Behavioral change and consistency across contexts

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ABSTRACT

The degree to which behavior changes across situations is often conflated with the cross-situational consistency of individual differences. The current study assesses the extent of behavioral change and consistency, the relationship between them, and variables associated with behaviors' differing patterns of change and consistency. Two hundred fifty-six participants were observed in three different, three-person interactions. In line with previous research, behaviors showed a great deal of both change and consistency. Behavioral change across situations was unrelated to the degree to which individual differences in these same behaviors were maintained, demonstrating that behavioral consistency does not imply lack of situational adaptation. Behaviors rated as relatively broad and as relatively automatic showed more consistency; behaviors rated as relatively controlled showed more change.

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1. Introduction

To survive and function well as a member of society – or at all – people must be able to adapt their behavior to the situation that confronts them. Rigid, inflexible behavior is not only maladaptive, it can be a hallmark of mental illness, such as obsessive-compulsive personality disorder (American Psychiatric Association, 2013). However, the existence of personality traits, which "[refer] not just to one or a few specific behaviors, but to patterns of behavior presumed to transcend time and specific situations" (Funder, 1991, p. 31), implies the presence of consistency. Erratic, unpredictable behavior is as problematic as inflexible behavior and extreme behavioral inconsistency is a hallmark of other kinds of mental illness, including borderline personality disorder. Thus, behavioral adaptability and consistency are both important, but widespread misunderstanding about what this means has long been, and to a surprising extent continues to be, a source of confusion and even contention within psychology (Caspi & Roberts, 2001; Fleeson & Noftle, 2009; Funder, 2009).

The misunderstanding arises from the impression that behavioral adaptability implies inconsistency, and that behavioral consistency implies a failure to respond flexibly to situational demands. The impression is false, because even large changes in average behavior can be associated with the maintenance of individual differences (Funder, 2006). An analogy may clarify just how. Adults are generally taller than children, but the same individuals who were relatively short as children are likely to also be relatively

short, compared to other adults, when they grow up. Or, in a more behavioral context, a research participant who is highly talkative in an unstructured conversation may become much less talkative when the experimental setting involves a competitive game or a cooperative task, but – as we shall see later in this article – the participants who are the *most* talkative in any one of these settings will still tend to be the most talkative in the other two.

Still, despite many published attempts at clarification over the years (e.g., Bem & Allen, 1974; Caspi & Roberts, 2001; Fleeson & Noftle, 2009; Funder, 2009; Kenrick & Funder, 1988; Roberts & Donahue, 1994), influential statements that conflate behavioral adaptability with inconsistency continue to appear: "Because such change and the ability to discriminate even among subtly different situations is essential for survival, humans could not have evolved to behave consistently across situations that vary in the challenges they pose and the solutions they require" (Mischel, 2009, p. 284). A related misconception is demonstrated by claims that personality must be "contextualized" in order to account for "a transaction between individuals' generalized personality characteristics and the expectations and norms associated with the specific social roles and contexts he or she experiences" (Dunlop, 2015, p. 311). Such claims similarly, albeit implicitly, presume that enduring behavioral tendencies are incompatible with adaptive behavioral change across social roles, time, and contexts.

The persistently misunderstood relationship between behavioral change and behavioral consistency was addressed in a previous empirical study. Funder and Colvin (1991) compared the behavior of a large sample of participants between two experimental situations about a week apart, and indeed found that many behaviors changed, on average, quite a bit. In general, participants appeared

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less nervous, were more talkative, and enjoyed themselves more at the second session than the first, an obvious – and sensible – response to their greater familiarity with the setting. The same study also found that there was a great deal of behavioral consistency between visits – participants who spoke loudly, behaved awkwardly, and laughed frequently, compared to other participants in the first session, were similarly more loud, awkward and laughing compared to other participants in the second session. Moreover, the two phenomena were empirically, as well as conceptually, unrelated; across the 62 behaviors assessed, the correlation between the degree to which a specific behavior changed and the degree to which it was consistent yielded an $r = -0.01$.

Funder and Colvin (1991) also examined characteristics of behaviors that might be associated with consistency and change. In a key finding, independent raters assessed the degree to which the 62 behaviors would be expected to be "operant" (emitted by persons; McClelland, 1981) versus "respondent" (elicited by situations; Skinner, 1953). Behaviors rated as more operant, and less respondent, tended to be more consistent across situations ($r = 0.51$).

In a related, later study by Furr and Funder (2004), raters assessed a slightly longer list of 64 behaviors as to the degree they were "automatic" versus "controlled" (Shoda, Mischel, & Wright, 1993). Behaviors rated as highly automatic included "is expressive in face, voice and gestures," "is physically animated; moves around a great deal," and "laughs frequently." Behaviors rated as more controlled included "offers advice," "expresses criticism," and "exhibits a high degree of intelligence" (Furr & Funder, 2004, p. 436). More automatic behaviors tended to be more consistent across situations, whether the situations were relatively similar ($r = 0.45$) or dissimilar ($r = 0.54$).

1.1. The current study

The current study seeks to replicate and extend the prior findings of Funder and Colvin (1991) and Furr and Funder (2004) in two ways. First, it will examine the change and consistency of behavior of a large sample of participants who interacted in three different, three-person interactions. Based on the previous findings, we expect that many behaviors will show significant change across time and contexts in ways that illustrate how people adapt to specific situations. We further expect that many of these very same behaviors will show significant consistency across time and contexts, and that mean-level changes and consistency in behavior will be empirically independent of each other.

