May 2014

The Impact of Feedback in Response to Self-Disclosure on Social Connection: a Possible Analog Component Model of the Therapy Relationship

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THE IMPACT OF FEEDBACK IN RESPONSE TO SELF-DISCLOSURE ON SOCIAL CONNECTION: A POSSIBLE ANALOG COMPONENT MODEL OF THE THERAPY RELATIONSHIP

by

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A Thesis Submitted in

Partial Fulfillment of the

Requirements for the Degree of

Master of Science

in Psychology

at

The University of Wisconsin-Milwaukee

May 2014

ABSTRACT
THE IMPACT OF FEEDBACK IN RESPONSE TO SELF-DISCLOSURE ON SOCIAL CONNECTION: A POSSIBLE ANALOG COMPONENT MODEL OF THE THERAPY RELATIONSHIP

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The University of Wisconsin-Milwaukee, 2014
Under the Supervision of Associate Professor Christine L. Larson, Ph.D.

The efficacy of psychotherapy interventions has been demonstrated on a wide range of disorders. However, little is known about the specific mechanisms that influence symptom improvements. The therapeutic relationship, a well-established common factor of treatment, has been suggested to provide significant impact on treatment outcome and may be a potential mechanism of change in psychotherapy. The current study evaluates a theoretical micro-mechanism model of the therapeutic relationship; specifically, the process of providing feedback to self-disclosure statements with the intention of increasing feelings of connectedness. Ninety-eight undergraduate students were randomized to either 1 of 2 brief connection-generating dyadic interaction groups receiving minimal feedback or natural feedback to self-disclosure statements or to a control group. Those individuals who received natural feedback to self-disclosure responses had significantly greater increases in feelings of connectedness compared to those in the other conditions. Our results present preliminary support for the proposed micro-mechanism, further investigation is merited.

To my beloved wife, Sarah, who has supported me greatly through this process

Also to my family, Goldie and Maple

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ACKNOWLEDGMENTS

I would like to thank my thesis committee, Drs. Jonathan Kanter, Chris Larson and Christopher Martell. This process has been an amazing learning experience that will continue to influence the way I approach my future work.

A special thanks to Drs. Robert Kohlenberg, Mavis Tsai, Gareth Holman and Sarah Bowen for believing in me and pushing me to be the best that I can, in research and in life.

The focus on psychotherapy treatment development has produced over 230 (Hersen & Sledge, 2002) types of treatments of which 71 have been identified as evidenced-based interventions by the Task Force on Promotion and Dissemination of Psychological Procedures of Division 12 of the American Psychological Association on Evidenced Based Treatments (Chambless et al., 1996, Chambless et al., 1998, Sanderson & Woody, 1995, Woody & Sanderson, 1998). Research on psychotherapy interventions has demonstrated the positive effects of treatment on a wide range of conditions (Westen, Novotny, & Thompson-Brenner, 2004; Seligman, 1996); however, little is known about the specific mechanisms that effect symptom improvement associated with psychotherapy (Barlow, 1996; Kazdin, 2007).

Gaining a clearer understanding of the mechanisms of change is an important priority for contextual behavioral science researchers (Hayes, Levin, Plumb-Vilardaga, Villatte, & Pistorello, 2013), as well as general clinical researchers (Kazdin, 2007). Component analyses have been conducted on several prominent therapies to better understand the process of therapeutic change (Levin, Hildebrandt, Lillis, & Hayes, 2012). These studies indicate a paradigm shift in the field to move past comparisons of prescriptive psychotherapy packages to a more specific understanding of the various components that contribute to therapeutic change (Ablon & Jones, 1998, 2002; Ablon, Levy, & Katzenstein, 2006). One way to conceptualize mechanisms of change in psychotherapy is through common factors. Lambert and Barley (2002) have suggested that 30% of the variance in client's outcome in psychotherapy is due to common factors; of those, the therapeutic relationship accounts for 30% of the outcome variance (Lambert, 1992). Others have noted that the therapeutic relationship has a significant impact on

treatment outcome; the better the relationship the greater the outcome (Horvath & Bedi 2002).

