Structural Similarities among Significant Others and Acquaintances: Measurable?

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This study employs a variation of Kelly's Repertory grid, called the Star matrix, as a model to depict objects and structures in individual consciousness. It uses numbers as symbolic portrayals of figure representations in psychological space, and then explores whether a computation of similarity among these representations reasonably reflects the structures in mental life. Participants were 66 adolescents. Q correlation was used to measure structural similarities among significant others and acquaintances. This was compared to participants' rank-ordering of acquaintances according to perceived similarity with a significant other. Using idiographic-nomothetic methods, it was found that there was a fair convergence of the structural measure with participants' perception. Analysis of participants' essays further showed that the structural measure was meaningful to a subject when congruence was high between the Q and participants' perception.

The Star matrix was used by Bulatao (2003) as a model of mental life in his continuing research of consciousness. The various computations generated from values on the matrix were used as tools for helping an individual gain awareness of, and notice, the structures in one's own psychological space. A respondent was asked to reflect on the meaningfulness of a measure and encouraged to elaborate on relevant personal experiences, through written essays or verbal reports. *As such, the computations were used to stimulate self-reflection on one's own inner world.*

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The Star matrix is a variation of the Rep grid (Kelly, 1955) that focuses on pattern relationships among persons on the columns, instead of constructs on the rows. Thirty-six traits are supplied, instead of elicited, and these traits are unidimensional, instead of bipolar. Each person on the column is evaluated according to how intensely a trait on the row describes that person. According to Bulatao (personal communication, 2004), the numbers down a column of the matrix would be a numerical depiction of a person in the respondent's inner world.

He pictured each person representation in mental space as a wave, with crests where traits were intense, and troughs where traits were weak (Bulatao, personal communication, 2004). In psychological space, there would be a strong similarity between a significant other and an acquaintance if the wave forms of traits for both persons co-vary and went "up and down in the same way". Thus when a trait was intense in one person, it was also intense in the other. If it was weak in one person, it was also weak in the other. The representations of the two persons thus covary positively. On the other hand, there would be a strong difference between the two persons if the patterns of traits undulate in opposite directions, or covary negatively.

Like Kelly (1955), Bulatao (2003) used the matrix idiographically to study the mathematical structure of an individual's psychological space. But instead of nonparametric analysis, Bulatao (2003) used Q methods.

THE Q METHOD

The Q method, embodies a group of procedures intended as an objective means to study the subjective (Robbins & Krueger, 2002). In Q methods, subjectivity is modeled by asking a respondent to systematically evaluate a purposefully sampled set of stimuli. The responses on all the stimuli are taken wholistically to describe that person's view. This is unlike R methods, such

as surveys, where each item response is treated as a separate entity and matched against the responses of other individuals (Robbins & Krueger, 2002).

Q correlation is the correspondence between two subjective points of view on the same set of stimuli. It is the Pearson's correlation where persons, instead of traits, are the variables (Bulatao, 2003; Youngstrom, Loeber, Stouthamer, Lober, 2000). The person variable reflects a wholistic profile of the person's opinion across the different items under research.

The Q sort is a procedure within the Q methodology which functions to ensure normal distribution of an individual's responses. It is like a card game, where each card contains a written statement about the topic under research. A respondent sorts out the statements along a bell-shaped distribution of about nine categories anchored at one point by a descriptive title such as "agree most" and at the opposite extreme by one such as "disagree most" (Cowen, Budin, Wolitzky & Stiller; 1960; Robbins & Krueger, 2002). Q sort is sometimes used prior to Q correlation to ensure normal distribution of an individual's responses.

The purpose of this study is to determine if a measure of the structural similarity among significant others and acquaintances is reflective of mental life. The research is divided into two parts. The first part hopes to determine the goodness of match between the structural measure and participant's verbal reports. Whereas the former is a researcher generated computation using Q correlation, the latter is the subject's intuitive rank-ordering of acquaintances according to degree of perceived similarity with a significant other (SO).

STUDY 1

Method

To answer the first research question, two measures of similarities among SO and acquaintances are compared. One

measure is based on participant's report of perceived similarity among significant others and acquaintances. Respondents rank acquaintances according to degree of likeness with a significant other. The second is a measure of structural similarity among significant others and acquaintances. It is a computed relationship, using Q correlation, between a significant other and an acquaintance.

Participants

Participants were 66 adolescents, aged 18 to 22 years. Twenty were Ateneo juniors in interdisciplinary studies, humanities, and social science; 24 were Ateneo sophomore taking biology and philosophy; while 22 were senior students of Christ the King SVD Seminary in New Manila.

Measures

Participant reports. Participants' reports of perceived similarity between an SO and acquaintance is based on some global or topological likeness that is meaningful to the subject. An individual's basis for judging how two persons are alike is implicit, and therefore unknown to the researcher.

Participants' perceptions were operationally measured through ranking. Subjects for example, were asked to rank 14 acquaintances from most similar to mom (1) to most different from mom (14). Three ranked data arrays were obtained: one for mom, dad, and best friend. These measures were deemed valid reflections of an individual's own perception, even as it might be biased, prejudiced, or affect laden (Saarni, 1999; Robbins & Krueger, 2000).

Structural measure. The structural measure is the computed degree of similarity between a SO and an acquaintance. The basis for determining similarity is explicit and is based on 25 supplied traits likely shared by the SO and an acquaintance. The Q correlation is used as the structural measure. This is also the

Pearson correlation where persons are the variables (Bulatao, 2003; Youngstrom et al., 2000). Its magnitude reflects how strongly the traits of an SO and acquaintance match against each other, based on the notion of correspondence and parallel connectivity.

