their students on these dimensions of personality. Third, after a passage of time, research participants must be placed into a context that evokes behavior relevant to these dimensions. Fourth, researchers must develop good behavioral descriptors that raters can use to capture observable aspects of behavior that are relevant to personality. Fifth, raters must be recruited and trained to be able to accurately rate these items on the basis of their viewing of the experimental video recording. The sixth and most important necessary condition is that the participants' underlying personality must remain stable, and continuously able to affect behavior across long periods of time and in diverse contexts.

Methods

Participants

The original research cohort included six samples with a total of 2,404 elementary school children, recruited between the years 1959-1967, as part of a research project initiated by the late John Digman (1963,1989). In July of 1998, nearly 40 years after many of the school children originally participated in the study, research staff attempted to locate as many of them as possible. Details of the recruitment procedures are summarized in Hampson and colleagues' (2001) paper, and the recruitment is ongoing. At the time the present analyses were performed, 453 participants had visited the Kaiser Permanente clinic in Honolulu and completed an extensive battery of medical, physical and cognitive measures as well as a semi-structured personality interview; of these, 240 agreed to have the interview video-recorded, and of these 221 had teacher ratings in the proper form to allow the present analyses (see below). 144 participants (68 female and 76 male) were selected from this group for intensive behavioral coding and analysis. The selection was random, except that we bypassed recordings that were of poor audio or visual quality, and all the interviews were conducted by either of two female interviewers who together accounted for the 78% of the total. The approximate ethnic breakdown of the participants (with the percentage in the whole sample in parentheses) was: 33% Japanese-American (37% in the whole sample), 16% European ancestry (18%), 14% native Hawaiian (21%), and 36% other or no response (24%).

The participants come from 3 of the original 6 child cohort samples described by Goldberg (2001).

Oahu: Grades 1 and 2 (N = 75). The total number of students in the original sample was 885. In 1965, 29 teachers from eight schools on the island of Oahu rated each of their students on 49 personality attributes. A single word or short phrase captured each attribute along with a more detailed definition (e.g., *Spiteful*: deliberately does or says things which annoy or hurt others; says hateful things about others; belittles others).

Oahu: Grades 5 and 6 (N = 31). The total number of students in the original sample was 834. In 1965, 28 teachers from the same eight schools assessed each of their students using the same set of 49 personality attributes as in the Grades 1 and 2 sample.

Kauai: Grade 6 (N = 38). The total number of students in the original sample was 502. In 1967, 17 teachers from eight schools on the island of Kauai assessed each of their students using 43 personality attributes. Each attribute consisted of a single word or short phrase along with a more detailed definition; 39 of the personality attributes in the Kauai sample overlapped with the Oahu samples.

The current study examines the 39 personality attributes common to the ratings in all three samples. Three additional samples originally obtained from the Laboratory School of the University of Hawaii were not included because teachers provided ratings using a bipolar rather than a unipolar format.

Procedure: Teacher Ratings in 1965 or 1967

Teachers were given names of their students along with sheets of paper each of which presented one personality attribute and its definition. Teachers sorted the students in their classes from highest to lowest on each attribute using a 9-step forced-choice quasi-normal distribution akin to a Q-sort distribution, except that individuals rather than items are sorted.

Procedure: Clinic Assessment in 2003-2008

Participants who were successfully located and gave consent to participate attended a half-day session at the Kaiser Permanente research clinic in Honolulu. They received an extensive battery of medical, physical, and cognitive assessments. In addition, participants were administered a semi-structured interview.

Interviews were conducted individually with one of two female staff members and, with consent, were video-recorded with the camera focused on the participant. Each interview began with a getting-acquainted period where the participant and staff member informally discussed various topics with the intent of making the participant feel at ease. Following this period, staff members followed the protocol of the Structured Interview for the Five Factor Model of Personality (SIFFM; Trull & Widiger, 1997). While this structured interview somewhat constrains natural conversation between interviewers and participants, the participants were encouraged to elaborate on many of their responses and, in the process of doing so as well as during the initial, unstructured warm-up period, had an opportunity to exhibit a wide range of behaviors expressive of their personalities.