Second, the current study will return to the question of which behaviors tend to be the most and least consistent across situations. We will seek to replicate in these new experimental contexts the prior finding by Furr and Funder (2004) that more automatic as opposed to controlled behaviors are more consistent. Guillaume et al. (2015) recently reported that positive items on the Riverside Situational Q-sort (RSQ; Wagerman & Funder, 2009) varied less across cultures than did more negative items. Accordingly, we will also assess whether social desirability of behaviors is associated with their consistency across laboratory situations.

We will also examine the possibility that the breadth of behavioral descriptions is associated with the consistency of the behaviors they describe (Cronbach & Gleser, 1965; Ones & Viswesvaran, 1996).

2. Method

2.1. Participants

Participants ($N = 256$, 130 F) were undergraduates recruited from the University of California, Riverside (UCR). They were scheduled to complete four visits to the lab and were compensated with research credit and up to $115 for the completion of all visits and bonuses associated with certain visits. Consistent with the diversity of the UCR's undergraduate population, the sample was 48.8% Asian, 23% Hispanic/Latino, 8.2% Caucasian, 4.3% Middle Eastern, 3.1% African American, and 12.5% other. The sample consisted of 130 women and 126 men, and the average age was 19.83 years ($SD = 1.25$). The N varies somewhat for particular analyses because of occasional failures of video recording and participants failing to appear for certain visits.

2.2. Procedures

Participants came into the lab for four visits spaced about a week apart. During the first visit, participants provided demographic information and completed personality questionnaires. In each of Visits 2–4, participants took part in one of three, three-person interactions with partners they had never met before. Each participant was assigned new partners for each visit. Visit 2 was an unstructured interaction in which participants were simply told to "talk about anything you like" for five minutes. Visits 3 and 4 were task-oriented. Visit 3 was a cooperative task in which participants had to work together to build a model out of Tinker Toys. Visit 4 was a competitive task in which participants played the sound-repetition game Simon against each other. Visits 3 and 4 had financial incentives, such that if an interaction group successfully built the model in five minutes each participant would win $5, and if a participant won more games of Simon than their interaction partners that participant would win $5. After each interaction, participants completed self-report measures of their behavior, affect, and impressions of the situation, and were then debriefed. Data from the questionnaires administered at Visit 1 were not analyzed for the present study, which is based solely on observational assessments of participants' behavior, to be described next. These data were previously used by Morse, Sauerberger, Todd, and Funder (2015); all the analyses reported in this article are new.

2.2.1. Behavioral assessment

Visits 2–4 were video recorded for the purpose of behavioral assessment. Cameras were placed in full view of the participants, who were specifically informed that they would be video and audio recorded throughout the interaction. Research assistants watched each video and then rated the participants' behaviors using the Riverside Behavioral Q-sort (RBQ; Funder, Furr, & Colvin, 2000). The Q-sort methodology is a forced-choice technique that results in a quasi-normal distribution of ratings, such that fewer items can be placed in more extreme categories. The version of the RBQ used for this study includes 68 items (e.g., "smiles frequently"), and four research assistants independently rated the extent to which each item was characteristic of each participant's behavior (1 = not at all characteristic, 9 = extremely characteristic).

Raters were instructed to watch the entire interaction to the end, and to focus on the single participant they would be rating. Raters never watched a participant they knew personally, and never saw an interaction with the same participant more than once. That is, a research assistant was not assigned watch any interaction that contained any participant the assistant had viewed previously, regardless of whether that participant was the one being rated. With these restrictions, research assistants were randomly assigned to the participants and sessions to be rated.

Overall, the ratings demonstrated good reliability (for the 68 behaviors rated, mean $\alpha = 0.80$). As a means of quality control (see: Funder et al., 2000) inter-rater agreement in rating each participant's behavior was tracked on an ongoing basis during the coding process. If the individual inter-rater alpha fell below 0.70, the research assistant with the lowest inter-rater correlations

re-watched the interaction and re-rated the participant's behavior before the final composite rating was computed.

3. Results

3.1. Question 1: Mean-level behavioral change

Did behavior change significantly across the three different interactions? The answer is yes. Paired-samples t-tests were calculated for each pair of visits (i.e., Visits 2 and 3, 2 and 4, and 3 and 4)[1], for each of the 68 behaviors that were assessed (between-visit mean-level changes: Unstructured versus Cooperative $t(161) = 6.26$, $r = 0.44$, $p < 0.01$; Unstructured versus Competitive $t(168) = 5.71$, $r = 0.40$, $p < 0.01$; Cooperative versus Competitive $t(184) = 3.63$, $r = 0.26$, $p < 0.01$). Overall change scores were also created using repeated measures ANOVAs for each behavioral item. Table 1 shows the overall change scores for each behavioral item, as well as the mean for each behavioral item within each visit.

Of the 68 overall behavioral change scores calculated across the three experimental sessions, 48 were significant at the $p < 0.01$ level, and 53 at the $p < 0.05$ level. In other words, almost every item showed a conventionally statistically significant amount of change across experimental conditions. We similarly observed a good deal of behavioral change between pairs of visits. Of the 68 behavioral change scores calculated between the unstructured and cooperative interactions, 42 were significant at the $p < 0.01$ level and 48 were significant at the $p < 0.05$ level. Between the unstructured and competitive interactions, 39 were significant at the $p < 0.01$ level and 46 were significant at the $p < 0.05$ level. Finally, between the cooperative and competitive interactions, 33 were significant at the $p < 0.01$ level and 41 were significant at the $p < 0.05$ level. Unquestionably, behavior changed a good deal across the three experimental situations.

