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UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

DEVELOPMENT AND VALIDATION OF A SCALE MEASURING WILLINGNESS TO FORGIVE

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

Doctor of Philosophy

By

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Norman, Oklahoma
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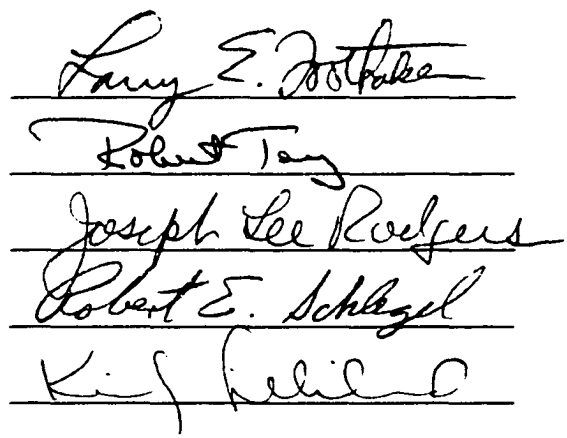
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THE DEVELOPMENT AND VALIDATION OF A SCALE MEASURING WILLINGNESS TO FORGIVE

A Dissertation APPROVED FOR THE
DEPARTMENT OF PSYCHOLOGY

BY



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I have accomplished nothing by myself. I am grateful for the support and encouragement of many people: the members of my doctoral committee, whose patience and enthusiasm have buoyed my spirits along the way; Dr. Warren Jones at the University of Tennessee at Knoxville and Dr. Martha Banz at Southern Nazarene University at Bethany, Okla., for their help in recruiting additional participants, without whom I would have had insufficient sample sizes; members of my family, who have forgiven me my trespasses and finally quit asking when I would graduate; innumerable staff members at the University of Oklahoma, especially in the Department of Psychology and in the Bizzell Memorial Library; and my friends, who have helped me learn to laugh at myself and have provided me with hearts outside my own to call home.

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"What the message of [*A*] *Course in Miracles* is, is you're responsible for how you perceive something. You are responsible for how you interpret something. You keep on your position that you hurt because of what someone did to you, and the message of [*A*] *Course in Miracles* is, you do not hurt because of what someone did to you. Or maybe you hurt for a little bit, if you're a normal human person, you hurt for a little bit because of what they did to you. You continue to hurt because you will not forgive them for it. The only thing that can cause you pain is your denial of love to someone."

— Marianne Williamson,

"Forgiving: When It's Difficult"

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Abstract

Long studied within the realm of religion and philosophy, forgiveness recently has emerged as an area of study within psychology, and research has burgeoned in the last decade. Early attempts to measure forgiveness suffered from a lack of clearly operationalized variables and improper use of statistical methods. Recent work has defined forgiveness in terms of transgression-related interpersonal motivations, but the measurement of attitudes about revenge and avoidance has lacked contexts in which forgiveness may be desirable. A measure of willingness to forgive may provide therapists with a tool to assess how a person is predisposed to releasing resentments toward others. The only published example of a measure of willingness to forgive lacked research to demonstrate its validity and reliability. This dissertation describes the development of a highly reliable 16-item scenario-based Willingness to Forgive scale. Discriminant and construct-related validity are examined, and future directions for research are discussed.

Development and Validation of a Scale Measuring Willingness to Forgive

A lack of deeply held resentments has been described as an implicit component of mental health (Beck, 1992). Forgiveness may be described as a process of releasing resentment; it logically follows that the accomplishment of forgiveness would be associated with mental health. Until recently, forgiveness mainly was studied in the realm of philosophy and theology (e.g., Fillipaldi, 1982; Hope, 1987). Since the 1980s, a number of journal articles have documented informal accounts of the benefits of forgiveness (for extensive literature reviews, see McCullough, Rachal & Hoyt, in press; and McCullough & Worthington, 1994).

Definitions of forgiveness have ranged from dictionary citations (see Hope, 1987) to operational definitions involving the surrender of the desire for revenge (e.g., Fitzgibbons, 1986, and Mauger et al., 1992). One of the first reports of an empirical study on forgiveness appeared in Enright, Santos and Al-Mabuk (1989), who reported research involving adolescents. Enright, Gassin and Wu (1992) drew heavily from North (1987), who said forgiveness is the overcoming of negative affect and judgment toward an offender, not by denying oneself the right to negative affect and judgment, but by trying to view the offender with compassion, benevolence and love. Enright, Gassin and Wu (1992) expanded the definition of forgiveness with

a list of 11 points, then proposed an 18-part process model of forgiveness. No empirical research supported the model, however.

The most structured approach to forgiveness research has been taken by McCullough and his associates. McCullough, Worthington and Rachal (1997) defined forgiveness in terms of transgression-related interpersonal motivations. Participants in their studies rated their agreement with statements assessing their attitudes toward Avoidance and Revenge, the two subscales of the Transgression-Related Interpersonal Motivations (TRIM) scale. Participants were asked to think about a person who had hurt them or treated them unfairly. Then they used a five-point scale to rate their agreement with statements such as:

— I want to see him/her hurt and miserable.

— I keep as much distance between us as possible.

— I live as if he/she didn't exist, wasn't around.

The TRIM appears to be a useful tool for assessing a person's attitudes toward a particular forgiveness situation, but it does not measure a person's disposition toward forgiveness in general. A measure of willingness to forgive may provide therapists and forgiveness researchers with a tool to assess how a person is predisposed to releasing resentments toward others.

The only published example of a scale designed to measure willingness to forgive appeared in Hebl and Enright (1993), but this scale had two problems. First, it was introduced as part of a larger project

involving forgiveness among elderly women; its reliability and validity were not reported. Second, the scale gave participants their choice of 10 options to indicate how they would behave toward their transgressor, which provided only categorical data. As in the case with the TRIM, this scale limited participants to a particular forgiveness situation. A precedent for aggregating responses to a number of potential forgiveness situations may be found in Girard and Mullet (1997). These French researchers presented scenarios in which they manipulated six variables: closeness of relationship, intentionality of a harmful act, severity of consequences of the act, presence/absence of an apology, attitude of others in the situation, and cancellation of consequences (that is, whether or not the consequences continue to affect the individual). Each variable had two levels, and one scenario was written for each combination ($2^6 = 64$). Participants rated the appropriateness of forgiveness in each scenario on a visual analogue scale; the researchers used the ratings as a measure of propensity to forgive. The data were analyzed with an eight-way analysis of variance, with age and gender included with the six manipulated variables. For the manipulated variables, several two-way (but no higher) interactions were significant. The researchers said propensity to forgive generally increased with age, lending support to their argument that forgiveness is developmental.

The study by Girard and Mullet (1997) differs from the present research in two important ways. First, the focus of the research was on the

analysis of the responses to the scenarios, not the psychometric properties of a scale intended to measure propensity or willingness to forgive. No judgments about the usefulness of various scenarios to an aggregate score were made. Second, the researchers explicitly asked about forgiveness, which may or may not elicit socially desirable responses in French; no measures of socially desirable responding were administered. The use of scenarios could disguise the intention of a scale and thus avoid socially desirable responses, but the French researchers did not take this approach. (On the positive side, they reported unexpected results, including the discovery of "unconditional forgivers" and "never forgivers," which could be an interesting area for future research.)