This current body of research has demonstrated a need to better understand the components driving change in psychotherapy, specifically the therapeutic relationship. We present a theoretical model of the therapeutic interaction, based on intimacy literature, to examine the micro-mechanisms that are involved in the therapeutic relationship; in this perspective it is theorized that providing natural feedback to the client's self-disclosure statements can improve the therapeutic relationship. We designed a study evaluating the proposed micro-mechanism of providing feedback to self-disclosure statements with the intention of increasing feelings of connectedness. We hypothesize that providing natural feedback to self-disclosure statements will increase interpersonal connectedness.

Importance of Identifying and Studying Mechanisms of Change in Psychotherapy

Randomized controlled trials (RCT) have been used as the primary tool to understand and establish evidenced based treatments (Chambless, Babich, & Crits-Christoph, 1995; Chambless et al., 1996, Chambless et al., 1998). Over the years many researchers have questioned the stand alone use of RCTs in determining effective treatments (Ablon, Levy, & Katzenstein, 2006) and have concluded that a focus on the empirically-validated principles or mechanisms of change would be a productive addition to the evaluation of psychotherapies (Rosen & Davison, 2003). Understanding mechanisms of change would bring order and parsimony to an overwhelming number of treatments as well as clarify a connection between the treatment process and diverse range of outcomes (e.g., mood changes, reduction of symptoms or even physical

changes). It would also help optimize therapeutic change in treatment by providing clear insight into which techniques or conditions work best in that particular context of treatment and for that particular individual seeking treatment (Kazdin, 2007).

Common factors have been discussed as a possible explanation of therapeutic outcome for many decades (Rosenzweig, 1936; Goldfried & Newman, 1986; Imel, & Wampold, 2008) and the study of such factors may provide a better understanding of the mechanisms of change in psychotherapy (Kazdin, 2007). Common factors are defined as various commonalities that are shared among a large variety of psychotherapies, such as the therapeutic relationship/alliance, opportunity for catharsis, extratherapeutic/client centric factors (e.g., clients' positive expectancies), and placebo effects (Lambert, 1992; Drisko, 2004; Tschacher, Junghan, & Pfammatter 2012). Few direct studies have been conducted to provide an empirical understanding of how these factors operate in the therapeutic context (Norcross & Grencavage, 1989; Orner & London, 1988; Lambert, 1986; 1992; 2002); however, meta-analytic reports of psychotherapy studies have provided basic empirical support for common factors that suggest a need for further investigation (Duncan, Miller, Wampold, & Hubble, 2010; Wampold, 2001). These factors cut across many different types of treatment methods and have been estimated to account for 30% of the overall effects obtained within psychotherapy (Lambert 1992). A review of 50 publications explored similarities of common factors among several diverse therapies and found that “the single most frequent commonality was the development of a collaborative therapeutic relationship” (Grencavage & Norcross, 1990 pg. 377).