Procedure: Behavioral Coding in 2008-2009

Copies of the recorded interviews were transported to the University of California, Riverside, where each of the 144 DVDs was viewed by four trained, undergraduate research assistants (from a total pool of 12 assistants). They were instructed to watch the entire interview and then to make behavioral ratings using the Riverside Behavioral Q-Sort version 3.0 (RBQ-3.0; Funder, Furr & Colvin, 2000; Furr, Wagerman & Funder, in press). The 67 items of the RBQ were sorted in a forced choice, quasi-normal 9-step distribution ranging from most (9) to least (1) characteristic of the behaviors observed. Behavioral ratings were aggregated across the four raters to form a composite.

Measures

39 Common Personality Attributes—Thirty-nine personality attributes (Digman, 1963; Digman, 1989) were originally rated by all the teachers, in all of the samples, in 1965 or 1967. The attributes included descriptors of verbal fluency, adaptability, impulsivity, and tendencies to self-minimize. Each attribute was followed by a definition, developed from focus groups of teachers asked to give examples of relevant classroom behaviors.

Structured Interview for the Five Factor Model of Personality—The Structured Interview for the Five Factor Model of Personality (SIFFM; Trull & Widiger, 1997) has 120 items, and was designed for use in normal college and adult populations to capture the factors and facets of the Big Five traits of extraversion, neuroticism, conscientiousness, agreeableness, and openness to experience². Sample items include: “Is it important for you to get what you want? IF YES: Have you exploited (taken advantage of) or conned somebody of something?”, and “Do you often speak or act without thinking it through first? IF YES: What kinds of problems has this caused?” One of two female interviewers administered the SIFFM to each participant in a room that was equipped with a video camera aimed at the participant. The length of time to complete the SIFFM ranged from 22-84 minutes. While the SIFFM can be scored on the dimensions of the Big Five, the current study used the verbal responses and behaviors that each participant exhibited during the interview only to make behavioral ratings with the Riverside Behavioral Q-sort.

²Note that Goldberg (1990) refers to the fifth factor of the Big Five as Intellect/Imagination.

Riverside Behavioral Q-Sort—The Riverside Behavioral Q-Sort-version 3.0 (RBQ-3.0: Funder, et al., 2000; Furr, et al., in press), is a 67-item assessment tool designed to describe the range of a person’s behavior. Items include: “speaks fluently; expresses ideas well”, “initiates humor”, and “tries to control the situation”. Ratings proceed by placing the 67 items, using the Q-sorting computer program developed in our lab³, into one of nine categories (1 = *extremely uncharacteristic*, 9 = *extremely characteristic*) each with a predetermined number of items, forming a forced choice, quasi-normal distribution. The average item reliability—as computed from the intraclass correlations among raters for each of the 67 RBQ items—for the composite RBQ scores was .66 ($SD = .35$).

Results

Because teachers rated each participant on 39 personality attributes and behavioral observers, 40 years later, rated 67 behaviors, 2613 (39×67) possible correlations could be computed. Out of 2613 possible correlations, 312 were significant at $p < .05$. According to the randomization procedure described by Sherman and Funder (2009), approximately 130 correlations would be expected to be significant at this level by chance, and the probability of the 312 actually attained was less than .001.⁴ In an effort to reduce this number of correlations, we examined the total number of behavioral correlates individually for each of the 39 common personality attributes. Of these, 11 attributes had a number of statistically significant correlates with behavioral items that greatly exceeded chance. In order to avoid redundancy, we selected 4 attributes that had relatively distinctive patterns of behavioral correlates (the vector correlations across the 67 behavioral correlates between the attributes was less than .80): *verbally fluent*, *adaptable*, *impulsive*, and *self-minimizing*.⁵ Vector correlations, which capture the degree to which one set of correlations is similar to a second set of correlations, were calculated to assess whether similar patterns of correlates between the RBQ and teacher ratings of attributes existed when comparing the data by gender, by grade level (1st and 2nd graders compared to 5th and 6th graders), and by personality interviewer. The patterning of results presented below were found to be generally replicated across gender, grade, and interviewer.

