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Disentangling Prototypicality and Social Desirability: The Case of the KNOWI Task

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Abstract

The prototype of indicators of a relationship partner who can be trusted to be responsive at times of stress is one kind of social knowledge structure. The Knowledge of Indicators (KNOWI) Task assesses individual differences in knowledge about these prototypic indicators. In constructing the KNOWI, an iterative procedure was used in an attempt to identify those indicators for which ratings of prototypicality are not influenced by social desirability. Study 1 demonstrated that the correlation between ratings of prototypicality and social desirability is indeed eliminated for the final set of indicators retained in the KNOWI. Study 2 tested the *prototype matching* hypothesis: Comparing an actual partner to the prototype may shape global judgments about that partner's responsiveness. Since in Study 2 only those indicators that are uncorrelated with social desirability were used, this result cannot be explained by social desirability. These results support the construct validity of the indicators used in the KNOWI Task, which seems to be a precise assessment tool not influenced by social desirability.

A new personality test, the Knowledge of Indicators (KNOWI) Task, was recently developed to assess a specific type of social knowledge—namely, knowledge of indicators that tell whether another person may be counted on to provide appropriate social support when needed (Turan & Horowitz, 2007). Items of the KNOWI are a set of indicators selected to vary in their quality; some are good indicators, others are poor. The respondent rates the quality of each indicator, and his or her score is the difference in mean ratings of the good *versus* poor indicators. By assessing each person's ability to *discriminate* between good and poor indicators, this difference score reflects the person's degree of knowledge of indicators. The present paper follows up on the original article introducing the KNOWI and aims to demonstrate that, as Turan and Horowitz claimed, scores on the current form of the KNOWI are indeed unaffected by social desirability of the indicators: The KNOWI is therefore a precise assessment tool.

Theoretical Significance

Many different psychological theories emphasize the importance of seeking support from close relationship partners at times of stress (Bowlby, 1979; Erikson, 1950; Reis, Clark, & Holmes, 2004; Rempel, Holmes, & Zanna, 1985; Sarason, Shearin, Pierce, & Sarason, 1987). All of these theories also emphasize the importance of *expectations* that a relationship partner will be supportive and responsive at times of stress. However, there is very little research on how people identify relationship partners who may be expected to be supportive when needed. Applying Brunswick's (1956) lens model of perception and judgment making, Turan and Horowitz (2007) argued that there are cues indicating that

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Person B is willing and able to give quality support to Person A, but in order to make effective use of these cues, Person A must have the ability to recognize the significance of those cues. The KNOWI assesses this ability to recognize prototypic cues of a responsive and supportive partner. Previous research has shown that the KNOWI Task can be used successfully to test theoretical predictions in laboratory studies, as well as in experience sampling, biological, and field studies, and studies examining responses to hypothetical relationship scenarios (Turan, Gibbs, & Carstensen, 2010; Turan, Goldstein, Garber, & Carstensen, 2010; Turan & Horowitz, 2007; Turan & Horowitz, 2010; Turan & Vicary, 2010).

Social Desirability and the Development of the KNOWI

Turan and Horowitz (2007) identified potential items for the KNOWI by using the prototype methodology (Fehr, 1988; Rosch, 1978). That is, a large group of *nominators* first generated indicators that, in their view, could be used to predict whether a partner can be counted on for social support. Then a second large group of *raters* rated the quality of each of those indicators. Items with high mean ratings (across the whole sample of raters) were considered to be good indicators, whereas items with low ratings were considered to be poor indicators (Horowitz & Turan, 2008). A subset of good (G) and poor (P) indicators were then selected from this pool of indicators and embedded among filler items to form the KNOWI test. In taking the test, a respondent rates the quality of the 41 items, and the respondent's score is the difference between the mean ratings of the G and P items ($G - P$).

However, prototype methodology poses a methodological problem for assessment. When the prototype of a positive (i.e., socially desirable) construct is formed—for example, “indicators of a supportive person”—the mean rating of the various elements (their “prototypicality”) is positively correlated with their social desirability: Indicators that are high in social desirability tend to receive higher prototypicality ratings (for examples see Chaplin, John, & Goldberg, 1988; Kearns & Fincham, 2004). For this reason, a respondent who seems able to discriminate between highly prototypic indicators and less prototypic indicators may be relying heavily upon the items' social desirability to make ratings of quality—rather than upon actual knowledge of quality itself. In other words, good and poor indicators selected to form the G and P indicators of the KNOWI had to be comparable in social desirability. Furthermore, other extraneous covariates of prototypicality may also exist, so a general procedure was needed for selecting G and P items that eliminated the confounding of prototypicality with social desirability and other extraneous covariates of prototypicality.