Some behaviors changed more than others. The three behaviors that changed the most, on average, across the three situations were "volunteers a large amount of information about the self" ($F(2,296) = 921.32$, $\eta_p^2 = 0.86$, $p < 0.01$), "concentrates on or works hard at a task" ($F(2,296) = 663.49$, $\eta_p^2 = 0.82$, $p < 0.01$), and "interviews others" ($F(2,296) = 472.67$, $\eta_p^2 = 0.76$, $p < 0.01$). The three behaviors that changed the least, on average, across the three visits were "expresses warmth" ($F(2,296) = 0.13$, $\eta_p^2 = 0.00$, $p = 0.88$), "expresses criticism" ($F(2,296) = 0.21$, $\eta_p^2 = 0.00$, $p = 0.81$), and "blames others" ($F(2,296) = 0.24$, $\eta_p^2 = 0.00$, $p = 0.78$).

Inspection of Table 1 reveals that the largest changes in behavior were between the unstructured interaction, on the one hand, and the two task-oriented interactions (the cooperative and competitive situations) on the other. Similarly, the pattern of behavioral change (i.e., the rank-order stability of the amount of change of each of the 68 behavioral items) was most similar between the unstructured-cooperative and unstructured-competitive visit pairs, as can be seen in Table 2. The cooperative and competitive visits were more task-oriented compared to the unstructured interaction, which was a free, informal conversation. In that sense, the situational demands of the two task-oriented visits were relatively similar to each other, and different from that of the unstructured visit.

3.2. Question 2: Behavioral consistency

Was behavior consistent across the three situations? The answer is, again, yes. To assess behavioral consistency, correlations

were calculated between each pair of visits for each of the 68 behaviors assessed[2]. Overall consistency scores were also created for each behavioral item by averaging[3] the three resulting cross-situational correlation coefficients. Table 3 shows the combined consistency scores for each behavioral item, as well as consistency scores for each behavior for each visit pair.

Of the 68 combined behavioral consistency scores, 25 were significant at the $p < 0.01$ level, and 34 at the $p < 0.05$ level. Eleven of the items had overall consistency scores greater than $r = 0.30$, four were at $r = 0.40$ or greater. Consistency scores between the individual visits showed similar patterns. Of the 68 cross-situational correlations between the unstructured and cooperative interactions, 24 were significant at the $p < 0.01$ level and 34 were significant at the $p < 0.05$ level (mean $r(160) = 0.17$, $p = 0.03$, 95% CI [0.02,0.32]); between the unstructured and competitive interactions, 18 were significant at the $p < 0.01$ level and 25 were significant at the $p < 0.05$ level (mean $r(167) = 0.12$, $p = 0.11$, [−0.03,0.27]). Finally, of the correlations between the cooperative and competitive interactions, 23 were significant at the $p < 0.01$ level and 29 were significant at the $p < 0.05$ level (mean $r(183) = 0.15$, $p = 0.04$, [0.00,0.29]). Overall, there was a good deal of behavioral consistency across situations.

Some behaviors were more consistent than others. The three most consistent behaviors were "exhibits an awkward interpersonal style" ($r(237) = 0.48$, $p < 0.01$, 95% CI [0.38,0.57]), "is reserved and unexpressive" ($r(237) = 0.42$, $p < 0.01$, [0.31,0.52]), and "is talkative" ($r(237) = 0.41$, $p < 0.01$, [0.30,0.51]). The three least consistent behaviors were "acts in a self-indulgent manner" ($r(237) = -0.05$, $p = 0.44$, [−0.17,0.08]), "displays ambition" ($r(237) = -0.03$, $p = 0.64$, [−0.16,0.10]), and "expresses self-pity or feelings of victimization" ($r(237) = -0.03$, $p = 0.64$, [−0.15,0.10]).

These behaviors show a similar pattern of consistency to that observed in Funder and Colvin (1991). Fifty-five items in the current RBQ were determined to have analogues in Funder and Colvin (1991) version of the same instrument. The consistencies of these behavioral items were found to be highly related across the two studies ($r(53) = 0.53$, $p < 0.01$, 95% CI [0.31,0.70]). This correlation reflects how many of the behaviors found to be most – and least – consistent by Funder and Colvin (1991) matched those of the current study. For example, "exhibits an awkward interpersonal style" (Funder & Colvin, 1991: $r(138) = 0.44$; current study: $r(237) = 0.48$) and "is reserved and unexpressive" (Funder & Colvin, 1991: $r(138) = 0.52$; current study: $r(237) = 0.42$) were highly consistent, and "expresses interest in fantasy or daydreams" (Funder & Colvin, 1991: $r(138) = -0.01$; current study: $r(237) = 0.01$) and "tries to undermine, sabotage, or obstruct" (Funder & Colvin, 1991: $r(138) = 0.06$; current study: $r(237) = 0.01$) showed less consistency. It is worth noting that more than half of the consistency correlations found in the current study were greater than $r = 0.21$, the average effect size r reported in the social psychological literature (Richard, Bond, & Stokes-Zoota, 2003).

Behaviors were also *consistently* consistent (Table 4). Behaviors that were relatively consistent between the unstructured and cooperative visits, for example, were also relatively consistent between the unstructured and competitive visits. Thus, as was seen in the earlier studies by Funder and Colvin (1991) and Furr and Funder (2004), some behaviors are – consistently – more consistent than others.

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[1] N varies across analyses due to occasional missing data (Unstructured: $N = 190$, Cooperative: $N = 205$, Competitive: $N = 211$), due to irrecoverable video recordings and participant non-attendance.

[2] For two gendered items – "behaves in a stereotypically masculine style" and "behaves in a stereotypically feminine style" – correlations were calculated separately by gender and then averaged.