Summary and Hypotheses

This dissertation reports the results of research aimed at developing and validating a scenario-based scale measuring willingness to forgive. As stated above, this scale may be useful for therapists and forgiveness researchers to assess a person's willingness to engage in the process of forgiveness, defined by McCullough, Worthington and Rachal (1997) as the set of motivational changes whereby a person becomes decreasingly motivated to retaliate against or maintain estrangement from an offender and increasingly motivated by reconciliation and goodwill. In this dissertation, willingness to forgive is operationally defined as the

participants' judgment of needing little time to get over a hurtful situation. Participants who report they would need a great deal of time or could never get over a hurtful situation would have lower scores on Willingness to Forgive; it is believed they are reporting a predisposition toward a forgiveness situation.

Previous research has investigated the relationship between forgiving and empathy. McCullough et al. (1998) hypothesized that empathy mediates forgiving. They posited that the determinants of forgiving could be placed into four categories: social-cognitive determinants, offense-related determinants, relational determinants and personality-level determinants. Among their conclusions, McCullough et al. said that the relationship between apology and forgiveness was completely mediated by empathy, and that the TRIM represented the motivations that they believe are the essence of forgiveness (Avoidance and Revenge). McCullough and other forgiveness researchers have measured empathy with a version of Batson's adjective list (including words like *tender-hearted, sympathetic,* etc.) and asked about a particular forgiveness situation. The present study, however, involved the tendency to forgive (i.e., dispositional forgiveness), so a measure of dispositional empathy was needed. Davis (1980, 1984) developed such a measure. It was hypothesized that Willingness to Forgive, as measured by the final version of the scale, would be positively correlated with the subscales of Davis' empathy scale, called the Interpersonal Reactivity Index

(given in Appendix D). A positive correlation between Willingness to Forgive and dispositional empathy would provide evidence of construct-related validity.

Vengeance was hypothesized to be negatively related to Willingness to Forgive. As mentioned above, McCullough and his associates developed the TRIM, which has subscales for Revenge and Avoidance. McCullough's research lends support for the inclusion of a vengeance scale, as his studies have indicated that people tend to desire revenge more than they desire avoidance soon after a transgression has occurred. The TRIM scale, however, is used for assessing reactions about a specific transgressor or forgiveness situation, so a dispositional measure of revenge or vengeance was needed. Stuckless and Goranson (1992) reported the development of a Vengeance Scale (see Appendix E). It was hypothesized that Vengeance was negatively related to Willingness to Forgive, providing further evidence of construct-related validity. In addition, this scale includes a question on forgiveness ("I find it easy to forgive those who have hurt me," reverse scored for the Vengeance scale). It was further hypothesized that scores on this question (before reverse-scoring) would be positively correlated with Willingness to Forgive. Such a correlation would provide more evidence of construct-related validity, especially because of the use of the word *forgive*, which was not used in the scenarios in the present study for the purpose of avoiding socially desirable responses.

If a scale is correlated with measures of socially desirable responding, one would become concerned that participants were not providing honest answers to the scale. To assess this possibility, Paulhus' (1984) Balanced Inventory of Desirable Responding (BIDR) was administered. The BIDR, given in Appendix C, has subscales for Impression Management (IM) and Self-Deception (SDE). It was hypothesized that Willingness to Forgive is uncorrelated with these subscales.

The scenarios in this research were developed with several specific kinds of relationships in mind — strangers, significant others, friends, family members, and acquaintances. Compared with the other kinds of relationships, a relationship with a significant other involves more importance to the individual and greater risk in terms of relational intimacy. It was therefore hypothesized that factor analysis of the Willingness to Forgive scale would result in two factors, one for significant others and the other for all other kinds of relationships.

In the next section, the development of scenarios will be discussed, followed by a description of the process of selecting scenarios for a Willingness to Forgive scale and the psychometric properties of the scales to be used to assess the reliability and validity of the Willingness to Forgive scale.

Scenario Development

Initial investigation of a scenario-based scale of Willingness to

Forgive began in late 1998. Fifteen scenarios covering a fairly arbitrary range of topics were written and presented to participants in the University of Oklahoma (OU) Department of Psychology participant pool. These results included near-zero correlations between measures of socially desirable responding and a Willingness to Forgive score created by adding the respondents' reverse-scored responses on how long it would take to get over each transgression. Attention then turned to the kinds of scenarios needed to measure Willingness to Forgive and the inadequacy of the original 15 scenarios. As the intention was to develop a scale that could be used by therapists who counsel people about all kinds of relationships and researchers interested in willingness to forgive, it was decided that the scenarios needed to provide respondents with a greater range of forgiveness situations than those covered in the original 15 scenarios.

A questionnaire was developed to elicit descriptions of hurtful or unfair situations that might be used as the basis of more scenarios. A sample of $N = 108$ OU undergraduate students received experimental credit for their psychology class in the spring of 1999 for completing the questionnaire. Five versions of the questionnaire were distributed. All of them asked the participant to describe someone — either a stranger, acquaintance, friend, family member or significant other — who had treated him/her unfairly and hurt him/her. The questionnaire provided a full page for the participants to write their description. Nearly equal numbers (22, 21,

21, 22 and 22) of students wrote about each kind of relationship; the surveys were distributed systematically with the intent that each group would be represented equally. Demographic information on this sample is unavailable because the OU Institutional Review Board granted permission to use human participants for this phase of the research on the condition that such data would not be collected.

An additional 29 scenarios were culled from these descriptions, bringing the total to 44 scenarios, which are presented in Appendix A. They were written with the intent of standardizing them in terms of number of targets for forgiveness (one per scenario) and length. Descriptive statistics for the scenarios are given in Table 1.

Insert Table 1 about here

The 44 scenarios were the basis of the main study, which will be described next.

Method

Participants

A total of $N = 248$ participants were recruited from OU, Southern Nazarene University, and the University of Tennessee-Knoxville. At OU, 57 participants from the Department of Psychology, 36 from the Political

Science Department, and 17 from the Department of Communication received extra credit from their instructors for participating in the study. Extra credit also was given to the 11 volunteers from Southern Nazarene and the 65 participants in Tennessee. Another 62 OU students were recruited from classes in biology, English, history, math, sociology, and zoology and via posters around campus advertising a drawing for cash awards in exchange for participation. Cash prizes ranged from $1 to $50, with a mean of $1.80. The researcher described the study during recruitment visits to classrooms and on the recruitment posters as a survey about all kinds of relationships; forgiveness was not mentioned.