Table 1 displays correlations between teachers’ ratings of students’ verbal fluency from 1965 or 1967 with behaviors as coded from interviews recorded in 2008 or 2009. *Verbally fluent* was defined for the teachers who rated this attribute rather differently from its perhaps more conventional conceptualization as verbal intelligence. Instead, it was defined as “speech seems to ‘pour out’, often in a torrent of words, sometimes making it difficult to understand him (her).” Of the 67 RBQ items, 26 were significantly correlated at the $p < .05$ level with this attribute. The probability of finding this many correlations by chance, according to a randomization procedure (see Sherman & Funder, 2009) across 10,000 trials is $p = .0003$. Elementary school children rated by their teachers as high in verbal fluency tended, as middle-aged adults, to display interest in intellectual matters, speak fluently, try to control the situation, and exhibit a high degree of intelligence. Children rated low in verbal fluency by their teachers were observed, as middle-aged adults, to seek advice, give up when faced with obstacles, and exhibit an awkward interpersonal style.

³The complete set of items and a free, downloadable copy of the sorting program are available at <http://rap.ucr.edu/qsorter/>.

⁴That is, in 1000 randomization runs this number of significant correlates was never attained.

⁵The average of the vector correlations between verbally fluent, adaptable, impulsive and self-minimizing was $r = .68$, range, $r = .51$ -.76. The across-time correlates are reported across ethnic subgroups. The average sizes of the correlations within each subgroup (Japanese, Hawaiian, European and Other) were about the same or larger than the correlations for the sample as a whole, and the general patterns as indexed by vector correlations were also generally similar. Supporting analyses and complete tables of behavioral correlates can be found at <http://rap.ucr.edu/HawaiiSupplement.pdf>.

Table 2 displays correlates between teachers' ratings of children's *adaptability* from 1965 or 1967 with behavioral codings from 2008-2009. Adaptable was defined as "copes easily and successfully with new and strange situations; bravely faces up to uncertainty". Of the 67 RBQ items, 20 were significantly correlated at the $p < .05$ level. The probability of finding this many significant correlations, according to a randomization procedure across 10,000 trials, is $p = .0022$. Elementary school children rated by their school teachers as highly adaptable tended, as middle-aged adults, to display behaviors such as behaving in a cheerful manner, speaking fluently, and showing interest in intellectual matters. Children rated as low in adaptability were observed, as adults, to say negative things about themselves, seek advice, and exhibit an awkward interpersonal style.

Table 3 displays correlates between teachers' ratings of children's *impulsivity* from 1965 or 1967 with behavioral codings from 2008-2009. Impulsive was defined as "behavior always seems very 'close to the surface'; often acts before the appropriate moment; finds it difficult to hold back; often acts or speaks without thinking of possible consequences." Of the 67 RBQ items, 19 were significantly correlated at the $p < .05$ level with this attribute. The probability of finding this many significant correlations, according to a randomization procedure across 10,000 trials, is $p = .0018$. Elementary school children rated by their school teachers as highly impulsive were observed, as middle-aged adults, to speak in a loud voice, display a wide range of interests and be talkative. Children rated as low on impulsivity were observed, as adults, to behave in a fearful or timid manner, keep others at a distance and express insecurity.

Table 4 displays correlates between teachers' ratings of children's tendency to *self-minimize* from 1965 or 1967 with behavioral codings from 2008-2009. Self-minimizing was defined as "tends to minimize own importance; humble; never brags or shows off; seeks out or is content with less important tasks or positions." Of the 67 RBQ items, 11 were significantly correlated at the $p < .05$ level with this attribute. The probability of finding this many significant correlations by chance, according to a randomization procedure across 10,000 trials, is $p = .0373$. Elementary school children rated by their school teachers as high in self-minimizing were observed, as middle-aged adults, to express guilt, seek reassurance, say negative things about themselves, and express insecurity. Children rated as low in self-minimizing were observed, as adults, to speak in a loud voice, show interest in intellectual matters and exhibit condescending behavior.

Discussion

The present study is distinctive from much psychological research in that it examines individual differences in personality within a fairly large, ethnically diverse sample of adults – not the more usual small and relatively homogenous sample of college students. Even more distinctively, it employs direct observations of video-recorded behavior rather than just self-report measures or distal outcomes and assesses the continuity of personality's association with behavior across a period of more than four decades.