[3] All average r's were computed using the Fisher r-to-z transformation.

Table 1
Overall mean-level change and behavioral means for each visit.

#	RBQ-item description	F	Unst. mean	Coop. mean	Comp. mean
2	Volunteers a large amount of information about self	921.32**	7.35_1	3.40_1	3.15_1
64	Concentrates on or works hard at a task	663.49**	$5.23_{1,2}$	7.96_1	7.86_2
1	Interviews others (if present)	472.67**	7.11_1	4.14_1	3.59_1
16	Shows a wide range of interests	472.50**	6.46_1	4.17_1	3.95_1
55	Behaves in a competitive manner	201.87**	4.07_1	4.45_1	6.10_1
59	Engages in constant eye contact with someone	120.41**	$6.29_{1,2}$	5.16_1	5.29_2
29	Seeks advice	119.89**	4.46_1	6.12_1	5.04_1
65	Engages in physical activity	112.49**	3.91_1	5.02_1	4.58_1
52	Offers advice	92.48**	4.99_1	6.33_1	5.41_1
3	Seems interested in what someone had to say	87.89**	7.77_1	6.94_1	6.58_1
63	Other(s) seeks advice from P	86.18**	4.86_1	5.93_1	5.28_1
26	Seeks reassurance	72.06**	4.12_1	5.28_1	4.80_1
20	Is talkative	66.13**	6.63_1	5.66_1	5.07_1
11	Is physically animated; moves around	63.26**	4.76_1	6.19_1	5.62_1
54	Emphasizes accomplishments	61.60**	5.17_1	4.74_1	4.64_1
58	Approaches physical contact with other(s)	58.53**	4.46_1	$5.12_{1,2}$	4.57_2
41	Shows interest in intellectual or cognitive matters	53.21**	6.22_1	6.83_1	4.86_1
10	Smiles frequently	50.89**	7.06_1	$6.03_{1,2}$	7.09_2
9	Laughs frequently	48.08**	6.48_1	5.55_1	6.85_1
31	Acts irritated	42.52**	2.84_1	3.24_1	3.90_1
14	Compares self to other(s)	30.24**	4.49_1	3.70_1	4.02_1
17	Talks at rather than with other(s)	29.30**	3.29_1	4.18_1	3.79_1
45	Displays ambition	27.02**	5.59_1	5.32_1	4.93_1
7	Exhibits social skills	25.92**	$7.47_{1,2}$	6.82_1	6.68_2
24	Expresses sympathy	25.83**	5.25_1	4.89_1	5.40_2
42	Seems to enjoy the situation	24.12**	$6.22_{1,2}$	6.83_1	6.69_2
50	Gives up when faced with obstacles	22.86**	4.42_1	$3.82_{1,2}$	4.26_2
40	Keeps other(s) at a distance	22.77**	4.73_1	5.25_1	5.50_1
62	Acts playful	21.89**	4.93_1	5.26_1	5.51_1
18	Expresses agreement frequently	18.34**	6.09_1	6.37_1	5.92_1
4	Tries to control the situation	18.22**	5.24_1	$6.04_{1,2}$	5.22_2
8	Is reserved and unexpressive	17.87**	$4.11_{1,2}$	4.94_1	5.23_2
68	Behaves in a stereotypically feminine style	12.29**	$4.75_{1,2}$	5.11_1	5.09_2
44	Says negative things about self	11.44**	3.59_1	3.59_2	$3.96_{1,2}$
15	Shows high enthusiasm and a high energy level	8.88**	5.22_1	5.73_1	5.47_1
13	Exhibits an awkward interpersonal style	8.03**	$3.78_{1,2}$	4.21_1	4.34_2
37	Is expressive in face, voice or gestures	7.86**	6.00_1	$5.77_{1,2}$	6.21_2
36	Behaves in a fearful or timid manner	7.62**	$4.04_{1,2}$	4.31_1	4.56_2
53	Speaks fluently and expresses ideas well	7.40**	6.49_1	6.47_2	$6.18_{1,2}$
47	Expresses self-pity or feelings of victimization	6.82**	3.78_1	$3.52_{1,2}$	3.84_2
22	Show physical signs of tension or anxiety	6.57**	4.88_1	4.81_1	$5.17_{1,2}$
56	Speaks in a loud voice	6.10**	5.11_1	5.08_2	$5.34_{1,2}$
25	Initiates humor	6.02**	5.36_1	4.95_1	5.14
38	Expresses interest in fantasy or daydreams	5.85**	$4.70_{1,2}$	4.57_1	4.55_2
39	Expresses guilt (about anything)	5.60**	3.56_1	3.70	3.83_1
60	Seems detached from the situation	5.31**	4.08_1	4.27	4.50_1
34	Expresses hostility	5.04**	2.20_1	2.25_2	$2.49_{1,2}$
12	Seems to like other(s) present	4.75**	$6.91_{1,2}$	6.67_1	6.75_2
43	Says or does something interesting	4.27*	$5.81_{1,2}$	5.60_1	5.61_2
51	Behaves in a stereotypically masculine style	4.17*	$4.90_{1,2}$	5.07_1	5.11_2
6	Appears to be relaxed and comfortable	4.06*	$7.15_{1,2}$	7.40_1	7.41_2
27	Exhibits condescending behavior	3.61*	$3.84_{1,2}$	4.07_1	4.09_2
21	Expresses insecurity	3.07*	3.71_1	3.73_2	$3.95_{1,2}$
57	Speaks sarcastically	2.66†	4.11	4.24_1	4.08_1
33	Tries to undermine, sabotage or obstruct	2.62†	2.20	2.08_1	2.25_1
49	Behaves in a cheerful manner	2.54†	5.92	6.07	6.12
23	Exhibits a high degree of intelligence	2.17	5.37	5.42_1	5.29_1
28	Seems likable (to other(s) present)	1.64	6.92	7.01	7.05
35	Is unusual or unconventional in appearance	1.64	3.34	3.40	3.48
67	Exhibits physical discomfort or pain	1.48	4.38	4.24	4.36
61	Speaks quickly (low placement = speaks slowly)	1.46	5.28	5.40	5.32
5	Dominates the situation	1.30	5.26	5.45	5.18
66	Acts in a self-indulgent manner	1.15	4.55	4.47	4.57
30	Appears to regard self as physically attractive	1.01	4.65	4.65	4.73
48	Expresses sexual interest	0.95	3.38	3.28	3.27
46	Blames others (for anything)	0.24	3.59	3.57	3.54
19	Expresses criticism	0.21	4.68	4.66	4.62
32	Expresses warmth	0.13	5.12	5.14	5.16