Surveys from three participants were discarded for failure to follow instructions; and one participant did not return part of the survey, leaving a sample of 244 participants. Most participants were undergraduates; a few graduate students ($N < 10$) who saw the signs advertising the cash awards participated. Age information is incomplete because one group of participants was not asked to provide ages and other participants skipped the question. For $N = 129$ participants, the mean age was 22.7 years ($s = 5.4$, median = 21, mode = 20), with ages ranging from 18 to 51. Table 2 contains other demographic information about the participants. The options on the question about religious affiliation were guided by Smith (1991) and by experience; results from previous studies showed that participants at OU tended to be predominantly Christian, with very few participants choosing

options such as Islam, Buddhism, Hinduism, Judaism, etc. Previous participants also have written in responses such as "Southern Baptist" instead of marking the option of "Baptist," hence the present option of "Christian, other."

Insert Table 2 about here

Instruments

Participants were told there were no right or wrong answers and were instructed to answer every question even if they had no experience in a particular situation, such as an overseas trip and going through U.S. Customs. The first scale in the survey was Paulhus' (1984) Balanced Inventory of Desirable Responding (BIDR), which has subscales for Impression Management (IM) and Self-Deception (SDE). Coefficient alphas ranging from .68 to .80 for the SDE and from .75 to .86 for the IM scale have been reported. Next, participants responded to Davis' (1980, 1984) Interpersonal Reactivity Index (IRI), which consists of four 7-item subscales — Fantasy, Perspective-Taking, Empathic Concern, and Personal Distress. He reported standardized alpha coefficients for the subscales ranging from .68 to .79. Responses were recorded on a computer scan sheet.

Next, participants were given the 44 scenarios, with three questions after each scenario. The order of the scenarios was randomized. These

responses were recorded directly onto the packet of questions and later transcribed via dictation. Each of the three questions was rated on a 7-point scale: how angry they would feel (0="Not angry" to 6="Very angry"); how much resentment they would feel (0="None" to 6="Overwhelming amount"); and how long it would take them to get over it (0="No time at all" to 6="I could never get over it"). This last question provided the operational definition of Willingness to Forgive; it may be inferred that participants who see themselves as being unable to get over a great number of the situations described in the scenarios are less willing to forgive. The answers to the third question were reverse-scored, so that a small number would indicate less willingness to forgive.

The Vengeance Scale was placed after the scenarios so that the use of the word *forgive* in one item would not contaminate the responses on the scenarios. Stuckless and Goranson (1992), who developed the Vengeance Scale, reported a Cronbach's alpha of .92. Responses to the Vengeance items and the demographic questions on the last page were recorded on the scan sheets.

Results

The extensive process of analyzing the underlying structure of the Willingness to Forgive data and the development of scales will be described. Next, the findings on construct-related validity and socially desirable

responding will be discussed, along with the reliability of the various scales that were administered.

Before the dimensionality was examined, it was decided that six scenarios — 11, 34, 37, 38, 39, and 43 — would be dropped because they would be salient mainly to college students and probably should not have been presented to participants. Their inclusion would limit the applicability of the scale. With the remaining 38 scenarios (also referred to here as items), plots of eigenvalues and fit indices were used to examine the dimensionality of Willingness to Forgive. An unrestricted principal factor analysis indicated the possibility of 9 factors, and a scree plot flattened out after the third eigenvalue, as shown in Figure 1.

Insert Figure 1 about here

Akaike's Information Criterion (AIC), which takes increasingly smaller negative values as the amount of information increases, also was computed for factor-analytic solutions specifying 3 to 9 factors. The AICs for these solutions were plotted, and Figure 2 shows the large changes in the value of the AIC up to the 5-factor, 6-factor, or 7-factor solution. So the AIC would suggest 5 to 7 dimensions.

Insert Figure 2 about here

Also plotted for the 3-factor through 9-factor solutions were Schwarz's Bayesian Criterion, Tucker and Lewis' Reliability Coefficient, the root mean square residual, and chi-square divided by degrees of freedom. These plots were uninformative, except that the Tucker and Lewis index exceeded .9 at 6 factors and the root mean square residual dropped below .05 at 4 factors. Based on these results, attention was focused on the possibility of 3 to 6 factors.

Maximum-likelihood factor analyses with a promax rotation were run specifying 3, 4, 5, and 6 factors. A comparison of these solutions revealed several items that had only low loadings (i.e., less than .3) or loaded on more than one factor. Item 8 had no loadings greater than .3 on any of the factor-analytic solutions. Items 16 and 35 consistently cross-loaded on every solution, while items 9, 18, and 22 cross-loaded on more than one factor for some of the solutions, then had only low loadings on the other solutions. With these items in the analyses, none of the factors seemed interpretable. Therefore, these six scenarios were dropped from subsequent analyses, leaving 32 scenarios.

The data were analyzed again using maximum-likelihood factor analysis with promax rotation specifying 3 to 6 factors. The 3-factor solution

appeared to be insufficient to reproduce the data; three items loaded on none of the factors, and the Tucker-Lewis Reliability Coefficient was quite low, .84. All but two scenarios loaded on at least one factor when four factors were specified and the Tucker-Lewis index had increased to .87, but this solution had many cross-loadings and the fourth factor seemed to contain an odd mix of items. The 5-factor solution provided the most interpretable results, and the Tucker-Lewis index reached .90. The scenarios loading on the first factor dealt with a betrayal or breach of trust. The second factor contained loadings for scenarios that involved criticism of a person's health or appearance. All the items loading on the third factor concerned strangers. All but one of the items on the fourth factor involved a significant other, and the fifth factor had loadings from the scenarios in which a significant other showed distrust of the participant. The 6-factor solution had some of the same groupings of scenarios as the 5-factor results, except for one factor, which did not lend itself to any obvious interpretation; the items seemed to have nothing in common. It was decided that two items (3 and 30) that loaded nowhere in the 5-factor solution and three items (1, 13, 41) that loaded almost equally on two or more factors would be dropped. The 5-factor solution was run with the remaining 27 items. Scenario 26 did not load on any factor greater than .3, so it was eliminated for the final analysis. The 26 items and 5 scales are given in Appendix B.

The 5-factor maximum likelihood factor analysis with promax rotation

resulted in a Tucker-Lewis index of .92 and a root mean square residual of .04, indicating that the model fit the data fairly well. Table 3 shows the rotated factor pattern of standardized regression coefficients for the 5-factor solution. Factor 1 contains the items for the Willingness to Forgive (abbreviated as W2F) Broken Trust scale. Items loading on Factor 2 make up the Willingness to Forgive Criticism scale. Willingness to Forgive Strangers is assessed with the items on Factor 3. Significant Others are the focus of the last two factors. The scenarios loading on Factor 4 may be seen as items associated with Willingness to Forgive Betrayal, and the last factor contains items reflecting Willingness to Forgive Distrust.

Insert Table 3 about here

A few items cross-load on two factors. For example, scenario 28 has a strong loading on the W2F Strangers factor and a weak loading on the fifth factor, W2F Distrust. This scenario involved a store clerk who appeared to show distrust of the participant, which would explain the cross-loading. Scenario 7 loads on the fourth factor, W2F Betrayal, while having a slightly weaker loading on the second factor, W2F Criticism. This scenario describes someone not showing up for a first date. Perhaps the cross-loading indicates that the participants saw it as a betrayal by a significant other, thus the loading on the W2F Betrayal factor, or as a "slap in the face"

similar to the items loading on the W2F Criticism factor. One of the significant-other scenarios cross-loaded on W2F Betrayal and W2F Distrust, both of which contains items involving a significant other. A low loading on W2F Distrust for scenario 23, which had a strong loading on W2F Criticism, stands out as an unusual cross-loading; no explanation is obvious.