Instrument

To obtain the structural measure, the Star matrix was used (Bulatao, 2003). There were 15 persons on the columns, each rated on 25 traits on the rows (Appendix A). Traits were supplied to allow some degree of standardization and to obtain meaningful conclusions from the data across different individuals.

The traits were rated on a multicategory scale indicating how intensely a participant perceived the presence of the trait in an SO or acquaintance. While the ratings reflect inner subjective views that might be interpreted as inaccurate, unreliable, and unstable, it is nevertheless what is meaningful to a participant. It reflects the individual's subjective evaluation of SO and acquaintances, whether in a particular context or as a whole, and contributes significantly to understanding what is in the mind and how one perceives other persons (Saarni, 1999; Robbins & Krueger, 2000).

The supplied traits were adjectives originally used by Bulatao (2003) to measure Filipino qualities. For adolescents from Manila who could speak English, the scales were found to be reliable, with alpha ranging from 0.67 to 0.81 for the constructs gregarious, diligent, temperamental, smart, and quiet. Using factor analysis, the traits were also found to have construct validity for 206 adolescents, and for the broader population of Manileños (Dans-Lopez, 2005).

Procedure

Subjects were first asked to complete a form that elicited 15 persons they knew based on a list of role titles. Participant's

opinion of similarities was then obtained. They were asked to rank the identified persons from 1 to 14 according to who they thought was most similar to mom (rank of 1) to most different from mom (rank of 14). The task was repeated, ranking those most similar to dad, and then most similar to best friend in the same way. This yielded a rank matrix of 3 significant others x 15 persons. An example of the completed task is shown in Table 1, column a.

Table 1. Example of Matrix Data for Conrado

	(a) Participant report Rank			(b) Empirical measure Q correlations			(c) Transformed Q Q converted to rank		
	Mom	Dad	Best	Mom	Dad	Best	Mom	Dad	Best
Mom	0	6	3	1.00	.32	-.28	0	4	12
Dad	11	0	11	.32	1.00	.06	5	0	8
Sister	9	4	13	.20	.12	-.51	9	8	14
Brother	5	1	4	.43	.66	.28	4	1	5
Current partner	3	14	2	.48	-.19	-.13	2	14	11
Ex	2	2	7	.23	.21	.24	7	6	6
Bestfriend	12	9	0	-.28	.06	1.00	11	9	0
Rejected me	2	3	9	.23	.55	-.09	7	2	9
Pitied	4	12	6	.43	-.11	-.31	4	12	13
Successful	6	5	10	.64	.41	-.11	1	3	10
Happy	13	10	5	-.31	.29	.69	13	5	1
Uneasy	14	13	14	-.43	-.05	.45	14	11	4
Teacher	1	8	8	.21	-.15	.16	8	13	7
Disliked	8	11	12	-.13	-.01	.47	10	10	3
Self	7	7	1	-.31	.13	.65	13	7	2

The structural measure was next computed by using the Star matrix. Subjects were first asked to evaluate each of the 15 persons on 25 traits using the Q sort technique. They were given a Q sort form in Microsoft Word format. Using the computer,

the subjects described one person on their matrix by dragging each of 25 traits boxes onto a pyramid with 9 categories anchored at one end by a title "most descriptive" and at the opposite end by "least descriptive". The rest of the traits were sorted into in-between categories according to how strongly the participant felt a trait described an SO or acquaintance.

Scores were then assigned to traits and were transferred onto the Star matrix such that each person on the grid had a score for each of the 25 traits. A score ranged from 1 to 9, with higher numbers indicating that the respondent perceived a stronger presence of the trait in a person. Participants were told that the numbers at the bottom of the Q sort pyramid represented the scores for the cells in that column. Thus the trait at the rightmost cell of the pyramid (most descriptive) had a score of *9* and there was only one trait with a score of *9*. The trait at the leftmost cell of the pyramid (least descriptive) had a score of *1* and there was only one trait with a score of *1*. There were two traits with a score of *2*, three traits with a score of *3*, four traits with a score of *4*, five traits with a score of *5*, four traits with a score of *6*, three traits with a score of *7*, and two traits with a score of *8*. As such, the score for each trait depended on which cell column on the pyramid it was placed. This yielded an approximately normal distribution of trait scores for each of the persons on the grid.

Respondents entered the Star matrix data onto a Microsoft Excel worksheet, saved onto a floppy diskette, and submitted this to the researcher. Q correlation among the persons on the Star matrix was then obtained. In SPSS, this yields a 15 persons x 15 persons symmetrical matrix of similarity. The cell intersection of a significant other on the column with an acquaintance on the row reflected the Q correlation, or structural measure, between the two persons. Only the three columns reflecting similarity of mom, dad, and best friend (3 significant other), with all other persons on the grid (15 acquaintances) were selected for analysis (Table 1, column b) and copied onto a new matrix.

DATA ANALYSIS

To determine convergence of participants' reports and the structural measure, INDSCAL was used. This generated a perceptual map that showed the relative positions of mom, dad, and best friend on the two different measures. To do this, the rank matrix for each respondent, was keyed in as three additional columns on the participant's Q correlation matrix, yielding a matrix with 6 SO on the columns (rank and Q for mom, rank and Q for dad, and rank and Q for best friend) and 15 acquaintances on the rows.

Since mapping procedures are based on distance rather than variance, the input data had to be on the same rating scales, traditionally nonmetric (Hair, Anderson, Tattham, & Black, 1998). Q correlation however is metric, and so was transformed to ranks with reversed order (Table 1c). Thus, the person most positively correlated with mom was given a rank of 1, while the person most negatively correlated with her was given a rank of 14.

The entire matrix for all participants were then stacked one on top of the other so that there would be only one source of input for analysis. This large matrix was thus a 6 SO (rank and transformed Q for mom, dad, best friend) x 15 acquaintances x 66 participants.