Note: N = 149. N represents participants with no missing data across all three visits. "Unst." = unstructured visit; "Coop." = cooperative visit; "Comp." = competitive visit. Visit means that share a subscript are significantly different from each other at $p < 0.05$. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

Table 2
Consistency of change.

	1	2	3
1. Change from unstructured to cooperative	–	0.85**	0.25*
2. Change from unstructured to competitive		–	0.19
3. Change from cooperative to competitive			–

Note: $N = 68$. Change scores are t's calculated by using paired-samples t-tests.
* $p < 0.05$, ** $p < 0.01$.

3.3. Question 3: How are behavioral change and consistency related?

After assessing both mean-level changes and behavioral consistency independently, the next step was to assess the degree to which one was related to the other. Previous findings have shown them to be almost completely unrelated (e.g., Funder & Colvin, 1991; Roberts & Donahue, 1994). The present results are similar, as can be seen in Table 5. Behavioral mean-level change and consistency had near-zero correlations in behavioral comparisons between the unstructured and cooperative interactions ($r(66) = -0.01$, $p = 0.91$, 95% CI [−0.25,0.23]), the unstructured and competitive interactions ($r(66) = -0.02$, $p = 0.88$, [−0.26,0.22]), and the cooperative and competitive interactions ($r(66) = 0.03$, $p = 0.79$, [−0.21,0.27]). Overall scores were also unrelated; the correlation between overall mean-level change and overall cross-situational consistency was $r(66) = -0.07$, $p = 0.58$, [−0.30,0.17].

Indeed, some of the behaviors that changed the most across situations were also the most consistent. For example, the behavior "laughs frequently" changed substantially across situations ($F(2,296) = 48.08$, $\eta_p^2 = 0.25$, $p < 0.01$), yet also showed a high degree of consistency ($r(237) = 0.33$, $p < 0.01$, 95% CI [0.22,0.44]). Some behaviors were higher in consistency than in change (e.g., "appears to regard self as physically attractive" change $F(2,296) = 1.01$, $\eta_p^2 = 0.01$, $p = 0.37$; consistency $r(237) = 0.25$, $p < 0.01$, [0.13,0.36]), some were higher in change than in consistency (e.g., "seeks advice" change $F(2,296) = 86.18$, $\eta_p^2 = 0.37$, $p < 0.01$; consistency $r(237) = -0.01$, $p = 0.88$, [−0.14,0.12]), and others were high in neither (e.g., "blames others" change $F(2,296) = 0.24$, $\eta_p^2 = 0.00$, $p = 0.78$; consistency $r(237) = -0.02$, $p = 0.76$, [−0.15,0.10]).

3.4. Question 4: Which behaviors show the most change? Which are more consistent?

After finding that behaviors do indeed have varying degrees of change (Table 2) and consistency (Table 4), the next step was to explore properties of behaviors that might account for these differences. Although there are many ways to characterize behavior, we chose to highlight three: the degree to which behaviors are automatic, the degree to which they are socially desirable, and the degree to which the behavioral descriptor describes a relatively wide range of actions. The behavioral characteristic of automaticity was examined in Furr and Funder (2004) and found to be strongly related to behavioral consistency, but this finding has not since been replicated. In the same paper, the behavioral characteristic of social desirability was found to be unrelated to consistency. We chose to reexamine social desirability due to a recent finding by Guillaume et al. (2015) that positive items on the Riverside Situational Q-sort (RSQ; Wagerman & Funder, 2009) varied less across cultures than did more negative items. Finally, the breadth of behavioral description was explored to assess the degree to which the well-known bandwidth-fidelity tradeoff (Cronbach & Gleser, 1965; Ones & Viswesvaran, 1996) might account for relative consistency.

Five raters assessed the items of the RBQ for each characteristic, using definitions taken from Furr and Funder (2004). For automaticity[4]:

"Please rate each of the following behaviors for the degree to which it is primarily a cognitively mediated behavior versus an impulsive behavior. A cognitively mediated behavior is one that is relatively deliberate, requiring some degree of interpretation of the situation and consideration of the consequences of enacting the behavior. An impulsive behavior is one that is relatively automatic, one that is more of an automatic reaction elicited by the situation".
[(Furr & Funder, 2004, p. 435; adapted from Shoda et al., 1993)]

The five raters demonstrated good reliability ($\alpha = 0.70$) in rating this behavioral attribute. For social desirability:

"Please rate each of the following behaviors for the degree to which it is socially desirable. That is, rate each behavior for the degree to which people generally see it as favorable and good to exhibit the behavior versus unfavorable and negative".
[(Furr & Funder, 2004, p. 436)]

For this behavioral characteristic, the five raters demonstrated excellent reliability ($\alpha = 0.93$). Ratings for broad/narrow were made according to the following instructions:

"Please rate each of the following behaviors for the degree to which it is global or broad. A behavior that is global can refer to a broader category of behaviors that can be interpreted loosely to apply to many situations. A behavior that is narrow refers to a specific behavior that has one or few meanings".
[(adapted from Funder, 1991)]

The three raters demonstrated good reliability ($\alpha = 0.76$) in rating this behavioral attribute. The five highest- and lowest-rated items for automaticity, social desirability, and broad/narrow can be found in Tables 6–8, respectively.