The Therapeutic Relationship

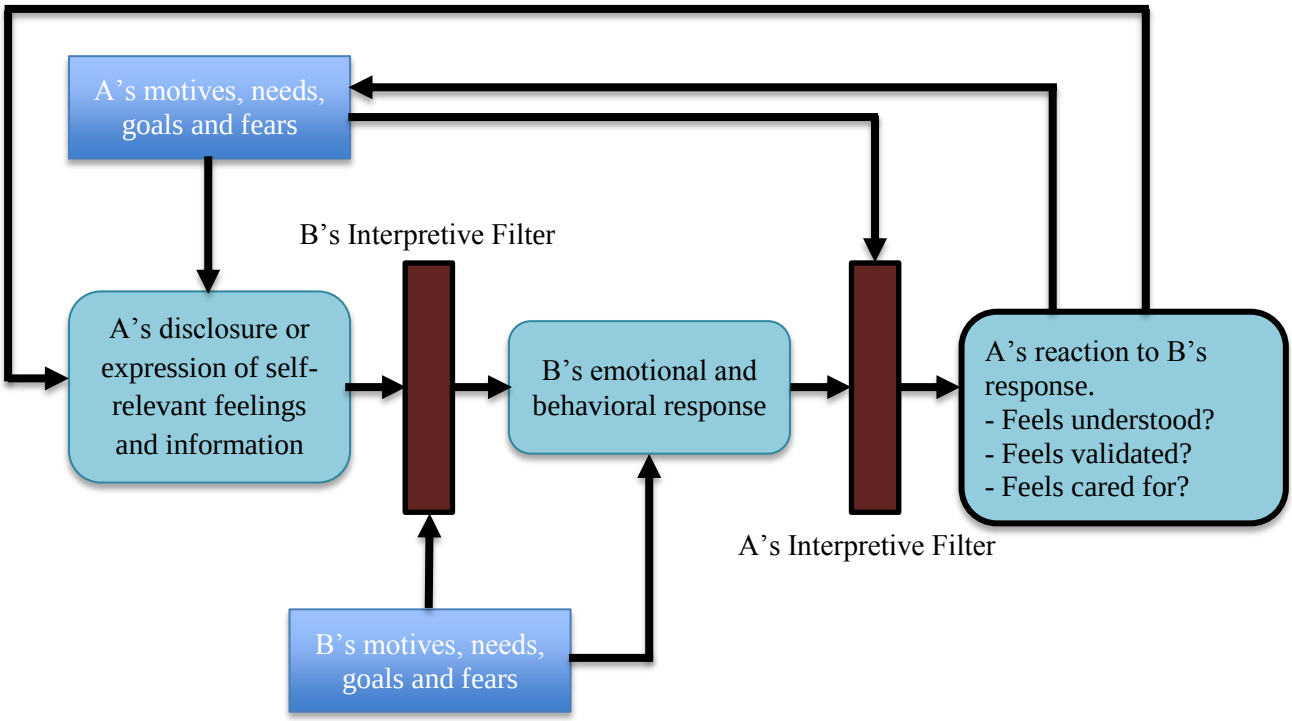
Several reports have concluded that the stronger the connection between the therapist and client the greater the therapeutic change (Horvath & Bedi 2002, Orlinsky, Rønnestad, & Willutzki, 2004). Understanding the nature of how the therapeutic relationship affects treatment outcome is an important goal for clinical researchers (Horvath, 2005). Estimates based on over 100 studies examining components of treatment related to outcome propose that the therapeutic relationship accounted for more of the unexplained variance in treatment outcome than that of a specific treatment protocol, 12% and 9%, respectively (Lambert & Barely, 2002). Another perspective suggests that out of the main common factors, 30% of treatment outcome variance is due to the therapeutic relationship, ranking this factor as the second largest contribution to outcome just after extratherapeutic factors (Lambert, 1992).

A related, but slightly differing perspective by Orlinsky, Grawe, and Parks (1994) suggests that the therapeutic relationship was the largest curative factor in psychotherapy. The variance between estimates of the effect of the therapeutic relationship are most likely due to the variation of the components hypothesized as being a part of the therapeutic relationship. For example, some studies may be examining therapist features related to the therapeutic alliance (the congruence between client and therapist), therapist variables (e.g., interpersonal style, therapist attributes) and facilitative conditions (empathy, warmth, congruence) (Lambert & Barely, 2002). Although research may differ on the specific amount of influence the therapeutic relationship has on treatment it is reasonable to assert that the therapeutic relationship plays an important role in the treatment outcome.

Understanding Interpersonal Relationships

Interpersonal relationships are complex and vary across individuals and among different social and cultural settings. These relationships play a critical role in human functioning and health (Sears, 1977; Cohen, 1988; Myers & Diener, 1995; Reis, 1984). Intimacy, trust, connectedness and a sense of belonging are just of few of the main components that lead to, and maintain, interpersonal relationships. Of these components, intimacy is seen as one of the most basic components involved in interpersonal relationships and is best conceptualized as a *component process* (Reis & Patrick, 1996).

Figure 1. Reis and Shaver's (1988) Interpersonal Process Model of Intimacy



A process in this sense is the "sequential unfolding of relevant thoughts, feelings, and behaviors, each of which is influenced by antecedent conditions and anticipated consequences" (Reis & Patrick, 1996, p. 524). Reis and Shaver (1988) present a theoretical model of intimacy (refer to Figure 1), the Interpersonal Process Model of

Intimacy, which describes the process as being comprised of several interlocking subprocesses: self-disclosure, responsiveness and affective interdependence.