The individual differences scaling model (INDSCAL) was then used to map out the six SO variables to examine the match between the rank data and the transformed Q correlation. The INDSCAL model is a type of multidimensional scaling technique that compromises between using a single map to reflect perceptions of all individuals together, and one where a separate map is used for each individual (Lattin, Carroll, & Green, 2003). Consequently, there is just one map for all individuals, but each individual is allowed different weights influencing the nomothetic map.

RESULTS

SPSS INDSCAL was first used to generate a two-dimensional map (Figure 1). The chart visually shows that the participants' reports (rank) converge with the structural measures (q). The rank for mom is closest to the Q for mom. The rank for dad is closest to the Q for dad. And the rank of best friend is closest to the Q for best friend. Furthermore, each SO pair occupies a space separate from the other SO pairs. Dad occupies a space separate from best friend, and best friend is distinct from mom.

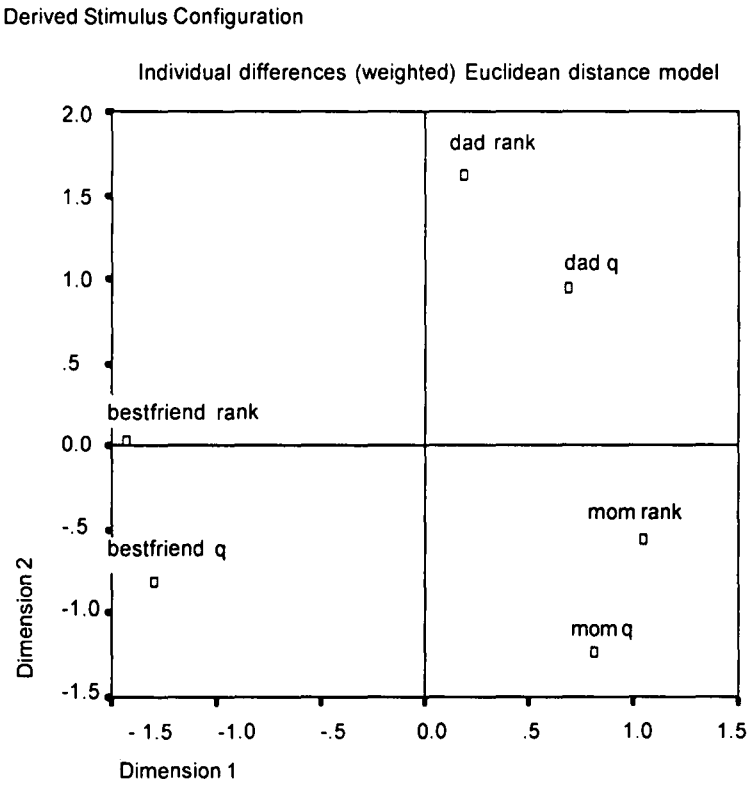

Figure 1. INDSCAL map of participant report (rank) and structural measure (q).

This visually provided some evidence that participants' reports of similarity converge with the structural measures.

However, the stress was 0.28. Stress is a measure of badness of fit, and one would prefer a lower number (Lattin et al., 2003). A 3-dimensional solution showed an improvement, with a stress of 0.13. By rule of thumb, this shows that the solution is fair (Lattin et al., 2003).

Looking at the stimulus coordinates (Table 2), the first dimension again provides evidence for convergence of the correlations and rank measures on all SO instances. On the second dimension however, all the rank measures were on one polar end, while the Q correlations were on the other extreme. The third dimension too showed that the measures for mom converged, but those for dad and best friend tended to be jumbled up. These last two dimensions indicated that the convergence was not absolute and that there were some measurement errors.

Table 2. INDSCAL stimulus coordinates for 3 dimensions

		Dimension		
		1	2	3
Mom	Rank	.0122	.7274	1.4838
	Transformed Q	.5196	-1.0747	1.2940
Dad	Rank	.8114	1.4988	-.6304
	Transformed Q	1.2619	-.4926	-1.0014
Best friend	Rank	-1.5098	.5677	-.3901
	Transformed Q	-1.0953	-1.2266	-.7559

DISCUSSION

In answer to the first research question, the results do show that there was a fair convergence of the structural measure with participants' reports of perceived similarities between SO

and acquaintances. It gave positive indications that it was possible to use numbers to symbolically represent the objects and the structures in a person's mind.

The measurement was not perfect, however. Studying an inner world poses difficult methodological problems because one must make inferences from empirical data to complex mental structures that can never be directly observed or reported (Eells & Horowitz, 1992). Any measure of subjectivity can never be perfect (Annett, 2002; McKenna, 2002). The challenge remains to find one that has a satisfactory fit with participants' reports, thereby minimize error.

From the point of view of this researcher, the results were encouraging. The two-dimensional map showed that similarity of acquaintances with mom, dad, and best friend, by whichever measure, tended to cluster together. Looking at the picture (Figure 1) from just a single dimension, say the horizontal one, does not show that the various ranks and Q converge. But viewing it wholistically on two dimensions, the rank and Q come together for each SO. Although Q correlation is wanting in accuracy, the perceptual map gives fair evidence that it is possible to represent objects and structures in the minds symbolically by the use of numbers.

STUDY 2

This part of the research takes a closer look at participants' experiences. It attempts to clarify whether the computations do reflect an inner reality. According to Denzin and Lincoln (1994), individual points of view can be captured qualitatively in order to secure richer details about the participant's experience. It is in this spirit that selected subjects were asked to write essays on how they personally felt about the Q correlations.