The method adopted for selecting the G and P subsets for the KNOWI was an *iterative item-selection procedure* (see Turan & Horowitz, 2007, for details). In brief, the method examined the original set of 94 indicators provided by the prototype. Items with higher ratings were tentatively considered G items; those with lower ratings, P items. Each participant's ratings of indicators in the “G” and “P” sets were averaged, and the participant's initial “G–P” difference score provided a first estimate of that participant's ability to discriminate between high- and low-prototypicality indicators. From these difference-scores, the participants were divided into high- and low-ability groups in order to identify items (indicators) that best discriminated between the two ability groups. The revised set of discriminating indicators was used to re-compute each participant's (revised) G–P difference. Again, the participants were divided into two (revised) ability groups in order to determine which items of the revised set discriminated best between the high- and low-ability groups. The most discriminating items were identified, and the procedure was repeated until further iterations reached a steady state. The final set of 11 discriminating good (G) and 11 discriminating poor (P) indicators became the final items of the KNOWI

(along with 19 filler items). The (G) and (P) sets—one high and one low in prototypicality—discriminated well between the most and least able participants.

Turan and Horowitz (2007) assumed that this procedure removed social desirability as a relevant source of variance to a successful discrimination between high- and low-quality indicators, because indicators correlated with social desirability would not “survive” the iterative procedure (they would not discriminate high- and low-ability individuals). However, this assumption has never been tested empirically. Study 1 provides new data that test and confirm this assumption, namely that for the final set of indicators retained in the KNOWI Task prototypicality is not correlated with social desirability. The goal of the present article is not to revise the KNOWI; rather, the article aims to demonstrate that the current version of the KNOWI assesses knowledge of the indicators' quality in a way that is not influenced by social desirability—and is therefore a precise assessment tool.

Highly Prototypic Indicators are the best Predictors of Global Judgments about a Partner: Ruling out the Alternative Explanation of Social Desirability

Study 2 focused on the specificity and the precision of the discriminating indicators retained in the KNOWI Task. Indicators high in prototypicality should be better predictors of global judgments about a partner's supportiveness compared to indicators low in prototypicality. Study 2 provides evidence that this is the case in a way that cannot be explained by social desirability.

One of the main functions of the prototype of a responsive partner is to serve as a standard against which people can evaluate their own relationship partners. Hassebrauck and Aron (2001) argue that “Evaluations... are often made by comparing the object to be judged with stored knowledge about the respective category” (p. 1111). This comparison process is called *prototype matching*. Hassebrauck and Aron tested the hypothesis that people compare their relationships with features of the prototype “characteristics of a good intimate relationship.” Participants in their study judged how well each element of the prototype of a good relationship characterized their own romantic relationship. Results showed that judgments made about the most prototypic elements were the best predictors of people's *global* evaluations of their relationships. That is, the better a relationship matched the highly prototypic features of a good relationship, the higher its quality was perceived to be (see also Fletcher, Simpson, & Thomas, 2000; and Simpson, Fletcher, & Campell, 2001).

The prototype matching procedure—and other applications based on the prototype methodology—pose a significant methodological problem that needs to be addressed. It is possible that the prototype matching hypothesis finds support because of a “halo effect”: Participants are more likely to rate the more socially desirable partner characteristics as applying to their own partner if the participants' global judgments about their partners are very positive. Thus, highly prototypic elements would be better predictors of global judgments, but if prototypicality and social desirability are correlated, one cannot rule out the possibility that this result is due to social desirability as opposed to the specific indicators of responsiveness. Thus, Study 2 tested the prototype matching hypothesis using the set of discriminating indicators, which do not show a correlation between prototypicality and desirability. Only then can the inference be made safely that a person whose partner's characteristics match those of the prototype also trusts his or her partner to be there at times of stress.

In brief, the purpose of Study 2 was to demonstrate that highly prototypic indicators are the best predictors of global judgments that a romantic partner can be trusted to be responsive—and that this result cannot be explained by social desirability. That is, the revised prototype

(discriminating indicators identified by the iterative procedure) can be used to assess the specific construct of responsiveness in a way that is not influenced by desirability.