For ratings of personality made by elementary school teachers to be shown to have meaningful associations with behavior decades later, several difficult conditions had to be fulfilled. Useful and clear personality items for the teachers to rate had to be written, the teachers had to make accurate observations of their students and rate the items correctly, good items for describing behavior had to be developed, an observational context had to be constructed in which behavior relevant to behavior would be manifested, and raters had to be trained to observe and accurately code behavior using these items. Most crucially, the attributes of personality assessed by teachers in the elementary school years had to continue to exert an influence on behavior in a very different context 40 years later.

Seen in this light, the findings obtained by the present study seem impressive. Among other correlates, children rated as “verbally fluent” (under instructions that define the term as referring to unrestrained talkativeness) displayed dominant and socially adept behavior as middle-aged adults. Early “adaptability” was associated with cheerful and intellectually curious behavior. Early “impulsivity” was associated with later talkativeness and loud speech. Early rated tendencies to “self minimize” were associated with adult expressions of insecurity and humility.

Findings such as these return us to the question that began this article. What is the basis of this continuity? It seems unlikely that these kinds of connections between early personality and much later behavior are importantly due to anything concerning the overlap of situations or context. Rather, it is difficult to avoid the conclusion that these results, along with others already in the literature, show that personality resides *within* people, and is manifest through behavior in diverse ways across the varied settings of life. As a result, the same individual even in two vastly different contexts separated by many years – such as his or her classroom as an elementary school student, or a clinic interview room as a middle-aged adult – remains recognizably the same person.

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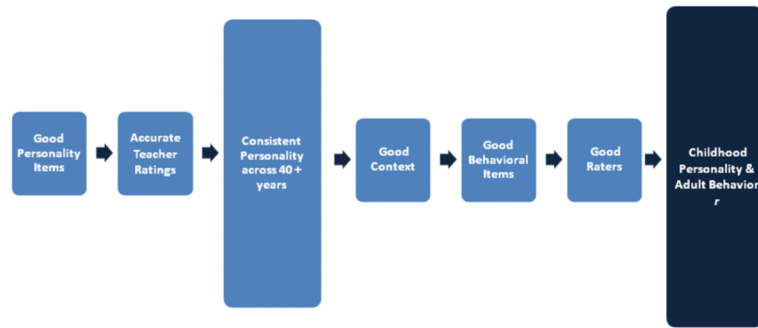


Figure 1. Necessary Conditions for Demonstrating the Influence of Personality on Behavior across 40 Years.

Table 1

Teachers' ratings of *Verbal Fluency* in 1965 or 1967 correlated with direct observations of behavior in 2008-2009.

## - RBQ Item	r
<u>Positive</u>	
<u>N = 144</u>	
41 - Shows interest in intellectual/cognitive matters	.30***
53 - Speaks fluently; Expresses ideas well	.28***
04 - Tries to control situation	.25**
23 - Exhibits high degree of intelligence	.25**
45 - Displays ambition	.24**
05 - Dominates situation	.23**
07 - Exhibits social skills	.21*
57 - Speaks sarcastically	.21*
55 - Behaves in competitive manner	.20*
56 - Speaks in a loud voice	.19*
27 - Exhibits condescending behavior	.18*
<u>Negative</u>	
29 - Seeks advice	-.26**
13 - Exhibits awkward interpersonal style	-.23**
50 - Gives up when faced w/obstacles	-.22**
24 - Expresses sympathy	-.21*
21 - Expresses insecurity	-.20*
18 - Expresses agreement frequently	-.20*
66 - Acts in self-indulgent manner	-.20*
44 - Says negative things about self	-.19*
67 - Exhibits physical discomfort/pain	-.19*
36 - Behaves in fearful or timid manner	-.19*
60 - Seems detached from situation	-.18*
22 - Physical signs of tension/anxiety	-.17*
48 - Expresses sexual interest	-.17*
65 - Engages in physical activity	-.17*
26 - Seeks reassurance	-.17*

Note. $p < .001$

**
 $p < .01$

*
 $p < .05$.

Verbal Fluency was defined as: speech seems to “pour out,” often in a torrent of words, sometimes making it difficult to understand him (her). Probability of this many correlates significant by chance (10,000 trials), $p = .0003$. Vector correlation by gender, $r = .66$. Vector correlation by grade, $r = .48$. Vector correlation by interviewer, $r = .60$.