A restricted factor analysis was run using SAS's CALIS procedure, specifying five correlated factors and two pairs of correlated errors. The errors for items 5 and 15 had a partial correlation of .22 controlling for the factors; both items describe a significant other who has been dating other people in secret. The errors for scenarios 6 and 20 had a partial correlation of .20; both items described physical illness. Among the fit indices computed were the Goodness of Fit Index (GFI), .83; the GFI adjusted for degrees of freedom, .79; Mulaik's Parsimonious GFI, .73; and the Root Mean Square Error of Approximation (RMSEA) estimate, .07. All fit indices produced by CALIS are given in Table 4.

Insert Table 4 about here

Reliability of the W2F scales was measured with Cronbach's coefficient alpha. The longest scale, the 7-item W2F Criticism, was the most

reliable, with an alpha of .84. The alphas for 6-item W2F Broken Trust and the 5-item W2F Strangers were both .81. The W2F Distrust by Significant Others and the W2F Betrayal by Significant Others, which each had 4 items, had alphas of .76 and .73, respectively.

Regarding socially desirable responses, it was hypothesized that Willingness to Forgive would be uncorrelated with the self-deception and impression management subscales of the BIDR. The results were mixed. Self-deception was uncorrelated with the W2F Broken Trust scale ($r = .07$, $p = .29$), but it was positively correlated with the other scales. The correlations were significant but weak, with the strongest value of $r = .30$ ($p = .0001$) between self-deception and W2F Criticism. Perhaps participants with higher self-deception were more likely to play down the intentionality of the criticisms, thus protecting their self-esteem. As hypothesized, impression management was uncorrelated with the W2F scales. The results are given in Table 5.

Insert Table 5 about here

It was hypothesized that Willingness to Forgive would be positively correlated with the subscales of Davis' Interpersonal Reactivity Index — Fantasy, Empathic Concern, Personal Distress and Perspective-Taking. Confirmation of the hypothesis would provide evidence of construct-related

validity. The hypothesis was only partly supported. The Fantasy scale was uncorrelated with W2F Broken Trust, W2F Strangers, and W2F Betrayal, and it had a weak negative correlation with W2F Criticism (r = -.13, p = .047) and W2F Distrust (r = -.14, p = .04). Davis (1980, 1984) said the Fantasy scale "appears to tap the tendency to imaginatively transpose oneself into fictional situations." A negative correlation would suggest that people who have high scores on Fantasy would be less willing to forgive. If future studies bear out these correlations, perhaps people who score high on the Fantasy scale also imagine consequences for their transgressors. Contrary to the hypothesis, Empathic Concern was uncorrelated with the W2F scales, except for a tenuously significant negative correlation with W2F Distrust by Significant Others (r = -.13, p = .046). Davis described the Empathic Concern scale as consisting of items "assessing the degree to which the respondent experiences feelings of warmth, compassion and concern for the observed individual." A possible explanation for the lack of positive correlation between the W2F scales and Empathic Concern may be found in McCullough, Worthington and Rachal (1997), who said dispositional empathy might be a weak determinant of forgiving because the person must translate it into empathy for a specific person and situation. The Perspective-Taking scale was uncorrelated with W2F Distrust by Significant Others, but it was somewhat correlated with the other W2F scales, with the values of r ranging from .13 to .21. These positive correlations support the

hypothesis. Davis said this scale indicates an ability to shift perspectives or to step "outside the self" when dealing with other people in real-life circumstances. A positive correlation would mean that those who have higher scores on Perspective-Taking also are more willing to forgive. The scenarios seem well-suited to the kind of ability that this scale measures. Davis' fourth scale, Personal Distress, had the strongest correlations with the W2F scales. Described by Davis as measuring a person's feelings of fear, apprehension and discomfort at witnessing the negative experiences of others, Personal Distress was negatively correlated with the W2F scales, with *r*'s ranging from -.24 to -.40. A person with higher scores on Personal Distress would be less willing to forgive.

Another hypothesis involving construct-related validity found partial support. It was hypothesized that Vengeance was negatively related to Willingness to Forgive. Four of the W2F scales — Broken Trust, Strangers, Betrayal by Significant Others, and Distrust by Significant Others — were negatively correlated with Vengeance, with *r*'s ranging from -.13 to -.31. The lack of a correlation between Vengeance and Criticism may indicate that revenge was not related to the kinds of transgressions described in the scenarios in that scale. A final hypothesis about construct-related validity was that responses from one item from the Vengeance scale ("I find it easy to forgive those who have hurt me") would be positively correlated with the W2F scales. The hypothesis was confirmed for all the W2F scales except

Criticism, which was uncorrelated with the forgiveness item. All these correlations were weak, however, with the strongest $r = .24$ ($p = .0002$) between Vengeance and W2F Betrayal by Significant Others.

Discussion

The goal of this research was to develop and validate a measure of willingness to forgive. The results did not support the hypothesized two-factor model, yielding instead five factors that seem to encompass kinds of relationships and kinds of transgressions. Some evidence of construct validity has been discussed, but construct validation is only one step in the validation process. Discriminant validity should be assessed by measuring constructs that should be unrelated to willingness to forgive, such as powerlessness, shyness, or self-esteem. The W2F scales also should be examined for cross-sample validity. Convergent validity could be demonstrated by correlating responses to the W2F scales with responses to direct questions about willingness to forgive. Predictive validity also should be assessed, perhaps using participants who are clients at an outpatient treatment center. If treatment outcomes are more successful for clients who had high scores on the W2F scales, then these results could be evidence of predictive validity, which would make the W2F scales a potentially useful tool for clinicians. The reliability of the W2F scales was computed using Cronbach's alpha, a measure of internal consistency. Test-

retest reliability also should be examined.

One limitation of this study was the use of college students, which may limit generalizability. The population from which the current sample was drawn did not allow for the examination of possible developmental aspects of Willingness to Forgive, nor for the study of various cultural and religious factors. Other lines of future research include an examination of Willingness to Forgive and personality variables such as attributional complexity and personality structure; and the relationship, if any, between Willingness to Forgive and intelligence. The possibility of differences between non-forgivers and always-forgivers also has not been explored, nor have the effects of religiosity. From the present study, however, there are encouraging signs that the scales developed in this study may become a valuable tool in assessing Willingness to Forgive.

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Appendix A

Scenarios

Note: Scenarios marked with an asterisk were part of the original 15 scenarios. The remaining scenarios were written based on the descriptions elicited from participants in the spring 1999 study.

*1. You tell a co-worker, Chris, about an idea you have that would improve efficiency and save money. During a staff meeting, the boss announces the improvement and says that as the person who suggested it, Chris will get a $100 bonus for the idea.