In summary, this article presents evidence that the iterative procedure improves the subset of indicators of a responsive partner by eliminating indicators that show a systematic relationship between their prototypicality and their social desirability. The article also presents evidence that the final set of discriminating indicators contain valuable information specific to responsiveness and therefore can help a person evaluate a partner. Thus, the indicators in the KNOWI can be used to assess the construct of responsiveness with precision.

Study 1: The Prototype of Indicators of a Responsive Partner and Social Desirability

Study 1 was designed to demonstrate that the iterative procedure improves the choice of items by reducing the correlation between the indicators' prototypicality (importance to the concept) and their desirability. As described above, the final list of indicators in the KNOWI Task includes 11 G, 11 P, and 19 filler items. Filler items appeared in the original prototype—their mean ratings of prototypicality spanned the range—but they did not “survive” the iterative procedure because they had low discriminating power. The G and P items on the other hand, have high discriminating power, and the main purpose of the study was to demonstrate that the correlation between the indicators' prototypicality and their desirability is much higher for the filler items compared to the G and P items.

In this study, the very same indicators were presented with three different sets of instructions. One form asked participants to rate each indicator's social desirability. A second form contained the usual instructions for informativeness (i.e., prototypicality) ratings (“Please rate how informative each item would be in telling how much the other person would be there for you.”). The main purpose of the study was to show that prototypicality and social desirability are highly correlated in the original prototype of indicators but this correlation is dramatically reduced in the final set identified by the iterative procedure.

A third form was also administered in which the same indicators were rated for their similarity to a related construct (parental responsiveness towards an infant). First, the participants were shown a detailed description of a responsive *parent* (taken from the literature on infant attachment) in order to create a framework of the responsiveness construct in participants. Then, participants were asked to use this conceptual framework to generalize from this specific type of responsiveness in parent/child relationships to responsiveness in adult/adult relationships. The third form asked participants to indicate how well each indicator in the KNOWI reflects this generalized concept of responsiveness. That is, participants were asked to indicate how well each indicator matched the general concept of a responsive relationship style. The purpose of this third form was to show that its correlation with informativeness (prototypicality) remained the same, even after social desirability was partialled out of both variables (when the set of discriminating indicators are used). The entire study was performed twice, once using the same participants for all three forms and once using three separate samples of participants.

Method

Three samples of undergraduate students at a large university participated for extra course credit. Approximately 65% were women and 35% were men. Their mean age was 20.2 ($SD = 1.17$). The three samples had similar distributions in terms of ethnicity: Approximately

45% were Caucasian, 20% were Asian-American, 15% were Hispanic, and 10% African-American. No participant dropped out of the study. First, participants' informed consent was obtained. Each sample then received different instructions for rating the same 41 items of the KNOWI Task using a scale of 1 – 8.

Sample 1 (N = 98) rated how positive or desirable each item “would be in someone you know.” Sample 2 (N = 98) received the standard KNOWI instructions: “Please rate how informative each item would be in telling how much the other person would be there for you” (informativeness or prototypicality of indicators of a responsive partner). Sample 3 (N = 98) rated how well each of the 41 items reflects a responsive relationship style. For this task, participants were shown a description of a “responsive parenting” style, adapted from the one provided by Ainsworth, Blehar, Waters, and Wall (1978). It characterized parent-to-infant behaviors that were empirically found to be related to a secure attachment.

The verbatim description of these behaviors, as given to the participants, listed four categories of responsive parenting:

1. *Psychologically and physically available:* Available parents are willing to forego their own agendas in favor of the baby's needs. They stay close by and are attentive. They don't ignore or neglect the baby.
2. *Sensitive to the baby's signals:* Sensitive parents are able to perceive and interpret signals correctly, take the baby's perspective, and respond appropriately.
3. *Cooperative with the baby's ongoing behavior:* Cooperative parents respect the baby as a separate and autonomous person. They guide, rather than control, interrupt, or interfere with the baby's activity. They react to the baby rather than to their own agendas.
4. *Accepting (rather than rejecting) of the baby's needs:* Accepting parents acknowledge the baby's own wishes. They do not react negatively, even when the baby's behavior is willful, hurtful, or irritating.

For Sample 3, the verbatim instructions extended this description to interactions between adults: “One can also speak of a responsive style between two adults in a close relationship. On the next page is a list of characteristics that people consider important in relationships. Some clearly reflect a responsive style, and some do not. Please read each item and judge whether it reflects a responsive style.” The participants rated the 41 items of the KNOWI using a rating scale that ranged from 1 (“not related to the responsive style”) to 8 (“strongly related to the responsive style”).