Method

A concurrent quantitative-qualitative nested design (Creswell et al., 2003) was used to find how meaningful the structural measures were to participants (Figure 2). First, quantitative measures were used to stratify essay portions. The congruence between rank and Q were computed for each SO, for each participant, using Spearman's correlation. Extreme cases of high and low congruence were identified, and then used to select corresponding essay portions.

The selected essay portions were then analyzed qualitatively. A comparison was made between essays identified with high and low congruence to determine if there were themes that distinguished the two. Grounded theory approach was used in the analysis of the essays (Charmaz, 1994; Ryan & Bernard, 1994).

Participants

The twenty Ateneo juniors who had completed the Star matrix and the rank tasks in Study 1 were selected for the second part of the research. These students were taking a course on Personality as an elective, with the researcher as teacher. The Star matrix and the essays were part of the course requirements.

Measure

In this research, congruence is operationally defined as the correspondence between the structural measure and a participant's report of similarity among SO and acquaintances. For each participant, congruence was quantitized using Spearman's correlation (rs), between the rank and the Q correlation (Table 1, columns a and b). The sign of the Q correlation was reversed to reflect the same order as the rankings. This brought about three measures of congruence for every student: one each for mom, dad, and best friend.

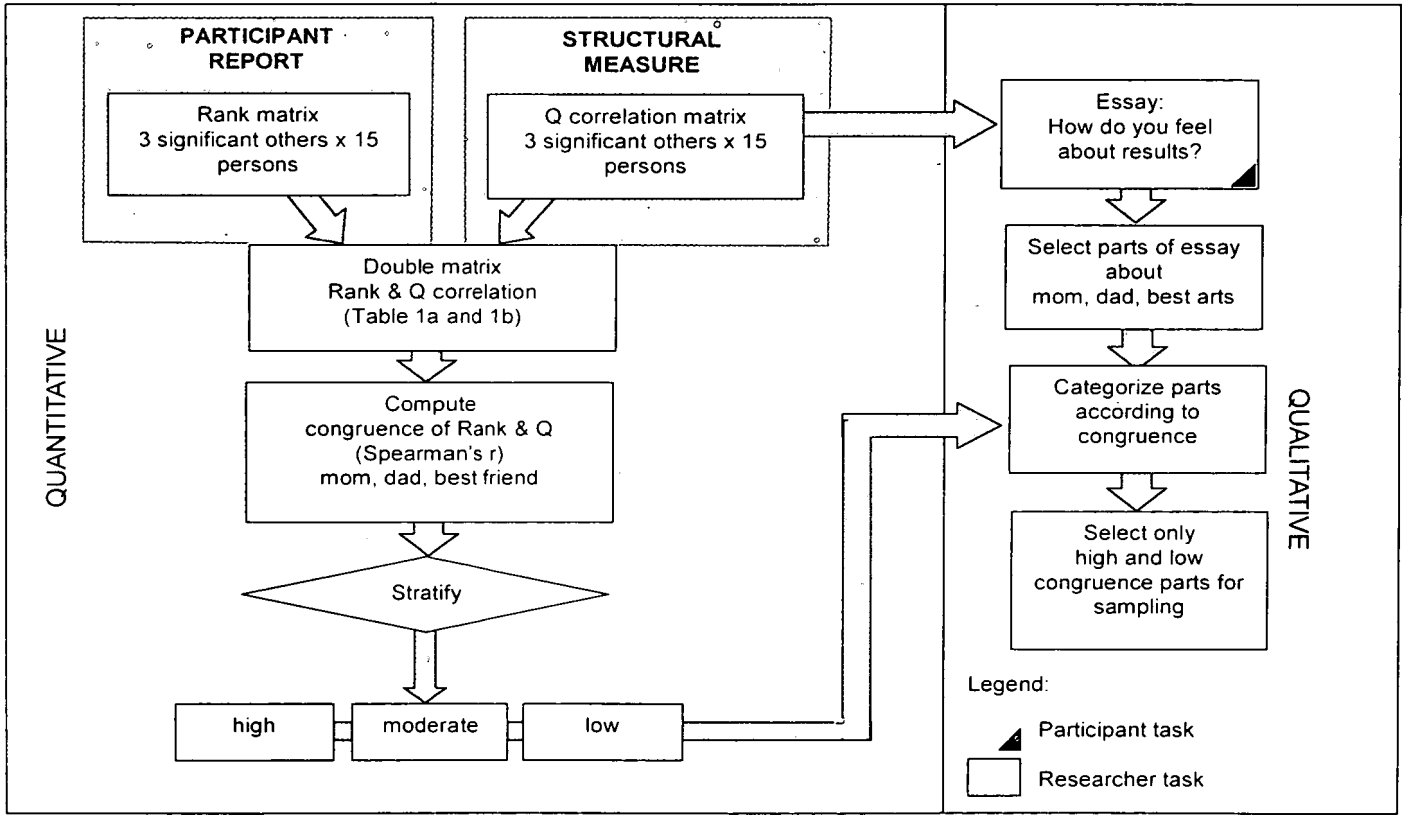

Figure 2. Data collection, concurrent nested design (Study 2).

Congruence was further categorized as high, moderate, or low. When Spearman r (rs) was significant at 0.01 level, congruence was considered to be high. When rs was significant only at 0.05, congruence was moderate. When rs was not significant ($p>0.05$), the congruence between a participant's report and the structural measure was considered to be low.

For one participant therefore, there could be a combination of high, moderate, and low congruence. In Table 1 for example, rs was 0.661 ($p<0.01$) between mom's rank measures and Q, 0.829 ($p<0.01$) between dad's rank and Q, and 0.246 ($p>0.05$) between best friend's rank and Q. For the subject Conrado thus, the structural measure and participant report were high in congruence for both mom and dad, but low for best friend.