2. You are in a computer chat room on-line, visiting with a friend who lives in another state. Your significant other comes to your house, sees that your computer is turned on, and asks what you're doing. When you say that you were talking to a friend in a chat room, your significant other gets angry and tells you that you shouldn't hang out in chat rooms.

*3. You are in a meeting at work. You make a suggestion that you think will improve customer service. Your boss says she doesn't like the idea and gives several reasons to support her opinion. She seems to be trying to put you in your place and to reinforce who is boss.

4. A stranger at a bar tries to push you out of the way. You ask the stranger to be careful because the push hurt your arm. The stranger gets angry, calls you a foul name and stomps away, which draws attention from other people in the bar.

*5. Someone you've been dating for six months tells you that s/he wants to start dating other people. The announcement takes you completely by surprise; in fact, it seems to come out of the blue.

6. While you're on a family outing, you start to feel nauseated. One of your cousins, Terry, says you're being a wimp and to quit whining about being outdoors. When you get home, it turns out that you have a fever.

*7. You have met someone you'd like to date. A date is arranged to celebrate your birthday. Your date does not show up at the agreed-upon place and time. Later on the phone, your date says, "Something came up."

8. You are on a first date with someone, and the conversation turns toward religion. You ask your date about his/her religious beliefs. Your date says anyone who is dependent upon a religion is crazy.

*9. You come home from work and catch your roommate looking at your private journal. Your roommate claims to have been looking for a dictionary and really hadn't read much of your journal.

10. You go out to dinner with friends for a small celebration. You have a camera with a built-in flash and you take some pictures of your friends. A person at a nearby table gets annoyed and says, "OK, one more picture and then that's it, do you hear me?"

11. You write a very upbeat, happy email to your sister about how well things are going for you. When she writes back, she says you need to spend more time studying or getting a better job to help pay your way.

*12. A friend asks to borrow $100 until the next month. You agree and make the loan. You wait six weeks, then you ask your friend to repay the debt, but your friend keeps putting it off. Five months later, you still haven't collected the repayment.

13. You are working as a wait person at a restaurant. A man in a business suit is sitting at a table with five other people. He keeps asking for extra service, and at the end of the meal, he makes a point of picking up the check. Then he leaves no tip for you.

*14. You are at a family gathering. One of your parents tells a story about you that has always embarrassed you. Everyone laughs but you. Later, when you ask your parent not to tell that story again, the response is, "You're just too sensitive."

*15. Your significant other, whom you have dated for two years, tells you that he/she wants to break up and admits that he/she has been involved with other people the entire time you've been dating.

16. Your significant other invites you to a party where you won't know anyone else. You agree to meet at the hotel where the party is being held. When you arrive, your significant other says hello to you, but then ignores you for the rest of the evening. Finally, you just leave.

*17. You go to visit your aunt, who is very special to you. You are wearing a new pair of pants and you really like them. Your aunt says, "You need to give those pants to a friend. They don't look good on you at all."

18. Your sister belongs to a club, and you decide to join the organization. When you do, your sister acts as if you aren't related and stays away from you at the meetings.

19. You are at a sporting event. You see an older woman drop her purse. You reach to pick it up for her. She grabs it away from you and gives you a dirty look, as if you intended to steal it.

*20. You have a terrible headache, so you call in sick to work. When you return to work the next day, your supervisor says, "In the future, you will have to bring me a letter from a doctor to prove you were sick."

21. You change your hairstyle. The first time you see your brother, he says in a sarcastic tone, "What in the world did you do to your hair?"

22. A co-worker asks you to run a work-related errand, but you are in the middle of another project that you consider more important, and you say so. After your day off, you come back to work and learn from your boss that your co-worker had complained that you were uncooperative and difficult.

23. A friend comes to your home and sees you right after you have taken a shower. Your hair is wet and you're in a bathrobe. Your friend makes a face and says you look ugly when you're not fixed up.

24. Whenever you see each other, your uncle teases you about your weight (saying you're too heavy or too thin). You try to tell him that the teasing bothers you, but he doesn't seem to understand or care, because the comments continue.

*25. You let your brother borrow your guitar. When you ask to get it back a month later, he says he sold it in a garage sale because he didn't think you wanted it anymore.

26. A friend stops calling you to do things together. You bring it to your friend's attention, and your friend apologizes. Then several weeks go by without a phone call, and your phone messages go unanswered. When you finally contact your friend and ask what is going on, your friend gets angry and yells at you to quit being so controlling.

27. You agree to meet your significant other in a public place where a social event is scheduled to be held. Your significant other causes a scene by arriving at the event under the influence of alcohol.

28. You enter a department store to buy a birthday present for a friend. You notice that a clerk is following you, watching your every move. When you pick out the present and take it to the register, the same clerk takes your money but doesn't smile or say thank you.

29. Whenever you make plans with your other friends, you tell your significant other about it. You find out that your significant other has been asking your other friends for information about your whereabouts, after you have already said where you would be.

30. Someone who has been a close friend for a number of years goes to live in another city. When you are both in your hometown for a holiday, you call this person on the phone. But your friend says s/he is too busy to see you

and that you're part of his/her "old" life.

31. A friend recruits you to work at a concession stand at a sporting event. The agreement is that you both will work during the game and split the commission. Your friend gives you $50 for an afternoon's work. Later, you find out that the commission was $200 and so your friend got $150.

32. You ask a friend to stay at your home while you are out of town for a week. When you come home, the front door is unlocked and no one is there. When confronted about it, your friend shrugs it off and says nothing happened, so why worry about the door accidentally being left unlocked.

*33. Your significant other says he/she cannot go out to dinner with you Friday night because relatives are in town. On Friday night, you enter a restaurant with some friends. In a booth, you see your significant other snuggling with someone else. It is clear to you that this is a date. You tell your friends you're not feeling well and leave the restaurant.

*34. You find out that a classmate, Brad, has been spreading a rumor about you cheating on a test. When you ask Brad about it, he denies it. The next day after class, another student from the same class tells you, "Brad just told me that you cheated on the test."

35. You buy some things at a convenience store. The cashier gives you the change, and you walk outside. Then you realize that you were short-changed by $10. When you go back inside and ask for the rest of your change, the cashier denies making a mistake and refuses to give you any

money back.

*36. A friend borrows your favorite shirt and returns it on a hanger with a plastic cover from the cleaners. When you take out the shirt to wear it, you see a small stain on the front. You wash the shirt and try to remove the stain, but it won't come out.

37. You just told one of your parents about your grade report. You were pleased with your grades. Your parent seems annoyed and says, "You must do a better job next semester."

38. Your TV set quits working. A repair shop says it would cost about the same amount as a new TV to repair your old one. You ask one of your parents to lend you the money to buy a new TV. You promise to repay the loan within a year. But your parent refuses to lend you the money.

39. You ask one of your parents to attend an event that is important to you. S/he says s/he must go to work instead. Afterward, you find out that s/he stayed home to watch a favorite TV show.

40. An old friend from high school calls you, and you arrange to go out to lunch next week. When you tell your significant other about the plans, your significant other says that s/he doesn't want you spending time with that person, even though it's someone you have never dated.