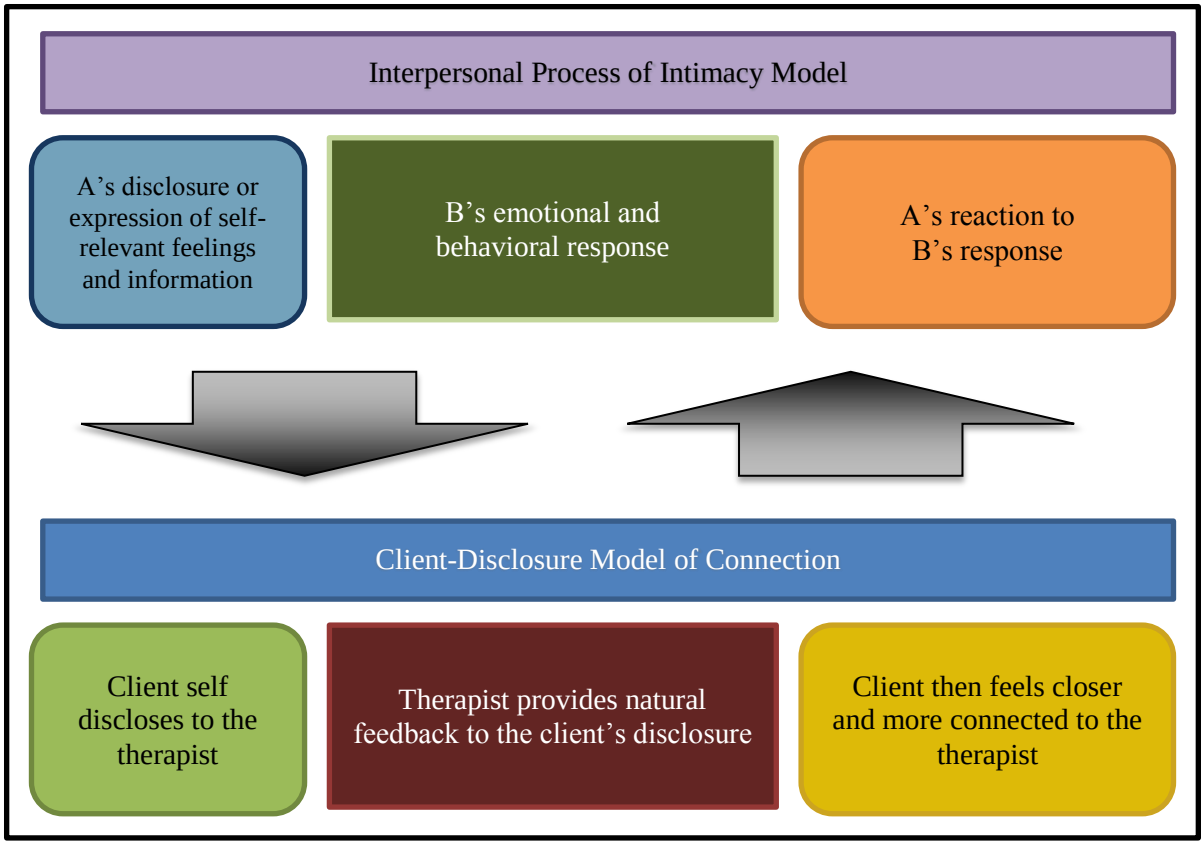
In this model, the definition of intimacy does not refer to the depth or categorization of a romantic relationship (using terms like passion or involving physical contact) but instead defines intimacy as a special class of interactions that involves one partner providing self-relevant feelings and information (self-disclosing), and the other partner providing a response that helps the original partner feel cared for, validated and understood – eventually leading to greater feelings of connectedness (Mashek & Aron, 2004).

Self-disclosure refers to the process of revealing inner feelings and personal experiences to others (Jourard, 1964, 1971). Breadth (the range of topics a person discloses) and depth (the degree to which the disclosure is personal or private) are two dimensions of self-disclosure that influence the capacity of self-disclosure to create and maintain relationships (Tolstedt & Stokes, 1984). Self-disclosure has been described as being one of the most important components related to the establishment and maintenance of any close interpersonal relationship (Derlega, Metts, Petronio, & Margulis, 1993; Jourard, 1971; Perlman & Fehr, 1987). Several studies have demonstrated that the greater the depth of a self-disclosure the more intimate two people become (Greenberg & Safran, 1987; Wheeless, 1976; Morton, 1978). Self-disclosure plays the role of the facilitator of intimacy in interpersonal relationships. These interpersonal relationships share many similarities to a relationship created in a therapeutic context.