For this study, only the measures of high and low congruence were used for selecting samples of qualitative data for analysis.

Procedure

One of the objectives of the course on Personality for the Ateneo juniors was to help students gain self-awareness. In exercises previous to the Star matrix, openness was encouraged and students were repeatedly assured that they had the freedom to express whatever thoughts and feelings they had. In this way, the students learned to trust me, and I in turn showed that I was worthy of that trust.

After completing the Star matrix as described in Study 1, students were instructed to enter the data onto a Microsoft Excel worksheet that automatically computed Q correlations, yielding a 15 person x 15 person matrix of similarity. They were instructed to print out the results and on the following class day, guidelines were given on how to interpret Q correlations.

First they were asked to put an X on values of 1.00 (perfect correlation) along the diagonal and were told to ignore it. Then

they encircled all numbers above 0.40 ($p<0.05$) with a green pen, and told that these indicated a similarity between the SO (on the column), and the acquaintance (on the row). All other values of rq below -0.40 ($p<0.05$) were encircled with a red pen, indicating a difference between SO and acquaintance. It was made clear that unmarked numbers, those between -0.39 and +0.39, were inconclusive and showed neither similarity nor difference ($p>0.05$).

Students were asked to take time to reflect on the results of the Star matrix. On the succeeding week, they submitted essays based on the following reflection guidelines: "How do you feel about the results? Please explain and discuss in terms of your own personal knowledge, observations, experiences, or relationship. State any other comments you wish to make."

They were also given explicit instructions to write about the persons most similar and different from mom, dad, and best friend, the similarity of the self to both parents, and then to write about any other results which they wanted to talk about. Due to the possible sensitivity of the results, the precaution was taken to emphasize that the statistics were just tools for developing self-awareness.

As a way of debriefing, the original essays were eventually returned to the students complimenting them for their efforts at self-awareness, communicating acceptance for whatever they discovered, and thanking them for their openness.

SAMPLING METHOD

Of the 20 essays submitted, two were disregarded. The students in both cases talked about general similarities and did not focus on any particular SO. For the remaining 18 essays, the portions that talked about mom, dad, or best friend were selected and then segregated, making for 54 cases in all (18 essays x 3 SO). Each case was also tagged according to the congruence

measure of high, medium, or low, based on Spearman's correlation. In the example of Conrado, the portions of his essay that spoke about acquaintances similar or different from dad were thus tagged with "high congruence".

Fifteen cases of extreme high congruence (from 12 different participants) were chosen. There were 5 cases each for mom, dad, and best friend, with the magnitude of rs ranging from 0.69 to 0.89, $p < 0.01$.

On the other hand, nine cases of low congruence (from 9 different participants) were chosen. The first six samples were selected purposively to ensure that all participants had a voice in the sampling procedure. The other three were chosen such that there were enough typical cases represented across the assortment of low congruence cases. The magnitude of rs thus ranged from 0.12 to 0.40, with $p > 0.05$.

This study focused only on students' essays where Q correlation between a SO and an acquaintance was above +0.40. There were several instances when students discussed nonsignificant rq (between +0.39 and -0.39) because it had to do with the self in relation to a parent, and was part of the guidelines for reflection. There were also portions of essays that discussed who were different from a SO (rq below -0.40). These essay portions were important for the student to gain self-awareness. However, for the current research, analysis was focused only on the essay parts where the structural measure showed a positive and significant degree of similarity between a SO and an acquaintance.

DATA ANALYSIS AND RESULTS

Emergent themes

The selected essay portions were analyzed using a grounded theory approach (Charmaz, 1994). Thus there was no preconceived framework by which to analyze the data and was simply guided

by the broad research question: Will the participants find the structural measure meaningful?

Phrases and sentences were broken down into thought units. These were then coded and recoded to find emerging themes. From the essays, there eventually appeared 18 thematic categories.

The manifest themes were further reduced into five latent themes: knowledge, reaction, personality, idealization, and qualifying statements. The reduction was intended to organize the many different categories, at the same time preserve images of experience of the participants (Ryan & Bernard, 1994). Latent themes are said to refer to nonobservable underlying aspects of the phenomenon (Onwuegbuzie & Teddlie, 2003). In this study, thoughts were grouped together under a latent theme to reflect the general process by which participants tried to find meaning in the Q correlation derived from the Star matrix.

In general, the essays started out with *knowledge* about persons on the matrix. Participants described the SO and the acquaintance. Students then gave their *reactions* to the Star matrix. Some expressed agreement, others surprise. Some immediately recognized the results, others stated that they had to think about the meaning of the structural measure. All participants however described in some detail the semblances in *personality*—traits, behaviors, and/or interests—shared by the SO and an acquaintance.

The essays showed that the students *idealized* their mom, dad, and best friend. In general, there was positive affect and admiration. Some went to the extent of relating values learned and conveyed goals to emulate the SO.

There were several *qualifying statements* however. Whereas there was positive affect and admiration, there were also critical remarks about the SO. Some thought units conveyed an attempt to find a reason why the results came out the way they did.

Others ended with insights and realizations about their personal relationships.

Comparison of high and low congruence cases

To generate more meaning from these themes, counts of observations were obtained per category. Data were quantified in order to prevent "overweighting" or "underweighting" the emergent themes (Onwuegbuzie & Teddlie, 2003). These were then used as an aid in interpreting the results

The manifest frequency per category was counted separately for the high and low congruence groups. And since the total thought units for each group were not comparable, the frequencies per group were converted to a percentage (Onwuegbuzie & Teddlie, 2003). This percentage reflected the prevalence rate of a manifest theme within a group. It was on this basis that the high and low congruence groups were compared.