The relationship between automaticity and behavioral change was moderate in the negative direction (Table 9; $r(66) = -0.26$, $p = 0.04$, 95% CI [−0.47,−0.02]). That is, behaviors that were less automatic – more controlled – showed a greater degree of change. The relationship between automaticity and behavioral consistency was much stronger ($r(66) = 0.41$, $p < 0.01$, [0.19,0.59]). That is, behaviors that were more automatic – less controlled – showed a much greater degree of consistency. Behaviors with high automaticity scores and relatively high cross-situational consistency included "exhibits an awkward interpersonal style," "exhibits social skills," and "smiles frequently." Behaviors with low automaticity scores and relatively low consistency included "tries to undermine, sabotage, or obstruct," "shows interest in intellectual or cognitive matters," and "expresses criticism."

We found insufficient evidence to support a relationship between social desirability and behavioral change ($r(66) = 0.17$, $p = 0.18$, 95% CI [−0.08,0.39]), or between social desirability and behavioral consistency ($r(66) = 0.09$, $p = 0.49$, [−0.16,0.32]). The latter finding is consistent with Furr and Funder (2004), who also failed to find a significant relationship between behavioral consistency and social desirability (similar situations: $r = 0.03$; dissimilar situations: $r = -0.06$).

Behaviors described in terms that were rated as broader and less narrow were relatively consistent across situations ($r(66) = 0.23$, $p = 0.06$, [−0.01,0.44]). Behavioral descriptors rated as relatively broad that were also relatively consistent included "seems likable" and "tries to control the situation." Narrower

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[4] "Cognitively mediated" ratings were reverse-scored to obtain automaticity scores.

Table 3
Cross-situational consistency correlation coefficients.

#	RBQ-item description	Overall	Unst. × Coop.	Unst. × Comp.	Coop. × Comp.
13	Exhibits an awkward interpersonal style	0.48**	0.55**	0.38**	0.49**
8	Is reserved and unexpressive	0.42**	0.47**	0.38**	0.41**
20	Is talkative	0.41**	0.50**	0.36**	0.37**
36	Behaves in a fearful or timid manner	0.40**	0.48**	0.37**	0.33**
40	Keeps other(s) at a distance	0.38**	0.43**	0.34**	0.38**
10	Smiles frequently	0.38**	0.39**	0.35**	0.42**
15	Shows high enthusiasm and a high energy level	0.38**	0.44**	0.41**	0.30**
7	Exhibits social skills	0.38**	0.48**	0.32**	0.33**
60	Seems detached from the situation	0.37**	0.47**	0.34**	0.28**
9	Laughs frequently	0.33**	0.38**	0.27**	0.36**
49	Behaves in a cheerful manner	0.33**	0.32**	0.29**	0.36**
22	Show physical signs of tension or anxiety	0.28**	0.32**	0.25**	0.28**
56	Speaks in a loud voice	0.27**	0.31**	0.29**	0.21**
31	Acts irritated	0.25**	0.22**	0.19*	0.35**
30	Appears to regard self as physically attractive	0.25**	0.20*	0.20**	0.34**
4	Tries to control the situation	0.24**	0.22**	0.27**	0.24**
62	Acts playful	0.23**	0.18*	0.21**	0.31**
5	Dominates the situation	0.22**	0.12	0.29**	0.26**
25	Initiates humor	0.22**	0.23**	0.20**	0.23**
42	Seems to enjoy the situation	0.22**	0.26**	0.09	0.30**
32	Expresses warmth	0.22**	0.18*	0.18*	0.29**
37	Is expressive in face, voice or gestures	0.20**	0.20*	0.08	0.32**
35	Is unusual or unconventional in appearance	0.20**	0.29**	0.18*	0.12†
1	Interviews others (if present)	0.19**	0.23**	0.18*	0.18*
12	Seems to like other(s) present	0.19**	0.24**	0.16*	0.17*
28	Seems likable (to other(s) present)	0.16*	0.17*	0.15†	0.15*
2	Volunteers a large amount of information about self	0.16*	0.16*	0.15†	0.16*
6	Appears to be relaxed and comfortable	0.15*	0.28**	0.16*	0.00
51	Behaves in a stereotypically masculine style	0.15*	0.26**	0.10	0.07
63	Other(s) seeks advice from P	0.15*	0.16*	0.13	0.15*
21	Expresses insecurity	0.14*	0.13†	0.15†	0.14†
54	Emphasizes accomplishments	0.13*	0.14†	0.16†	0.09
19	Expresses criticism	0.13*	0.15†	0.14†	0.10
55	Behaves in a competitive manner	0.13*	0.09	0.08	0.20**
64	Concentrates on or works hard at a task	0.12†	0.24**	0.10	0.02
3	Seems interested in what someone had to say	0.12†	0.20*	0.07	0.09
24	Expresses sympathy	0.10	0.07	0.13†	0.11
65	Engages in physical activity	0.10	0.06	0.15†	0.10
52	Offers advice	0.10	0.15†	0.01	0.14†
27	Exhibits condescending behavior	0.09	0.06	0.07	0.14†
61	Speaks quickly (low placement = speaks slowly)	0.09	0.20*	0.09	−0.03
68	Behaves in a stereotypically feminine style	0.08	0.08	−0.01	0.16*
34	Expresses hostility	0.07	0.11	0.05	0.05
41	Shows interest in intellectual or cognitive matters	0.07	0.03	0.12	0.07
26	Seeks reassurance	0.07	0.10	0.04	0.07
18	Expresses agreement frequently	0.07	0.25**	−0.09	0.04
23	Exhibits a high degree of intelligence	0.06	−0.03	0.09	0.14†
17	Talks at rather than with other(s)	0.06	0.10	−0.04	0.13†
50	Gives up when faced with obstacles	0.06	0.12	0.00	0.06
48	Expresses sexual interest	0.05	0.12	−0.05	0.07
11	Is physically animated; moves around	0.04	0.00	0.12	0.00
44	Says negative things about self	0.03	0.08	0.01	0.00
67	Exhibits physical discomfort or pain	0.03	0.06	−0.03	0.05
58	Approaches physical contact with other(s)	0.02	0.17*	−0.06	−0.05
57	Speaks sarcastically	0.02	−0.04	0.00	0.08
33	Tries to undermine, sabotage or obstruct	0.01	0.02	0.03	−0.02
53	Speaks fluently and expresses ideas well	0.01	−0.01	0.04	0.00
38	Expresses interest in fantasy or daydreams	0.01	−0.09	0.01	0.10
43	Says or does something interesting	0.01	−0.02	−0.02	0.05
29	Seeks advice	−0.01	−0.04	−0.02	0.03
59	Engages in constant eye contact with someone	−0.02	−0.04	−0.05	0.04
14	Compares self to other(s)	−0.02	−0.07	0.02	0.01
39	Expresses guilt (about anything)	−0.02	−0.04	0.03	−0.05
46	Blames others (for anything)	−0.02	0.01	−0.10	0.02
16	Shows a wide range of interests	−0.03	0.04	0.02	−0.14†
47	Expresses self-pity or feelings of victimization	−0.03	0.02	−0.04	−0.06
45	Displays ambition	−0.03	0.04	−0.06	−0.07
66	Acts in a self-indulgent manner	−0.05	−0.09	−0.08	0.03
	Average consistency r	0.15*	0.17*	0.12	0.15*