*41. An out-of-town friend is staying the weekend with you. You have a $100 bill, which was a gift from a relative. While your friend is out for a jog, you go to the store and discover the $100 bill is missing from your wallet.

Back home, you find a $100 bill in your friend's robe pocket. You can't prove it's your money, so you don't say anything.

42. You are in a hurry to get to an appointment in a tall building. You run toward the elevator as the doors are closing. A man inside the elevator looks right at you, smiles, and lets the doors close anyway.

43. You and a classmate attend a conference out of town. You both paid the same amount of money to attend. Your classmate made the arrangements. You are assigned to a hotel room with one single bed. Your classmate gets a room with a king-sized bed. You find out that you each could have had a room with one double bed, but your classmate chose otherwise.

44. You're at a party. You see your significant other's car pull up in the driveway. You decide to play a trick and act as if you haven't arrived yet, so you hide. When your significant other comes in and is told that you aren't there yet, you hear, "That's OK, I was hoping s/he wouldn't show up at all." You jump out to surprise your significant other, acting as if you hadn't heard anything.

Appendix B

Willingness to Forgive Scales

Factor 1: Willingness to Forgive Broken Trust Scale

32. You ask a friend to stay at your home while you are out of town for a week. When you come home, the front door is unlocked and no one is there. When confronted about it, your friend shrugs it off and says nothing happened, so why worry about the door accidentally being left unlocked.

12. A friend asks to borrow $100 until the next month. You agree and make the loan. You wait six weeks, then you ask your friend to repay the debt, but your friend keeps putting it off. Five months later, you still haven't collected the repayment.

31. A friend recruits you to work at a concession stand at a sporting event. The agreement is that you both will work during the game and split the commission. Your friend gives you $50 for an afternoon's work. Later, you find out that the commission was $200 and so your friend got $150.

36. A friend borrows your favorite shirt and returns it on a hanger with a plastic cover from the cleaners. When you take out the shirt to wear it, you see a small stain on the front. You wash the shirt and try to remove the stain, but it won't come out.

25. You let your brother borrow your guitar. When you ask to get it back a month later, he says he sold it in a garage sale because he didn't think you wanted it anymore.

27. You agree to meet your significant other in a public place where a social event is scheduled to be held. Your significant other causes a scene by arriving at the event under the influence of alcohol.

Factor 2: Willingness to Forgive Criticism

21. You change your hairstyle. The first time you see your brother, he says in a sarcastic tone, "What in the world did you do to your hair?"

23. A friend comes to your home and sees you right after you have taken a shower. Your hair is wet and you're in a bathrobe. Your friend makes a face and says you look ugly when you're not fixed up.

17. You go to visit your aunt, who is very special to you. You are wearing a new pair of pants and you really like them. Your aunt says, "You need to give those pants to a friend. They don't look good on you at all."

24. Whenever you see each other, your uncle teases you about your weight (saying you're too heavy or too thin). You try to tell him that the teasing bothers you, but he doesn't seem to understand or care, because the comments continue.

6. While you're on a family outing, you start to feel nauseated. One of your cousins, Terry, says you're being a wimp and to quit whining about being outdoors. When you get home, it turns out that you have a fever.

20. You have a terrible headache, so you call in sick to work. When you return to work the next day, your supervisor says, "In the future, you will have to bring me a letter from a doctor to prove you were sick."

14. You are at a family gathering. One of your parents tells a story about you that has always embarrassed you. Everyone laughs but you. Later, when you ask your parent not to tell that story again, the response is, "You're just too sensitive."

Factor 3: Willingness to Forgive Strangers

28. You enter a department store to buy a birthday present for a friend. You notice that a clerk is following you, watching your every move. When you pick out the present and take it to the register, the same clerk takes your money but doesn't smile or say thank you.

42. You are in a hurry to get to an appointment in a tall building. You run toward the elevator as the doors are closing. A man inside the elevator looks right at you, smiles, and lets the doors close anyway.

19. You are at a sporting event. You see an older woman drop her purse. You reach to pick it up for her. She grabs it away from you and gives you a dirty look, as if you intended to steal it.

10. You go out to dinner with friends for a small celebration. You have a camera with a built-in flash and you take some pictures of your friends. A person at a nearby table gets annoyed and says, "OK, one more picture and then that's it, do you hear me?"

4. A stranger at a bar tries to push you out of the way. You ask the stranger to be careful because the push hurt your arm. The stranger gets angry, calls you a foul name and stomps away, which draws attention from other people

in the bar.

Factor 4: Willingness to Forgive Betrayal by Significant Others

15. Your significant other, whom you have dated for two years, tells you that he/she wants to break up and admits that he/she has been involved with other people the entire time you've been dating.

33. Your significant other says he/she cannot go out to dinner with you Friday night because relatives are in town. On Friday night, you enter a restaurant with some friends. In a booth, you see your significant other snuggling with someone else. It is clear to you that this is a date. You tell your friends you're not feeling well and leave the restaurant.

7. You have met someone you'd like to date. A date is arranged to celebrate your birthday. Your date does not show up at the agreed-upon place and time. Later on the phone, your date says, "Something came up."

5. Someone you've been dating for six months tells you that s/he wants to start dating other people. The announcement takes you completely by surprise; in fact, it seems to come out of the blue.

Factor 5: Willingness to Forgive Distrust by Significant Others

40. An old friend from high school calls you, and you arrange to go out to lunch next week. When you tell your significant other about the plans, your significant other says that s/he doesn't want you spending time with that person, even though it's someone you have never dated.

29. Whenever you make plans with your other friends, you tell your

significant other about it. You find out that your significant other has been asking your other friends for information about your whereabouts, after you have already said where you would be.

44. You're at a party. You see your significant other's car pull up in the driveway. You decide to play a trick and act as if you haven't arrived yet, so you hide. When your significant other comes in and is told that you aren't there yet, you hear, "That's OK, I was hoping s/he wouldn't show up at all." You jump out to surprise your significant other, acting as if you hadn't heard anything.

2. You are in a computer chat room on-line, visiting with a friend who lives in another state. Your significant other comes to your house, sees that your computer is turned on, and asks what you're doing. When you say that you were talking to a friend in a chat room, your significant other gets angry and tells you that you shouldn't hang out in chat rooms.

Appendix C
Balanced Inventory of Desirable Responding

Note: Items 1-20 comprise the Self-Deception scale. Items 21-40 comprise the Impression Management scale. Items marked with an asterisk are reverse-scored. After reverse-scoring, one point is added for each response of 6 or 7; total scores on the SDE and IM can range from 0 to 20.

Use the following scale to rate your agreement with the first 40 statements:

1	2	3	4	5	6	7
Not true			Somewhat true			Very true

1. My first impressions of people usually turn out to be right.

*2. It would be hard for me to break any of my bad habits.

3. I don't care to know what other people really think of me.

*4. I have not always been honest with myself.

5. I always know why I like things.

*6. When my emotions are aroused, it biases my thinking.

7. Once I've made up my mind, other people can seldom change my opinion.

*8. I am not a safe driver when I exceed the speed limit.

9. I am fully in control of my own fate.

*10. It's hard for me to shut off a disturbing thought.