This approach was used because the characteristics of a responsive parent are well established in the attachment literature and are conceptually similar to the characteristics of a responsive adult partner—but distinct in terms of the nature of the relationship (Crowell, Treboux, Gao, Fyffe, Pan, & Waters, 2002; Hazan & Shaver, 1987; Turan & Horowitz, 2007).

Thus, each sample provided ratings for one of the forms (variables) and analyses were conducted using the average ratings for each variable. Another goal was to examine individual differences on the KNOWI Task, and thus ratings on all three variables were needed from the same sample of participants. Therefore, after completing the desirability ratings, participants in Sample 1 were asked to provide ratings for the other two variables: informativeness (in indicating a responsive partner) and match to responsive relationship style.

Results and Discussion

Using data from the three separate samples, the mean rating for each item across each sample was computed for each of the three measures, that is, for each item's (a) *desirability* as a personal quality, (b) *informativeness* about responsiveness (prototypicality), and (c) degree of *match to responsive relationship style*. These means are presented in Table 1. As can be seen in Table 1, for most indicators the ratings of desirability were higher than the ratings of informativeness. However, there were some indicators that were rated higher in informativeness than in desirability. An example is, "sacrifices his/her own plans to provide support." An example of an indicator that received much higher ratings of desirability compared to informativeness is "has a nice personality."

Informativeness and Social Desirability—As in previous research on socially desirable prototypes, the informativeness (prototypicality ratings) of the indicators of a responsive partner showed a substantial positive correlation with their rated desirability, $r = .63, p < .01$. Did the iterative procedure successfully identify discriminating indicators, some good and some poor, that show a low correlation between their informativeness and their social desirability?

To answer this question, the correlation between desirability and informativeness (prototypicality) was computed separately for (a) the set of G and P items (identified with the iterative procedure) and (b) the filler items. Filler items were indicators in the original prototype that did not "survive" the iterative procedure because they had low discriminating power. It was predicted that informativeness and social desirability are highly correlated among the filler items but not among the discriminating items. Indeed, for the filler items, the correlation between informativeness and social desirability was very high; $r = .94, p < .01$. In contrast, for the combined set of G and P items, the correlation between informativeness and social desirability was $r = .34, p > .05$. For the set of G items, this correlation was $r = -.10, p > .05$, and for the set of P items it was $r = -.08, p > .05$. Thus, it seems that the iterative procedure was quite successful in identifying G and P indicators for which ratings of prototypicality are not influenced by social desirability.

The social desirability of the set of combined G and P items ($M = 6.23, SD = .46$) did not differ from the desirability of the filler items ($M = 6.24, SD = 1.17; t = -.03, p > .05$; Cohen's $d = -0.01$). Thus, it is not the case that the discriminating items are not socially desirable—their desirability is however, not systematically related to their informativeness. (The prototypicality of the set of combined G and P items ($M = 5.21, SD = 1.19$) also did not differ from the prototypicality of the filler items: $M = 5.65, SD = 1.03; t = -1.24, p > .05$; Cohen's $d = .40$).

Finally, the mean rating of *desirability* for the G items was compared with that of the P items: These values were very similar: 6.4 and 6.1, respectively; $t = 1.92, p > .05$; Cohen's $d = .69$. In contrast, the mean ratings of *informativeness* for the G and P items, respectively, were 6.3 and 4.1; $t = 11.69, p < .01$; Cohen's $d = 5.04$. That is, G and P items differed in terms of prototypicality, but not in terms of desirability.

A closer inspection of the items' means on informativeness and desirability revealed that there were three types of filler items: (a) Four filler items had ratings of informativeness similar to those of the P items, but they were lower on desirability compared to the P items; (b) seven filler items had ratings of informativeness similar to those of the G items, but they were higher on desirability compared to the G items; and (c) eight filler items had ratings of desirability similar to those of the G items, but they were lower on informativeness compared to the G items. It can be seen how all three types of filler items would be inferior in terms of discriminating between high and low ability participants. The first two types of

filler items had extremely low or extremely high desirability and were responsible for the high correlation between informativeness and desirability among the filler items. The third type of filler items did not show a correlation between their informativeness and their desirability. However, the third type of filler items would also be poor in terms of discriminating participants, because low ability participants may rate these items high on informativeness because these items are highly desirable. In addition, these filler items may have other properties that make them inefficient in discriminating high and low ability participants. The iterative procedure seems to eliminate indicators that are inappropriate as items, not only because they show a systematic relationship between their prototypicality and desirability, but also because of other properties. Examples of such potentially important confounding properties will be presented in the discussion section of Study 1.