Note: N varies by analysis due to missing data. For gendered items – "behaves in a stereotypically masculine style" and "behaves in a stereotypically feminine style" – correlations were calculated separately by gender and then averaged. "Overall" represents the averaged r's (N = 239); "Unst. × Coop." represents the r's between the unstructured and cooperative interactions (N = 162); "Unst. × Comp." represents the r's between the unstructured and competitive interactions (N = 169); "Coop. × Comp." represents the r's between the cooperative and competitive interactions (N = 185). † p < 0.10, * p < 0.05, ** p < 0.01.

Table 4
Consistency of consistency.

	1	2	3
1. Consistency from unstructured to cooperative	–	0.82**	0.75**
2. Consistency from unstructured to competitive		–	0.81**
3. Consistency from cooperative to competitive			–

Note: N = 68. Consistency scores are r's calculated by correlating the behaviors of the two respective visits. **p < 0.01.

Table 5
Correlations between behavioral mean-level change and cross-situational consistency.

	Overall	Unstructured/ Cooperative	Unstructured/ Competitive	Cooperative/ Competitive
Change × consistency	−0.07	−0.01	−0.02	0.03

Note: N = 68. Overall change scores are F's calculated by using repeated measures ANOVAs, and visit-pair change scores are t's calculated by using paired-samples t-tests. Overall consistency scores are averaged r's, and visit-pair consistency scores are r's calculated by correlating behaviors of the two respective visits.

behaviors that were relatively inconsistent included "engages in constant eye contact" and "approaches physical contact." However, we found insufficient evidence to support a relationship between the broad/narrow dimension and behavioral change ($r(66) = −0.10$, $p = 0.42$, 95% CI [−0.33, 0.14]).

4. Discussion

The current study set out to examine four questions. First, would behavior change significantly across the three different interactions? Second, would behavior be consistent across the three situations? Third, would the findings of behavioral change and consistency be independent of each other? And, finally, what kinds of behaviors exhibit the most change and consistency?

The answers can be summarized briefly. First, behaviors showed a great deal of mean-level change across situations. Fifty-three out of sixty-eight change-score F's (calculated from repeated measures ANOVAs) were significant at the $p < 0.05$ level, and there was evidence for a consistent pattern of changes based on situational demands. Specifically, the items that showed the most change between the unstructured and cooperative visits were generally the same items that showed the most change between the unstructured and cooperative visits. This suggests that not only does behavior change across contexts, but it changes meaningfully with the demands of the situation at hand. Both the cooperative and competitive visits were task-oriented, requiring the participant to perform specific actions in order to "win" an extra five dollars. The unstructured visit, however, made no such demands, and participants were free to do as they pleased. A great number of participants shared a lot about themselves during the unstructured visit, but were much less likely to do so during either of the task-oriented visits.

Second, behaviors showed a great deal of consistency across situations. Exactly half of all correlation coefficients were significant at the $p < 0.05$ level. Behaviors were not just consistent between

Table 6
Automaticity of behavior, behavioral mean-level change, and cross-situational consistency.