11. I never regret my decisions.

*12. I sometimes lose out on things because I can't make up my mind soon enough.

13. The reason I vote is because my vote can make a difference.

*14. My parents were not always fair when they punished me.

15. I am a completely rational person.

*16. I rarely appreciate criticism.

17. I am very confident of my judgments.

*18. I have sometimes doubted my ability as a lover.

19. It's all right with me if some people happen to dislike me.

*20. I don't always know the reasons why I do the things I do.

*21. I sometimes tell lies if I have to.

22. I never cover up my mistakes.

*23. There have been occasions when I have taken advantage of someone.

24. I never swear.

*25. I sometimes try to get even rather than forgive and forget.

26. I always obey laws, even if I'm unlikely to get caught.

*27. I have said something bad about a friend behind his or her back.

28. When I hear people talking privately, I avoid listening.

*29. I have received too much change from a salesperson without telling him or her.

30. I always declare everything at customs.

*31. When I was young I sometimes stole things.

32. I have never dropped litter on the street.

*33. I sometimes drive faster than the speed limit.

34. I never read sexy books or magazines.

*35. I have done things that I don't tell other people about.

36. I never take things that don't belong to me.

*37. I have taken sick leave from work or school even though I wasn't really sick.

38. I have never damaged a library book or store merchandise without reporting it.

*39. I have some pretty awful habits.

40. I don't gossip about other people's business.

Appendix D
Interpersonal Reactivity Index (Empathy Subscales)

Note: Each items is listed under the subscale to which it belongs; the numbers indicate the order of presentation. Reverse-scored items are marked with an asterisk.

Fantasy Scale — Appears to tap the tendency to imaginatively transpose oneself into fictional situations (e.g., books, movies, daydreams).

26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

5. I really get involved with the feelings of the characters in a novel.

*7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.

16. After seeing a play or movie, I have felt as though I were one of the characters.

1. I daydream and fantasize, with some regularity, about things that might happen to me.

*12. Becoming extremely involved in a good book or movie is somewhat rare for me.

23. When I watch a good movie, I can very easily put myself in the place of a leading character.

Perspective-Taking Scale — Seems to reflect an ability or proclivity to shift perspectives, to step "outside the self," when dealing with other people. The items comprising this scale refer not to fictitious situations and characters, but to "real-life" instances of perspective-taking.

28. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

*15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

11. I sometimes try to understand my friends better by imagining how things look from their perspective.

21. I believe that there are two sides to every question and try to look at them both.

*3. I sometimes find it difficult to see things from the "other guy's" point of view.

8. I try to look at everybody's side of a disagreement before I make a decision.

25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

Empathic Concern Scale — consists of items assessing the degree to which the respondent experiences feelings of warmth, compassion and concern for the observed individual.

9. When I see someone being taken advantage of, I feel kind of protective toward them.

*18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them.

2. I often have tender, concerned feelings for people less fortunate than me.

22. I would describe myself as a pretty soft-hearted person.

*4. Sometimes I don't feel very sorry for other people when they are having problems.

*14. Other people's misfortunes do not usually disturb me a great deal.

20. I am often quite touched by things that I see happen.

Personal Distress Scale — Measures the individual's own feelings of fear, apprehension and discomfort at witnessing the negative experiences of others.

27. When I see someone who badly needs help in an emergency, I go to pieces.

10. I sometimes feel helpless when I am in the middle of a very emotional situation.

6. In emergency situations, I feel apprehensive and ill at ease.

*19. I am usually pretty effective in dealing with emergencies.

17. Being in a tense emotional situation scares me.

*13. When I see someone get hurt, I tend to remain calm.

24. I tend to lose control during emergencies.

Appendix E
Vengeance Scale

Note: The instructions suggested by the developer of the Vengeance Scale were printed on the surveys and are given below. Item 8 was correlated with Willingness to Forgive to assess construct-related validity. Reverse-scored items are marked with an asterisk.

Listed below are a number of statements that describe attitudes that different people have. There are no right or wrong answers, only opinions. Read each item and decide whether you agree or disagree and to what extent. If you strongly agree, mark 7; if you strongly disagree, mark 1; if you feel somewhere in between, mark any one of the numbers between 1 and 7. If you feel neutral or undecided, the midpoint is 4.

1 Disagree strongly
2 Disagree
3 Disagree slightly
4 Neither disagree nor agree
5 Agree slightly
6 Agree
7 Agree strongly

*1. It's not worth my time or effort to pay back someone who has wronged me.

2. It is important for me to get back at people who have hurt me.

3. I try to even the score with anyone who hurts me.

*4. It is always better not to seek vengeance.

*5. I live by the motto, "Let bygones be bygones."

6. There is nothing wrong in getting back at someone who has hurt you.

7. I don't just get mad, I get even.

*8. I find it easy to forgive those who have hurt me.

*9. I am not a vengeful person.

10. I believe in the motto, "An eye for an eye, a tooth for a tooth."

*11. Revenge is morally wrong.

12. If someone causes me trouble, I'll find a way to make them regret it.

*13. People who insist on getting revenge are disgusting.

14. If I am wronged, I can't live with myself unless I get revenge.
15. Honor requires that you get back at someone who has hurt you.
*16. It is usually better to show mercy than to take revenge.
17. Anyone who provokes me deserves the punishment that I give them.
*18. It is always better to "turn the other cheek."
*19. To have a desire for vengeance would make me feel ashamed.
20. Revenge is sweet.

Table 1
Descriptive Statistics for Scenarios
Number of Words

Category	*N*	Mean	Std. Dev.	Minimum	Maximum
All	44	46.6	10.9	27	74
Acquaintance	6	50.8	8.4	42	66
Family	11	38.9	8.4	27	58
Friend	9	50.8	10.4	32	66
Sig. Other	11	47.8	14.3	34	74
Stranger	7	48.0	5.8	40	55

Table 2

Demographic Information about Participants

Demographic variable	Frequency	Percentage*
Sex		
Female	172	70.5
Male	72	29.5
Race		
American Indian/Alaskan Native	13	5.3
Asian	22	9.0
Black/African American	20	8.2
Hispanic/Latino/a	9	3.7
Native Hawaiian/Pacific Islander	3	1.2
White	146	59.8
Blended *(consider self a member of one or more of the above groups)*	23	9.4
No response	8	3.3
Marital status		
Married	44	18.0
Single	167	68.4
Separated	1	0.4
Divorced	3	1.2
Widowed	1	0.4
Cohabiting with a significant other	28	11.5
Religious/denominational affiliation		
None	45	18.4
Baptist	58	23.8
Catholic	23	9.4
Episcopal, Lutheran, Presbyterian	23	9.4
Methodist	22	9.0
Christian, not listed above	49	20.1
Other	17	7.0
No response	6	2.5
Native English speakers		
Yes	208	85.2
No	27	11.1
No response	9	3.7