A Model for Relating Interpersonal Relationships to Therapeutic Relationships

Much like an everyday interpersonal relationship, the therapeutic relationship must also reach a certain breadth and depth in order to be effective by enacting intimacy, trust, connectedness and creating a sense of belonging with the client (Bordin, 1979; Gaston, 1990; Horvath & Symonds, 1991; Saunders, Howard, & Orlinsky, 1989). Though many treatment manuals and therapy training sessions describe and discuss which therapist behaviors can cultivate the relationship, no evidenced-based support has been presented to suggest which specific therapist behaviors contribute to the therapeutic relationship (Norcross, 2011). We purpose the use of a theoretical model, Client-Disclosure Model of Connection, to help explain how the therapeutic relationship relates

Figure 2. Client-Disclosure Model Mapping onto Intimacy Model



to the basic process proposed by the Reis and Shaver (1988) Interpersonal Process of Intimacy Model (IPIM). In this model, a client self discloses to the therapist (IPIM version: A's disclosure or expression of self-relevant feelings and information), the therapist provides natural feedback to the client's disclosure (IPIM version: B's emotional and behavioral response) and the client then feels closer and more connected to the therapist (IPIM version: A's reaction to B's response). Our study makes two assumptions: 1) the Client-Disclosure Model of Connection is a micro-mechanism of the therapeutic relationship and 2) that the process presented in the Client-Disclosure Model of Connection is fundamental to the formation of a good therapeutic relationship. Refer to the Figure 2 for a visual representation of how these two models map onto each other.

The Current Study

The purpose of this study was to examine the micro-mechanism of providing natural feedback to self-disclosure statements to increase connection, as exhibited in the Client-Disclosure Model of Connection. To do this we designed a study that evaluates the influence of natural feedback of an individual's self-disclosure on connectedness in a brief dyadic interaction. The interaction in this study reflects a valid analog of the therapeutic relationship by exploring a slice of the therapeutic interaction. In any therapy situation, the basic interaction involves the patient talking about his or her life and the therapist providing some sort of response. Different theories and therapeutic orientations vary with respect to what the patient should talk about, and how the therapist should respond, but this basic dyadic interaction still takes place.

To operationalize this interaction we developed a brief dyadic interaction partially based on a closeness development procedure presented by Aron and colleagues (Aron,

Aron, & Smollan, 1992; Aron, Melinat, Aron, Vallone, & Bator, 1997). In these series of studies the authors present a basic methodology for creating closeness in an experimental setting. The procedure of these studies had two individuals asking each other various questions that gradually escalate in intensity, that is, the degree of self-disclosure required of each question increased as the procedure progressed. Aron and colleagues (Aron et al., 1992; Aron et al., 1997) were able to demonstrate methodological effectiveness of a brief dyadic interaction (45 minutes) between undergraduate students by significantly increasing closeness.

Based on the methods of the closeness generating procedure used in these studies (Aron et al., 1992; Aron et al., 1997) and the Client-Disclosure Model of connection we have created a ***Closeness Generating Protocol*** (CGP: Appendix III) as an analog version of the therapeutic relationship among Research Assistants (RAs) and undergraduate student participants. The ***CGP*** is a guide for a dyadic interaction between the RA and student participant that involves the RA asking the participant questions that increase in the level of self-disclosure requested. In this process the 1) RA asks the participant, 2) the participant would answer the question and 3) the RA would provide feedback to the participant's response. This process would be repeated until the RA and the participant had completed all the questions or the participant wished to stop.

To explore the proposed micro-mechanism of the therapeutic relationship, natural feedback of self-disclosure statements to increase connectedness, we designed a study to compare three different groups. The first group (natural feedback) and the second group (low feedback) participated in a self-disclosure exercise with the RA that is guided by the ***CGP***. The natural feedback group received natural feedback from the RA after she or he

self-disclosed (e.g., "Thank you for sharing that information."), whereas the participants in low feedback group received little to no feedback after his or her self-disclosure. The third group was a control used to account for time and demand characteristics.