#	RBQ-item description	Automaticity	Change	Consistency
Highest automaticity scores				
42	Seems to enjoy the situation	7.80	24.12**	0.22**
13	Exhibits an awkward interpersonal style	7.00	8.03**	0.48**
37	Is expressive in face, voice or gestures	7.00	7.86**	0.20**
7	Exhibits social skills	6.80	25.92**	0.38**
10	Smiles frequently	6.80	50.89**	0.38**
Lowest automaticity scores				
4	Tries to control the situation	2.00	18.22**	0.24**
33	Tries to undermine, sabotage or obstruct	2.00	2.62†	0.01
19	Expresses criticism	2.20	0.21	0.13*
1	Interviews others (if present)	2.80	472.67**	0.19**
41	Shows interest in intellectual or cognitive matters	2.80	53.21**	0.07

Note: Automaticity scores are out of 9 and are averages of five raters. Change scores are F's calculated by using repeated measures ANOVAs (N = 149). Consistency scores are averaged between-visit r's (N = 239). †p < 0.10, *p < 0.05, **p < 0.01.

Table 7
Social desirability of behavior, mean-level behavioral change, and cross-situational consistency.

#	RBQ-item description	Social desirability	Change	Consistency
Highest social desirability scores				
7	Exhibits social skills	8.60	25.92**	0.38**
28	Seems likable (to other(s) present)	8.40	1.64	0.16*
32	Expresses warmth	7.80	0.13	0.22**
3	Seems interested in what someone had to say	7.60	87.89**	0.12†
16	Shows a wide range of interests	7.40	472.50**	−0.03
Lowest social desirability scores				
33	Tries to undermine, sabotage or obstruct	1.40	2.62†	0.01
27	Exhibits condescending behavior	1.60	3.61*	0.09
34	Expresses hostility	1.80	5.04**	0.07
13	Exhibits an awkward interpersonal style	2.20	8.03**	0.48**
22	Show physical signs of tension or anxiety	2.20	6.57**	0.28**

Note: Social desirability scores are out of 9 and are averages of five raters. Change scores are F's calculated by using repeated measures ANOVAs (N = 149). Consistency scores are averaged between-visit r's (N = 239). †p < 0.10, *p < 0.05, **p < 0.01.

Table 8
Broad/narrow behavior, mean-level behavioral change, and cross-situational consistency.

#	RBQ-item description	Broad	Change	Consistency
Highest broad scores				
28	Seems likable (to other(s) present)	8.60	1.64	0.16[*]
6	Appears to be relaxed and comfortable	7.80	4.06[*]	0.15[*]
23	Exhibits a high degree of intelligence	7.40	2.17	0.06
42	Seems to enjoy the situation	7.40	24.12[**]	0.22[**]
4	Tries to control the situation	7.00	18.22[**]	0.24[**]
Lowest broad scores				
59	Engages in constant eye contact with someone	1.40	120.41[**]	−0.02
56	Speaks in a loud voice	2.20	6.10[**]	0.27[**]
9	Laughs frequently	2.40	48.08[**]	0.33[**]
10	Smiles frequently	2.60	50.89[**]	0.38[**]
58	Approaches physical contact with other(s)	2.60	58.53[**]	0.02

Note: Broad/narrow scores are out of 9 and are averages of five raters. Change scores are F's calculated by using repeated measures ANOVAs ($N = 149$). Consistency scores are averaged between-visit r's ($N = 239$). [*] $p < 0.05$, [**] $p < 0.01$.

Table 9
Correlations between cross-situational change and consistency and behavioral characteristics.

Characteristic	Change	Consistency
Automaticity	−0.26[*]	0.41[**]
Broad/narrow	−0.10	0.23[†]
Social desirability	0.17	0.09

Note: $N = 68$. [†] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$.

visits – behaviors were *consistently* consistent. Behaviors found to be consistent between one visit pair were likely to be consistent across all visits. This pattern shows that behaviors some are relatively consistent regardless of the situation. Those who are more talkative in an unstructured interaction also are more talkative when working together or competing with others. Those who take competition very seriously and are focused on winning at Simon are also more competitive and focused during the cooperative task than the average person. Many more examples can be seen by comparing Tables 1 and 3. Even though the demands of the situations were different by design, we still observed a great deal of consistency across visits.

Finally, we found that behaviors varied in how much they changed and remained consistent; specifically, that the extent to which a behavior is automatic is negatively related to behavioral change, and positively related to behavioral consistency. Behaviors high in automaticity, such as "exhibits an awkward interpersonal style" and "behaves in a fearful or timid manner" were both high in consistency and – relatively – low in mean-level change. While we found no evidence that the social desirability of the term in which a behavior is described is associated with either consistency or change, behaviors described in broader or more global terms were relatively consistent. This last finding was to be expected on psychometric grounds (Cronbach & Gleser, 1965; Ones & Viswesvaran, 1996): broader behavioral categories refer to wider range of specific manifestations and allow consistency to emerge in phenotypically diverse ways over time and across situations. The present findings provide an illustration of this principle. A goal of future research should be to identify other properties of behavior that might moderate of change and consistency.

For now, one overall conclusion is clear: Statements that imply that the adaptability or changeability of behavior across contexts somehow implies that behavioral consistency must be low are more than just subtly incorrect. They are fundamentally misleading. Even as the person-situation debate simmers slowly down after decades at a near-boil (Funder, 2009), some researchers remain attracted to the idea that behavior must be inconsistent or strongly "contextualized," because the idea of inconsistency or contextualization seems to imply greater behavioral adaptability. This attraction is misguided, because as this study and others demonstrate, the maintenance of a consistent personal behavioral style in no way rules out an ability to respond flexibly to changing situational circumstances.

Acknowledgement

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