Table 2

Teachers' ratings of *Adaptable* in 1965 or 1967 correlated with direct observations of behavior in 2008-2009.

## - RBQ Item	r
<u>Positive</u>	
<u>N = 144</u>	
49 - Behaves in cheerful manner	.28***
53 - Speaks fluently; Expresses ideas well	.23**
41 - Shows interest in intellectual/cognitive matters	.23**
07 - Exhibits social skills	.22**
63 - Other(s) seek advice from P	.22**
42 - Seems to enjoy situation	.20*
23 - Exhibits high degree of intelligence	.19*
55 - Behaves in competitive manner	.19*
05 - Dominates situation	.18*
04 - Tries to control situation	.18*
<u>Negative</u>	
44 - Says negative things about self	-.24***
29 - Seeks advice	-.24***
13 - Exhibits awkward interpersonal style	-.24***
26 - Seeks reassurance	-.21*
21 - Expresses insecurity	-.20*
60 - Seems detached from situation	-.19*
35 - Unusual or unconventional appearance	-.19*
67 - Exhibits physical discomfort/pain	-.19*
22 - Physical signs of tension/anxiety	-.19*
47 - Expresses self-pity or victimization	-.16*

*** Note. $p < .001$

** $p < .01$

* $p < .05$.

Adaptable was defined as: copes easily and successfully with new and strange situations; bravely faces up to uncertainty. Probability of this many correlates significant by chance (10,000 trials), $p = .0022$. Vector correlation by gender, $r = .46$. Vector correlation by grade, $r = .32$. Vector correlation by interviewer, $r = .42$.

Table 3

Teachers' ratings of *Impulsive* in 1965 or 1967 correlated with direct observations of behavior in 2008-2009.

## - RBQ Item	r
<u>Positive</u>	
<u>N = 144</u>	
56 - Speaks in a loud voice	.28***
16 - Displays wide range of interests	.25***
20 - Is talkative	.24***
15 - High enthusiasm and energy level	.22**
02 - Volunteers Information about Self	.21*
05 - Dominates situation	.21*
45 - Displays ambition	.21*
54 - Emphasizes accomplishments	.21*
04 - Tries to control situation	.20*
43 - Says/does something interesting	.19*
07 - Exhibits social skills	.17*
<u>Negative</u>	
36 - Behaves in fearful or timid manner	-.26***
40 - Keeps other(s) at a distance	-.20*
21 - Expresses insecurity	-.19*
50 - Gives up when faced w/obstacles	-.18*
44 - Says negative things about self	-.17*
39 - Expresses guilt	-.17*
18 - Expresses agreement frequently	-.17*
60 - Seems detached from situation	-.17*

Note. $p < .001$

**
 $p < .01$

*
 $p < .05$.

Impulsive was defined as: behavior always seems very "close to the surface"; often acts before the appropriate moment; finds it difficult to hold back; often acts or speaks without thinking of possible consequences. Probability of this many correlates significant by chance (10,000 trials), $p = .0018$. Vector correlation by gender, $r = .43$. Vector correlation by grade, $r = .54$. Vector correlation by interviewer, $r = .37$.

Table 4

Teachers' ratings of *Self-Minimizing* in 1965 or 1967 correlated with direct observations of behavior in 2008-2009.

## - RBQ Item	r
<u>Positive</u>	
<u>N = 144</u>	
39 - Expresses guilt	.28***
26 - Seeks reassurance	.22**
44 - Says negative things about self	.20*
21 - Expresses insecurity	.20*
47 - Expresses self-pity or victimization	.18*
<u>Negative</u>	
56 - Speaks in a loud voice	-.20*
41 - Interest in intellectual/cognitive matters	-.19*
27 - Exhibits condescending behavior	-.19*
45 - Displays ambition	-.19*
15 - High enthusiasm and energy level	-.18*
53 - Speaks fluently; Expresses ideas well	-.18*

Note. $p < .001$

**
 $p < .01$

*
 $p < .05$.

Self-minimizing was defined as: tends to minimize own importance; humble; never brags or shows off; seeks out or is content with less important tasks or positions. Probability of this many correlates significant by chance (10,000 trials), $p = .0373$. Vector correlation by gender, $r = .52$. Vector correlation by grade, $r = .38$. Vector correlation by interviewer, $r = .45$.