Match to Responsive Relationship Style—The correlation between the informativeness (prototypicality ratings) of the indicators of a supportive partner and their match to responsive relationship style was examined. This was done separately for (a) the filler items, and (b) the set of G and P items. For the filler items, the bivariate correlation was quite high; $r = .80$. However, this correlation dropped to a mere $r = .08$ when desirability was partialled out. The results were very different for the set of G and P items. The correlation between informativeness and match to responsive relationship style was $r = .95$. When desirability was partialled out, this correlation was unchanged; $r = .95$. These results again suggest that the prototypicality ratings for the G and P items are not influenced by social desirability, whereas for the filler items they are. The large correlation of .95 between informativeness and match to responsive relationship style for the G and P items—even when controlling for social desirability—supports the hypothesis that the discriminating indicators do reflect the concept of responsiveness quite well.

Prototype methodology is a very useful tool. However, these results suggest that in any application of a positive prototype, a researcher must demonstrate that results are not due to social desirability. For example, using the filler items, a correlation of .80 emerged between informativeness and match to responsive relationship style. A researcher who uses the filler items may draw inferences that are not valid because the apparent predictive power of the filler items may actually be explained almost entirely by social desirability. Furthermore, even the unadjusted correlation obtained by using the filler items was significantly lower than the correlation obtained by using the discriminating items ($r = .80$ versus $r = .95$; $z = 2.16$, $p < .05$); presumably because the discriminating items provide a purer measure of the construct. These points will be revisited in Study 2 in relation to testing the prototype matching hypothesis.

Individual Differences—Whereas the above analyses concerned items, the following analyses concern people. It was hypothesized that a person's ability to discriminate in terms of informativeness resembles that for match to responsive relationship style more strongly than that for desirability. Therefore, using data from Sample 1, each participant's ability to discriminate in terms of each variable was examined: For each participant, a difference-score between ratings of the G and P items for each of the three variables was computed. The difference-scores for informativeness showed a positive correlation with those for match to responsive relationship style; $r = .57$ ($p < .01$). That is, people who perceived a large difference in informativeness for G versus P items also perceived a large difference in match to responsive relationship style. In contrast, each of these variables had a weaker correlation with the corresponding difference on social desirability. These two r s were .32 and .22, both p s $< .05$. Each of these two r s was also significantly lower than the “.57” value reported above (using the formula proposed by Cohen & Cohen, 1983, concerning a test for non-independent r s). When the difference in social desirability was partialled out, .57

dropped only to .54. Thus, desirability does not seem to be a major determinant in the measurement of a participant's ability to discriminate between G and P items.

In this study the majority of participants were women. Even though gender did not moderate the findings, caution should be exercised in generalizing the findings to both genders. Nevertheless, results do suggest that the revised prototype of the discriminating indicators of a responsive partner does contain important information concerning responsiveness in relationships—it is not simply a collection of generally desirable partner qualities. In addition to social desirability, there may be other constructs that are semantically related to responsiveness (cf., Mervis & Rosch, 1981; Rosch, 1978) and it is assumed that the iterative procedure was also effective in identifying indicators that do not overlap with those constructs (e.g., love, intimacy). Furthermore, the iterative procedure seems to also eliminate items that are problematic for other reasons (e.g., items that are clearly related to supportiveness or responsiveness, and therefore receive high ratings of prototypicality from almost every respondent, or items that are ambiguous in wording).

The prototype refined by the iterative procedure, therefore, may help individuals to organize their perceptions and other cognitions and apply the indicators in judging the supportiveness of specific partners. Study 2 tested the following hypothesis of construct validity: Discriminating indicators in the KNOWI Task are useful in the specific task of making global judgments about partners. Furthermore, since in Study 2 only those items that are relatively free from the influence of social desirability were used, results would not be attributable to desirability.

Study 2: Prototype Matching as a Predictor of a Partner's Responsiveness

In Study 2, participants compared their specific partners to the prototype (indicators contained in the KNOWI Task). The purpose of the study was to show that highly prototypic indicators are better predictors of global judgments about a partner's responsiveness compared to indicators low on prototypicality. However, as discussed earlier, unless high and low prototypicality indicators are equated on desirability, such a result is subject to the criticism that it is attributable to desirability. Thus the question is: “Will the prototype matching hypothesis find support, even when social desirability is ruled out as an explanation?” If that is not the case, then it is difficult to claim that the prototype contains specific information that helps a person in making judgments about partners. Furthermore, the use of indicators that do not show a systematic relationship between their social desirability and their prototypicality should result in superior power when testing the hypothesis of prototype matching.