In terms of knowledge (Figure 3), there were more statements in the high group that described the best friend as a familiar person, someone whom a participant knew since childhood, as a neighbor, or as a friend since high school. In contrast, there were more factual descriptions of an SO or acquaintance in the low group (e.g., "He is my professor in philosophy"). Such

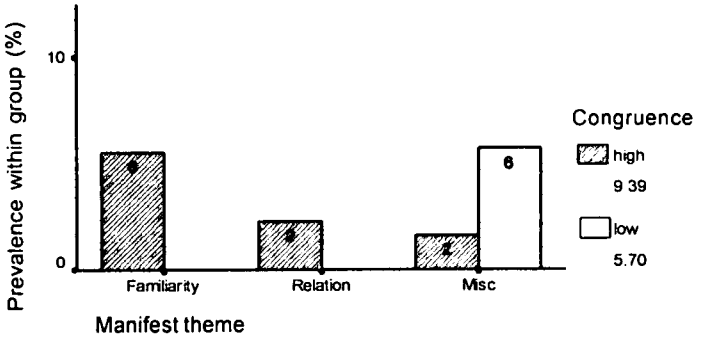

Figure 3. Latent theme: knowledge.

descriptions provided miscellaneous information that were not directly relevant to the research, but was meant to convey to the researcher the background of the persons which the student was talking about.

In terms of reaction (Figure 4), the high group had statements that put forward a more positive response than the low group. They expressed no surprise and agreed with the results, some saying that it was obvious and expected.

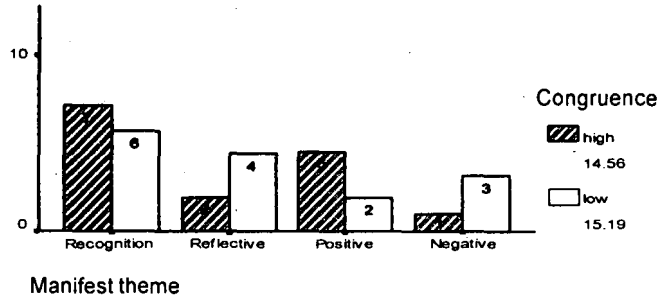

Figure 4. Latent theme: reaction.

In contrast, the low group had more expressions of surprise at the revelations, conveying shock, and sometimes disbelief. There were more statements stating the student had to think of why the results came out as they did. Some reflective phrases implied a process ("I had to think long and hard"), while others conveyed a sense of seeing a connection ("now that I think about it...").

Both groups however expressed recognition of the Q correlation. These were generalized statements that simply confirmed personal knowledge that the structural measure was true ("they are really similar"), and that other people shared the same perception ("even my sisters think we are alike"). It was noted however that while the high congruence groups recognized the

similarity *instantly*, in some of the low congruence cases, the recognition came about after some reflection on the results. For example, one student claimed, "When I think about it, my dad and I being similar is actually true." Thus, whereas the first part "when I think about it" was a reflective thought, the second part "my dad and I being similar is actually true" was classified as a recognition statement. It could be that some participants simply tended to agree with the numbers. However, it was also possible that recognition for the low congruence groups happened after some contemplation.

Personality themes (Figure 5) provided details beyond simple recognition of the structural measure. There was high prevalence of these statements across both groups. Some statements coincided with the supplied traits in the Star matrix, such as leader ("Just like my dad, I sometimes too take the role of leader"). But students also used adjectives, such as anxious, that were not among Star matrix traits ("most obvious characteristic would be that we're both very anxious '*praning*' about everything").

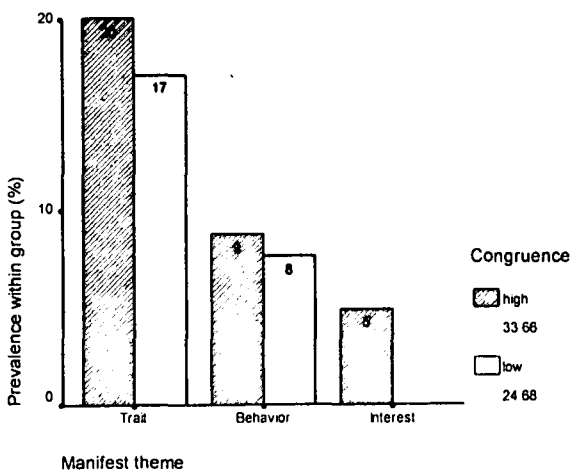

Figure 5. Latent theme: personality.

Participants in both groups also gave accounts of behavioral similarities, and these too went beyond the traits supplied in the exercise. In one case of high congruence, a student emphasized the strength of similarity between his best friend and himself by relating a shared experience, "One time we dated twins, and even sisters". In a low congruence case, a student found a similarity between herself and mom, explaining it in this way: "she uses note cards to help remember what to buy... I also need note cards, so I keep a planner."

The high group however had accounts of common interests, for example, "We share the same passion for basketball". Such themes were not found in the low group. Common interests among the high group were varied and included activities such as sports, business, politics, science, art, children, and community work.