Primary Aims:

Primary Aim 1: To assess the effectiveness of natural feedback of the participant self-disclosure on increasing closeness in the dyad.

Primary Hypothesis #1: Participants in the natural feedback condition will show significantly more increase in feelings of connectedness with the RA compared to those in the low feedback and the control conditions as measured by pre-post change on the Inclusion of Others in Self Scale and Social Connected Scale (RIS-6).

Exploratory Aims:

Exploratory Aim 1: To explore demographics, adult attachment style (Adult Attachment Scale), and general social connectedness (Social Connectedness Scale – Revised) as potential moderators of the closeness generating exercise outcome.

Exploratory Aim 2: To investigate any potential long-term effects of feedback on connection through the 48 hour and 2 week follow-up assessment time points.

Method

Participants

Population. Ninety-eight University of Wisconsin-Milwaukee undergraduate students (77 female, 21 male) participated in this study. Demographic information on the participants can be found in Table 1. Participants were recruited through the Psychology Department's participant pool located at SONA (http://uwmilwaukee.sona-systems.com/Default.aspx?ReturnUrl=%2f). See Appendix I for SONA posting. The

study was also advertised in classes where students have the opportunity to earn extra credit by participating in research. Participants were randomly assigned through a block design process to one of three study conditions: low feedback, natural feedback and control.

Table 1. Demographic Information

	Control (n = 34)	**Low Feedback** (n = 31)	**Natural Feedback** (n = 33)	**Total** (N = 98)
Age *Mean (SD)*	21 (2.89)	19.90 (1.37)	23 (4.11)	21.27 (3.16)
Gender				
Male	9	9	3	21
Female	25	22	30	77
Ethnicity				
White/Caucasian	22	23	19	64
African American	6	3	9	18
Non-White Hispanic	1	1	0	2
Middle Eastern	0	1	0	1
South Asian	2	3	1	6
East Asian	1	0	2	3
Southeast Asian	0	0	2	2
Native American	1	0	0	1
Other	1	1	0	2
Relationship Status				
Single	20	16	15	51
In a Relationship	14	15	18	47

Justification of sample size. No pilot versions of this study were conducted; therefore, a power analysis could not be conducted to determine the appropriately sized sample. A recent meta-analysis (Levin, Hildebrandt, Lillis, & Hayes, 2012) reviewed several similar studies published over the last 10 years demonstrated adequate effect sizes and suggested a range of sample sizes to be used in component analysis studies. The average effect size for target outcomes for all components analyzed in the 44 studies discussed in the meta-analysis was .68 (Hedges's g). Samples sizes ranged from 8 to 253; clustering around 78 participants (20 to 30 per condition). Based upon the results of the

meta-analysis, we believe that a sample size of 98 would be adequate to reach desired effect size of .68. The target sample size is 78 (26 per condition) with a 20 participant buffer based on the retention rates of undergraduate student populations during multi assessment point studies at the University of Wisconsin-Milwaukee (Manos, Kanter, & Luo, 2011).

Inclusion Criteria. (1) Must be a UWM student, (2) at least 18 years old, (3) completing a Psychology course that offers extra credit for participating in research during the time of the study, and (4) requesting to participate in this study for Psychology subject pool course credit.

Exclusion Criteria. (1) Being younger than 18 years old, (2) a person not attending UWM, (3) UWM student not attending a Psychology course that offers extra credit for participating in research.

Procedure

Study Design. Each study section took place over a 2-week period and consisted of 4 phases. The first phase of the study was the ***Recruitment*** phase. Once the participant was recruited and arrived at their designated time slot for the study they entered into phase 2 of the study, ***In-Person*** phase. The ***In-Person*** phase usually lasted roughly two hours and consisted of a review of the consent form, 2 sets of surveys and engagement in either the closeness generating exercise or the control video. The 3rd phase of the study, the ***48-Hour Follow-Up*** phase, occurred 2 days after the ***In-Person*** phase with a follow-up questionnaire. The final phase of the study was a follow-up questionnaire that occurred 2 weeks after the ***In-Person*** phase, the ***2-Week Follow-Up*** phase.