Method

Participants were 46 women and 22 men (N=68) from Introductory Psychology classes, who participated for extra course credit. Twenty-nine participants were Caucasian, 14 were Asian-American, 9 were Hispanic, and 7 were African-American. (Nine participants were from other ethnic backgrounds or did not disclose their ethnicity.) One participant did not complete all three measures and was therefore excluded from the analyses, resulting in a final sample size of 67. After giving informed consent, participants completed three measures. The predictor measure, “Characteristics of Your Relationship,” contained 32 items derived from the elements of the prototype of indicators of a responsive partner. In addition to the 11 G and 11 P items, 10 filler items that are relatively free from the influence of social desirability were also used. (The remaining 9 filler items were not used in order to shorten the measure for this study.) Participants were asked to rate each item to tell how well that item described their most recent dating partner (using a scale from 1 to 8). The main hypothesis was that, compared to the P items, the G items are better predictors of the

participants' global descriptions of their partners' actual supportiveness and of their own trust of their partners.

The two criterion measures assessed participants' global views of their own relationship partners. These measures were chosen because of their theoretical relevance to perceptions of a partner as being supportive and responsive. For both measures, participants used a scale from 1 to 8 to rate their most recent dating partner. One measure was the Partner as a Secure Base Scale (Cassidy & Woodhouse, 1998; Woodhouse, Dykas, & Cassidy, 2009). This measure is based on attachment theory. It contains 16 items that describe how good a partner is perceived to be as a secure base support provider for the participant (in the current study, Cronbach's $\alpha = .95$.) Woodhouse, Dykas, and Cassidy provided evidence for the measure's validity.

The other criterion measure was the Faith subscale of the Trust Questionnaire (Rempel, Holmes, & Zanna, 1985). Rempel, Holmes, and Zanna define trust as an expectation that one's partner will be available and responsive in times of need. The Trust Questionnaire contains 17 items, divided into three subscales. Of the three subscales, Rempel, Holmes, and Zanna consider the Faith subscale—assessing the amount of faith that the respondent has that the partner will be supportive when needed—to be theoretically the most important. Since it is also the most relevant to the present article's formulation of judging a partner to be likely to be there when needed, only results for the Faith subscale (Cronbach's $\alpha = .91$ in the present data) are reported, along with the results for the Partner as a Secure Base Scale. (The Faith subscale had a correlation of $r = .87$ with the Partner as a Secure Base Scale.)

Results and Discussion

Theoretically, items that are highly prototypic should be better predictors of global judgments about partners. Because the primary goal of the study was to test this hypothesis using items that are least affected by social desirability, first only the sets of G and the P indicators were examined. The means for each set were individually correlated with the Partner as a Secure Base Scale. This correlation was quite large for the G indicators; $r = .83$, $p < .01$. For the P indicators the correlation was lower; $r = .66$, $p < .01$. Importantly, the difference between these two r s was significant; $t(64) = 2.94$, $p < .01$. That is, the G items were better predictors than the P items.

In the same way, the Faith subscale of the Trust Questionnaire was used as a measure of global judgments about partners, and its correlation with the same predictors was assessed. The Pearson r s were .80 and .64 for the G and the P indicators, respectively. Again, the difference between these Pearson r s was significant; $t(64) = 2.57$, $p < .05$.

The same analyses were also performed using the filler items to examine whether or not the discriminating items have advantage over the filler items in testing the hypothesis of prototype matching. Partner as a Secure Base Scale showed correlations of $r = .70$ and $r = .57$, respectively, with the filler indicators with high prototypicality and with the filler indicators with low prototypicality. Similarly, the Faith subscale showed correlations of $r = .59$ and $r = .58$, respectively, with the filler indicators with high and low prototypicality. The difference between the correlation coefficients was not significant for either criterion variable. In other words, the prototype matching hypothesis did not find support when using only the filler indicators, suggesting that the discriminating items are more precise indicators of judgments about a partner's supportiveness (even though those filler items that are the most influenced by social desirability were not used in this study).

In addition, regression analyses were performed using four predictors: the G indicators, the P indicators, the filler indicators with high prototypicality, and the filler indicators with low

prototypicality. As can be seen in Table 2, the set of G indicators was the only significant predictor of Partner as a Secure Base Scale or of the Faith subscale. It was expected that the P indicators and the filler indicators with low prototypicality would not explain much variance over and above the variance explained by the highly prototypic indicators. Table 2 shows that this was indeed the case. Furthermore, the filler indicators with high prototypicality also did not explain unique variance over and above the variance explained by the G indicators. Thus, it seems that the G indicators reflect the specific construct of partner support well, whereas the filler indicators with high prototypicality may include other constructs not related to partner support.