In terms of idealizing statements (Figure 6), both groups articulated admiration for mom, dad, and best friend, for example, "He is the perfect epitome of a father, *padre de pamilya*". Both groups also conveyed positive affect towards the SO. The variety of affect statements ranged from feelings of fondness and love ("When having a bad day, seeing her smile lightens up

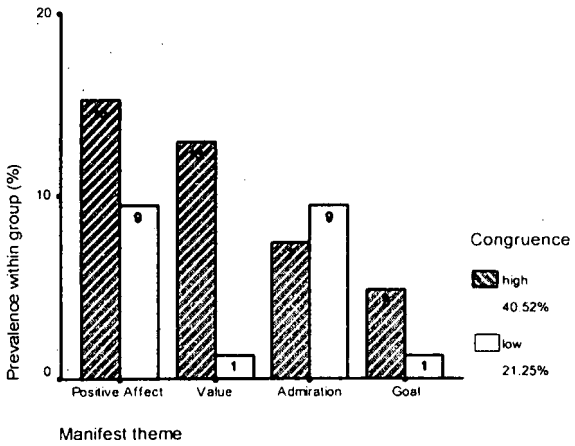

Figure 6. Latent theme: idealization of significant other

everything"), to dependence on SO as a source of comfort and security ("They both look out for me ever since I can remember").

What distinguished the high congruence cases from the low ones however were statements regarding values. Those in the high group had thought units that spoke of learning some principles of living from the SO, whether it be about God and the power of prayer, the meaning of friendship, the value of hard work, discipline, and doing one's best, love of self and others, or even simply about cleanliness ("instilling in us values, morals, and ideals to be good persons"). Moreover, the high congruence group had thoughts units that set goals for the self. Some of these conveyed a desire to be like the SO ("I am currently trying to emulate..."); or a desire to do something for the SO ("I want to help earn money ..."); or even to have a partner who is like the SO ("I want my future wife to love me and care for me as much as my mom does").

On the other hand, the low congruence group had a notably higher prevalence rate for qualifying statements (Figure 7). These themes comprised a third of the thought units from the low group. Students noted differences between an SO and an acquaintance. For example, Conrado (Table 1) related how well he got along with his best friend, but described the uneasy person (rq of 0.45 with best friend) as someone who "rubs me off as a cocky, selfish, and presumptuous fellow".

More striking was criticism of the SO among low congruence cases. Degree of criticism varied from one case to another, and the critique often implied a difficult relationship with the SO. For example, one girl said of her mom, "When I say something, she immediately has a judgement... I have to fight my way through just so that she'd stop to let me clarify my point." But in some cases, the account was subtle, as with Conrado who stated that his best friend's "laid back attitude... gets us into trouble".

In the low congruence cases too, participants tried to find possible explanations for the structural measure of similarity.

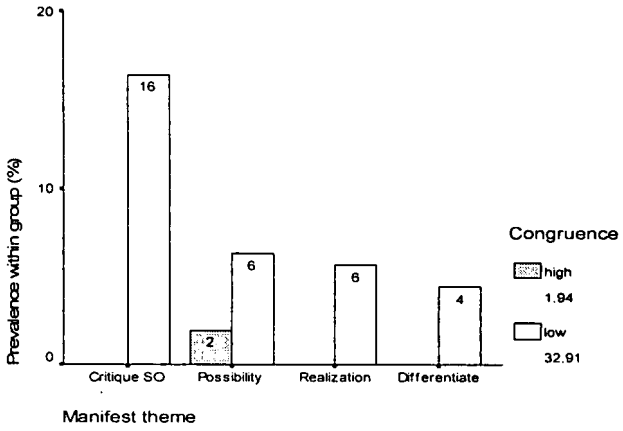

Figure 7. Latent theme: qualifying statements.

Conrado for example, upon seeing that he and his best friend both had a positive Q with the uneasy person, remarked, "If the test was true, then that would mean that other people could possibly view me as the same strutting, preening sort as this guy." At a later point, he also observed, "...many people have called me '*mayabang*' and 'loud' over the years." Conrado did try to find a possible explanation for the Q correlation by posing a question. He left it hanging however, perhaps to be answered in his own time.

There were however also statements of insightful realization among the low congruence groups. These thoughts seemed to be an acceptance of, despite initial surprise towards, the structural measure. It came as a consequence of thinking about the results, trying to explain it, and then eventually becoming comfortable with the realization ("Actually, liking someone who is similar to my dad has a lot of merits"). In one case, a male student expressed initial surprise that he was likened to dad. In citing ways by which he and dad were similar however, he eventually came to realize his dad's influence on him "perhaps without me really knowing it".

DISCUSSION

In general, participants recognized the measure of structural similarity among SO and acquaintances. Sometimes recognition of the Q correlation was instantaneous (high congruence), but sometimes too it came as a consequence of thinking and deliberating about the results (low congruence). All participants nevertheless gave explanations for the structural measure based on their personal experiences. One might surmise that the structural measure "shaped" the qualitative results. A participant may have responded in socially desirable ways, may have simply agreed with the results, or responded in a way to support the structural measure (Babbie, 1995; Singleton & Straits, 1999). While this could be true, many of the findings suggest that the respondent's motivation to attain self-awareness also had a strong influence on the results. The most important finding seemed to be the apparent difference in qualitative themes for the high and the low congruence groups. Possible explanations for these differences are discussed in the succeeding sections.

High congruence

Meaningfulness of the structural measure was apparent in cases of high congruence. Both the quantitative ranking and the qualitative essays confirmed the Q correlation. Participants detected many shared characteristics, and not just some topographical generalized "feel". Commonalities seemed to go beyond traits and behavior. Students noticed interests, as well as values, beliefs and principles learned or observed from the SO. It seemed SO representation was clear and unambiguous. Clarity and greater knowledge of SO perhaps brought the representation comparably closer to conscious awareness, making it more accessible and easier to articulate (Anderson & Cole, 1990).

According to Holyoak & Thagard (1997), choosing a role model implies awareness of the other's characteristics and analogically transferring these onto oneself. The value themes in this study showed that participants learned principles of living from the SO which they seemed to incorporate as their own. The goal themes showed that participants wanted to emulate the SO. More specifically, the general impression that came across from the high congruence cases was the desire to be like a parent.