**Percentages may not add up to 100 because of rounding.*

Table 3
Rotated Factor Pattern, Standardized Regression Coefficients

Scenario	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
W2F32	.79125	.09438	-.01916	-.07175	.00365
W2F12	.70013	-.00611	.02278	.15328	-.15940
W2F31	.59911	-.05985	-.00765	.15795	.15714
W2F36	.48036	.04472	.24259	.03740	.02522
W2F25	.43376	-.00156	.07064	.08119	.12115
W2F27	.34399	.08177	-.00876	.01213	.21814
W2F21	-.07721	.64219	.19640	-.04426	.04233
W2F23	.03112	.60839	-.02194	-.05048	.30178
W2F17	.08872	.60318	.11060	-.08205	.10115
W2F24	.21939	.54964	-.21567	.01542	.29866
W2F6	-.04749	.52893	.24710	.05664	-.08439
W2F20	.05569	.42095	.12951	.13241	.00391
W2F14	.06236	.32182	.13488	.23041	-.03649
W2F28	.12679	-.11816	.63627	-.13309	.33387
W2F42	.19053	.03475	.57974	-.03532	.10567
W2F19	-.03551	.21708	.56547	.00185	-.01326
W2F10	.00580	.19156	.54172	.07611	-.03609
W2F4	-.06000	.09009	.47232	.14236	.05361
W2F15	.05074	-.03792	.08400	.68963	.08812
W2F33	.13133	-.05431	-.14147	.62548	.28431
W2F7	.04851	.34718	.10009	.38483	-.14581
W2F5	.12939	.09538	.22588	.38335	-.11149
W2F40	-.01406	.10624	.10757	-.02729	.66683
W2F29	.21227	-.07253	.16277	.03961	.55030
W2F44	.01818	.02263	-.10054	.44845	.49842
W2F2	-.17802	.11621	.25953	.20673	.40284

Table 4
Fit Indices Produced by SAS's CALIS Procedure

Fit criterion	2.6622
Goodness of Fit Index (GFI)	0.8256
GFI Adjusted for Degrees of Freedom (AGFI)	0.7867
Root Mean Square Residual (RMR)	0.0715
Parsimonious GFI (Mulaik, 1989)	0.7290
Chi-square	614.96
RMSEA Estimate	0.0703
Probability of Close Fit	0.0000
ECVI Estimate	3.2896
Bentler's Comparative Fit Index	0.8634
Normal Theory Reweighted LS Chi-square	634.50
Akaike's Information Criterion	40.958
Bozdogan's CAIC	-1235.3
Schwarz's Bayesian Criterion	-948.26
McDonald's Centrality	0.4932
Bentler & Bonett's Non-normed Index	0.8453
Bentler & Bonett's NFI	0.7744
James, Mulaid & Brett Parsimonious NFI	0.6838
Z-Test of Wilson & Hilferty	10.421
Bollen Normed Index Rho 1	0.7445
Bollen Non-normed Index Delta 2	0.8655
Hoelter's Critical N	125

Table 5
Correlation Between W2F Scales and Other Scales

Scale	1	2	3	4	5	6	7	8	9	10	11	12
1. W2F Broken Trust	—											
2. W2F Criticism	.60●	—										
3. W2F Strangers	.51●	.59●	—									
4. W2F Betrayal by S.O.	.60●	.54●	.38●	—								
5. W2F Distrust by S.O.	.61●	.59●	.45●	.56●	—							
6. Self-Deception	.07	.30●	.17**	.18**	.22●	—						
7. Impression Mgt.	.02	.02	.06	.10	.03	.31●	—					
8. "Easy to forgive" item	.18**	.09	.13*	.20**	.24●	.09	.17**	—				
9. Vengeance	-.22●	-.07	-.31●	-.24●	-.13*	-.07	-.33●	-.49●	—			
10. Fantasy†	-.10	-.13*	-.06	-.11	-.14*	.02	.02	.04	-.09	—		
11. Empathic Concern†	-.09	-.12	-.05	-.03	-.13*	-.02	.25●	.15*	-.35●	.30●	—	
12. Perspective-Taking†	.13*	.15*	.21**	.19**	.07	.23●	.30●	.22●	-.20**	.18**	.31●	—
13. Personal Distress†	-.24●	-.40●	-.33●	-.29●	-.29●	-.39●	-.07	-.08	.04	.22●	.18**	-.14*

Note: *N* ranged from 234 to 241.
† Subscales of Davis' Interpersonal Reactivity Index (dispositional empathy) scale
* $p < .05$ ** $p < .01$ ● $p < .001$

Figure 1
Scree Plot of First 9 Eigenvalues

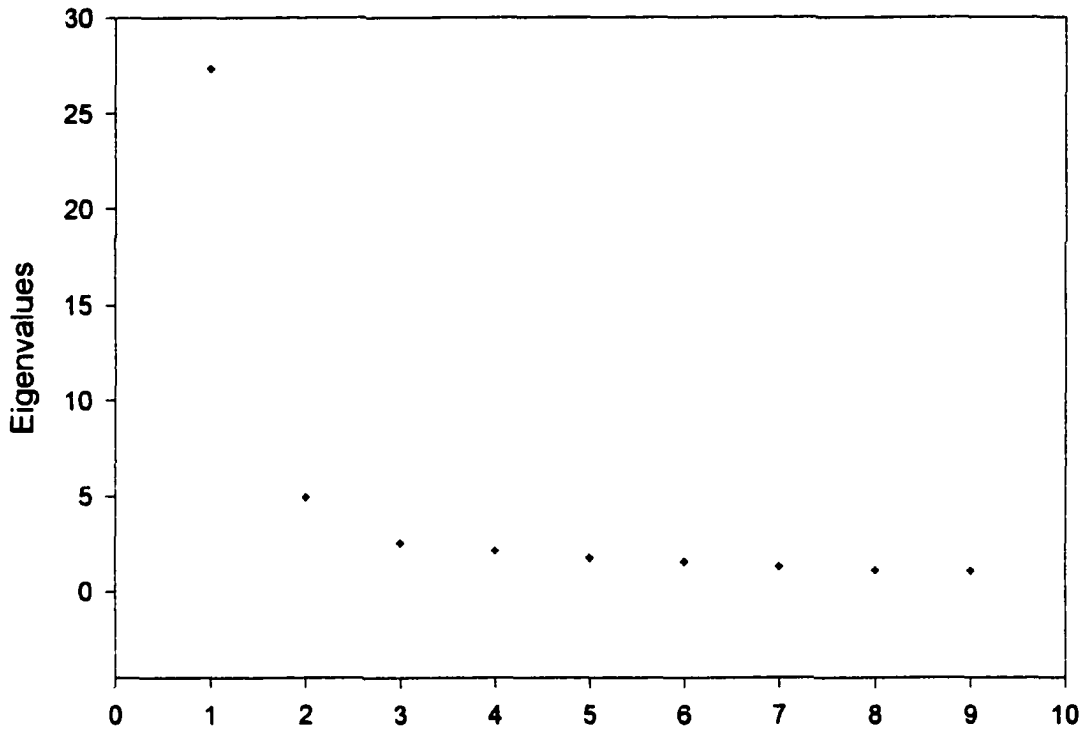


Figure 2
Akaike's Information Criterion for 3 to 9 Factors