Thus, the discriminating indicators seem to provide improved power, presumably due to their precision. Recall that a similar picture had emerged in Study 1 when testing the association between ratings of prototypicality and match to a responsive style, where the discriminating indicators yielded a larger effect size compared to the filler indicators.

To summarize, features of the prototype of indicators of a partner who can be trusted to be there when needed may be used as predictors of a person's global judgment of his or her own partner's responsiveness. Furthermore—and this is the more important point—indicators that are more prototypic are better predictors of global judgments. Finally, these findings cannot be explained by the social desirability of the indicators, since in this study low and high prototypicality indicators were chosen to be similar in desirability. In fact, using discriminating indicators that do not show a systematic relationship between their social desirability and their prototypicality seems to provide a more powerful and precise test of the prototype matching hypothesis. Therefore, findings support the construct validity of the indicators of a responsive partner included in the KNOWI Task: They contain information *specific* to the construct (and are not simply a collection of socially desirable features).

General Discussion

Theoretically, a prototype includes the most important characteristics of a target concept, because it represents the wisdom of a large group (Horowitz & Turan, 2008). However, not all elements generated using the prototype methodology seem to be equally good items for a test of individual differences in discriminating good from poor elements. One methodological problem is that highly prototypic indicators of a positive prototype are usually also more socially desirable than less prototypic indicators. For example, Kearns and Fincham (2004), studying the prototype of forgiveness, reported a correlation of .82 between the prototypicality ratings of the features and their positivity. Similarly, Chaplin, John, and Goldberg (1988) reported a correlation of .38 for the prototypes of different traits.

Therefore, in selecting items from a prototype to construct a test like the KNOWI, the first step should be to identify items high and low in the prototype that are nevertheless comparable in social desirability. Otherwise, participants would be able to discriminate between the good and poor indicators by using social desirability rather than genuine knowledge about responsive partners. Turan and Horowitz (2007) used an iterative procedure to accomplish this goal. The present studies provide evidence that the iterative procedure in constructing the KNOWI Scale has indeed successfully identified indicators for which ratings of prototypicality are not influenced by social desirability (and presumably by other semantically related constructs). That is, prototypicality and social desirability of the discriminating indicators in the final set are not highly correlated.

Thus, the G and P indicators contained in the final form of the KNOWI can be used to assess individual differences in knowledge in a way that is not influenced by social desirability. In addition, the discriminating indicators retained in the KNOWI can be used to assess the

construct of responsiveness with more precision than the original indicators, because their prototypicality is not related to their social desirability or to other related constructs. Therefore, people may use these indicators successfully when processing relevant information about their relationship partners; for example, when evaluating specific partners' responsiveness by comparing their own partners' characteristics with the prototype. Thus, the discriminating indicators, and the measure of individual differences in knowledge derived from them, seem to be precise assessment tools.

The present findings have important implications for assessment in general. According to Broughton (1984), the prototype methodology is a very good strategy for generating a pool of potential items for personality scales. Prototype methodology can be combined with the iterative procedure to identify the best items for constructing tests in other domains of personality. For tests that aim to assess knowledge, the researcher can also apply the signal detection methods used in scoring the KNOWI to operationalize respondents' ability to discriminate between good and poor elements of a prototype.

Judgments about potential partners' responsiveness are important in satisfying close relationships. However, it should be noted that the correlational and cross sectional design used in these studies prevents conclusions about any causal relationship between using the prototype and global judgments about partners.

The KNOWI Task enables researchers to examine an individual's knowledge about support processes. Therefore, it allows researchers to test hypotheses concerning the antecedents as well as consequences of knowledge. The KNOWI can also be used to distinguish the effects of knowledge from the effects of other factors, such as motivation, fears, and beliefs, on relationship outcomes. Some questions that future research may explore using the KNOWI are: How do people develop knowledge about support processes? Are there other related knowledge structures? What is the role of knowledge in the development of trust in close relationships? What is its role in the vicissitudes of a relationship that eventually dissolves? Knowledge structures are probably not the only factors that affect such judgments. Emotional and motivational factors may also be important. Future research can also examine the main effects of these factors, as well as how these factors moderate the effects of knowledge. Future research should also examine whether (and how) knowledge structures (and emotional factors) affect people's overt *behaviors* in relationships.