Furthermore, some cases of high congruence were explicit in saying that the SO representation was used to evaluate others, for example wanting a future wife to "love me and care for me as much as my mom does". It seemed the parent was used more consciously as a template to evaluate another because there was closeness and shared interests with that parent.

When there is high congruence, it could be that there is more clarity in using the SO representation as a template for evaluating others as well as the self. Transference is traditionally seen as a nonconscious event (Glassman & Andersen, 1996). Studies however show that it is a common occurrence that does not just happen in the therapy room (Andersen et al., 2002). It could also be that the phenomenon is not necessarily a nonconscious event. The findings for the high congruence cases seem to show a type of transference that is more positive and closer to conscious awareness, one where the significant other is seen as a role model, or an ideal by which to mold one's self and one's relationships.

Low congruence

The meaningfulness of the structural measure was not immediately apparent for the low congruence cases. It seemed that finding meaningfulness was a process. The motivation to achieve self-awareness led most students to elaborate on their experiences despite initial surprise at the result. For some, the effort eventually led to insight about the SO, or some realization about their perception and relationship with others. Other

students posed questions to themselves, perhaps to be resolved beyond the time frame of this study.

Where there was no insight, it was not clear whether the structural measure was meaningful. This could have been related to the traits used in the Star matrix. Supplied traits may not have been salient for some participants. Personal constructs could have been used to evaluate how similar an acquaintance was with an SO. According to Leitner (1999), participants choose to notice experiences in the direction of greater meaning. They choose to notice what is personally relevant (Wachtel, 2005). As mentioned earlier, about half of a person's constructs are unique to the individual (Grice, 2004). Thus it could be that for individuals who did not find the supplied traits as relevant, there was a real absence of perceived similarities.

However, it could also be that low congruence was related to the lack of motivation to notice similarities between an SO and an acquaintance. One reason could be the presence of negative affect. While low congruence participants loved and admired their SO, what really distinguished them from the high congruence cases was criticism of the SO. These criticisms seemed to be related to poor relationship with an SO, and also appeared to be associated with negative affect such as anger, hostility, distress, fear and/or sadness.

As a matter of checking, this researcher looked at high Q correlations between SOs and the negative valence roles of uneasy, rejected, and disliked. For the high congruence cases, there were 4 participants (out of 15) where the structural measure showed similarity between an SO and a negative valence acquaintance. For the low congruence cases, there were 6 participants (out of 9) cases where SO was similar to a negative valence acquaintance. One can surmise from this information that negative valence was relatively more frequent in low congruence cases.

Negative affect is associated with low levels of awareness (Eells & Horowitz, 1992; Leitner, 1999; Wachtel, 2005).Thus for the low congruence cases, negative affect might have been a hindrance to noticing structural similarities.

Watson & Clark (1994) purport that positive and negative affect are two separate and distinct dimensions of emotional experience. In nonconscious transference, positive affect appeared to have no effect in activating transference (Glassman and Andersen, 1999). The results of this study seemed to be consistent with these findings in that there was positive affect for the SO in both the high and low congruence cases. What differentiated the two groups of cases was the presence of negative affect. It could be that the negative affect for the SO in the low congruence cases was an indicator of nonconscious transference.

Nonconscious transference has traditionally been understood as a consequence of the interaction between therapist and client. The phenomenon certainly can not be fully understood through limited written disclosures where there is no face-to-face interaction with the participant. However, students did write about their personal relationships and experiences. The researcher might put a label on observed qualitative data that best describes the psychological phenomenon observed. In the case of this study, some observed phenomena *seemed* like nonconscious transfer of an SO representation to an acquaintance. Take for instance a mother being similar to an "ex-boyfriend", and both being similar to the person who "rejected me". At the end of the student's essay, she wrote, "I still can't believe mom is most similar to the person who rejected me (though it still makes sense in several ways, like the fact that she *did* reject me; the first time being the day I was born.)".

It seems then that there are two types of transference. One type, as observed in the high congruence cases, is virtuous and constructive, and appears to be closer to awareness. The other type of transference, more noticeable in the low congruence

groups, is laden with negative affect, and appears to lie outside of awareness.

Awareness is motivated by a desire to form accurate interpretations (Thompson et al., 1994). There is the choice not to elaborate on some experiences, a preference to suppress and not to explore the meanings behind it (Erdelyi, 2001; Leitner, 1999). For some, experiences may have been too painful to write in an essay. Some students however chose to notice and to explore the meanings behind the Q correlation. Perhaps it was the desire to increase self-awareness that led some to recognize and even gain insight about their relationships and perception of the SO.

It also seemed that finding meaning in the results was a process that can not be evident in a single point in time. To quote Erdelyi (2001, p. 762), "Consciousness, like music, unfolds over time." At the end of the semester, the student who felt rejected by her mother in so many words wrote in a subsequent reflection paper how the exercises in class helped her gain more self-awareness, in the end saying, "my new goal will be to improve my existing relationships with other people, and to build better new ones." Perhaps it was not just the Q correlations that led her to say this. Nevertheless, it is my personal belief that the Star matrix exercise did have something to do with it.

AUTHOR NOTES

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APPENDIX A
THE STAR MATRIX

TRAITS	Mom	Dad	Sister	Brother	Current BF/GF	Ex	Best friend	Rejected you	Pity	Successful	Happy	Uneasy	Teacher	Dislike	Self
Articulate															
Assertive															
Bossy															
Broadminded															
Cheerful															
Colorful															
Credible															
Dependable															
Entertaining															
Exciting															
Friendly															
Gentle															
Hardworking															
Hot tempered															
Leader															
Patient															
Practical															
Pushy															
Quiet															
Realistic															
Reserved															
Responsible															
Selfish															
Show-off															
Shy															