The KNOWI may also be useful in clinical practice. One important reason for seeking psychotherapy is interpersonal difficulties, which are sometimes (at least partly) due to interpersonal deficits. The KNOWI may be used not only to assess a client's level of knowledge, but also to help the client gain and apply this knowledge.

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Table 1
Importance (Prototypicality) Ratings, Social Desirability, and Match to Responsive Relationship Style for the Indicators

	Rated Importance	Match ^b	Desirability
1. tells me things that he/she doesn't tell to many people (F ^d)	6.36	4.78	6.72
2. loves me very much (F)	7.07	6.58	7.49
3. Has interests in common with me (P)	4.32	3.98	6.41
4. is not inconsistent in the things he/she tells me about himself/herself (F)	5.45	4.56	5.66
5. Has not betrayed me before (F)	6.07	5.99	7.13
6. says things that portray him/her as tough, but is actually a sweetheart inside (F)	3.71	3.14	4.05
7. stops by or calls when I am sick (G)	6.56	7.10	6.67
8. remembers an upcoming stressful event I mentioned and asks me about it afterwards (G)	6.56	7.06	6.74
9. makes an effort to stay in touch with his/her own family (F)	5.66	5.28	5.98
10. gives me space when I need it, but remains ready to reconnect (G)	6.00	6.81	6.73
11. sacrifices his/her own plans to provide support (G)	6.85	6.94	5.77
12. is outgoing (P)	3.32	3.06	5.70
13. sees our relationship as destiny (F)	4.06	2.68	3.79
14. doesn't get on my nerves (P)	3.87	4.06	6.79
15. shows understanding about life (F)	5.12	4.63	6.55
16. respects the person I am and am trying to be (F)	6.37	7.06	7.27
17. listens to what I say and responds with interest and attention (F)	6.49	7.35	7.08
18. knows how I feel about something even if I haven't explained it explicitly (G)	6.07	6.34	6.48
19. offers to help me with something without me asking (G)	6.26	6.48	6.32
20. notices changes in my mood and asks if anything is wrong (G)	6.31	6.83	6.08
21. laughs at my jokes even though they are not funny (F)	3.68	4.31	4.38
22. is polite (P)	3.62	3.77	5.98
23. is honest and truthful with me (F)	6.59	5.93	7.42
24. tells me that I am the one for him/her (F)	4.62	3.56	5.03
25. listens fully to what I am saying even when he/she thinks that I am wrong (G)	5.89	6.52	6.44
26. Has kept his/her word in prior situations (F)	6.71	5.82	7.12
27. sticks up for me if someone gives me a hard time (G)	6.55	6.27	6.89
28. does not pass judgment on my concerns (F)	5.56	6.05	5.77
29. knows something is wrong even though I haven't said anything (G)	6.08	6.65	6.12
30. doesn't mind being intimate with me in public (P)	4.58	4.26	5.36
31. freely discloses information about self (P)	5.27	4.44	5.86
32. Has a nice personality (P)	4.29	3.82	6.94
33. is organized and goal-oriented (P)	3.64	2.72	5.82
34. sees how much I care (F)	5.12	5.65	6.59
35. does not ignore others on the street (P)	4.25	4.07	5.44
36. makes small compromises to accommodate my likes and dislikes (F)	5.63	6.46	6.31
37. asks me if I'm OK when getting the feeling that I'm not (G)	6.11	6.81	6.21
38. enjoys just being with me even if we don't do something special (F)	6.63	5.87	7.28

	Rated Importance	Match ^b	Desirability
39. is friendly to everyone (P)	4.32	3.65	5.96
40. doesn't do things that are irritating to me (P)	3.91	4.75	6.31
41. listens to me and tries to understand my point of view (F)	6.26	6.98	6.89

^a F: Filler item, G: Good (prototypic) discriminating indicator, P: Poor (non-prototypic) discriminating indicator

^b Match to responsive relationship style

Table 2
Regression Equation Predicting Partner as a Secure Base Scale and Faith Subscale

Indicator Type	DV = Partner as a Secure Base		DV = Faith Subscale	
	β	t	β	t
G-indicators	.55**	4.86	.61**	4.82
P-indicators	.14	1.56	.17	1.72
Filler-indicators - high informativeness	.17	1.76	-.00	-.02
Filler-indicators – low informativeness	.11	1.31	.14	1.48

**
 $p < .01$.