Recruitment. Individuals who met eligibility requirements signed up to participate in this study by accessing available study time slots on the UWM Psychology Department's Subject Pool system (SONA). Once a student had signed up for a time slot SONA sent out a detailed email discussing the time and location of the study. The participants meet the RA at Pearse Hall 353 located on the UWM campus during this designated time.

Randomization and Confidentiality. A randomized blocks design was used to ensure even distribution of participants among the three conditions. The first step in this process was to create 108 (10 extra for buffer) randomly generated 6-digit Personal Identification Numbers (PIN). To protect confidentiality, each participant will be assigned a PIN and all questionnaires and audio taped sessions will be identified with the PIN only. The only link between the participant's name and PIN is in a password protected Microsoft Excel document located on the password protected computer of the Research Coordinator. The link between the participant's name and PIN will only be keep until the active phase of the study is over (1 year) and all participants have received their extra credit earned. The Research Coordinator is the only individual that has access to Excel document. The randomization process occurs within the same Excel document that houses the PINs. The PINs are divided up into 12 equal blocks of 9. A list of the conditions is created within each block by repeating each condition three times (low, natural, control, low, natural, control...etc.). Next, 9 new 5-diget random numbers are created through the randomization function in Excel (= *rand()*) and then assigned to the conditions in the blocked condition list. To randomize each condition in the block the randomization formula of the randomly generated number is executed several times to

recreate new 5-diget numbers. Then these numbers are ranked in order from lowest to highest. Since the condition list is linked to the number placement in the particular cell and not the number itself, the conditions within each block are arranged in a random fashion once the rank order of the randomly generated numbers are completed. See Figure 3 below for a clearer understanding of the final product.

Figure 3. Block Randomization Sample

27332	Low
43221	Low
92332	Low
19962	Natural
23442	Natural
59098	Natural
12453	Control
28321	Control
88764	Control

12453	Control
19962	Natural
23442	Natural
27332	Low
28321	Control
43221	Low
59098	Natural
88764	Control
92332	Low

The condition then is assigned to each of the PINs linked to that particular line in the Excel document. 30 minutes prior to each study session the RA obtains the condition and PIN for the upcoming participant by contacting the Research Coordinator.

In-Person Phase. Once the participant arrived for the study they checked in with the RA and were escorted to the study room. The RA reviewed the study consent form (Appendix II) with the participant, assigned them a PIN and discussed the continual use of the PIN throughout the 2 other phases of the study. After the participant provided consent, the RA presented the participant with the baseline questionnaire to complete and stepped out of the room. Details on the content of the questionnaires can be found below. The RAs were asked to interact with all participants in a polite but not overly interactive way during this section of the In-Person phase. Once the participant is finished the

baseline questionnaires, the RA began the active part of the In-Person phase by either administering the low feedback, natural feedback or control condition protocol. The Closeness Generating Protocol (CGP: Appendix III) was used to guide both the low and natural feedback conditions in a closeness generating exercise. In the exercise the RA guided the participant through a serious of 20 questions (Appendix IV) that increased in the level of self-disclosure requested of the participant. The RA described the purpose of the exercise, asked the participant the first question and listened to the participant's response. The RA's response to the participant's answer is the only part of the exercise where the low and natural feedback conditions diverge. In the low feedback condition the RA is instructed to provide little-to-no feedback to the participant's response (e.g., "Ok, let's move onto the next question). In the natural feedback condition the RA is instructed to provide genuine, natural feedback to the participant's response (e.g., "That was really awesome that shared that information about your family with me, thanks for being so open."). The participants assigned to the control watched a nature video for 30 minutes. A nature video was chosen for this section because it was a neutral video that most likely would not influence the participant's feelings of connection with the RA. After the closeness generating exercise (roughly 30 minutes) or the control session has ended all participants in the study completed the post-course questionnaire. The RA reminded the participants about the online follow-up questionnaires and thanked them for their participation.

48-Hour Follow-Up. Two days after the In-Person phase of the study the participants were emailed a link to the 48-Hour Follow-up Survey. Details on the measures used in the survey can be found below. To access the follow-up survey the

participant needed access to their PIN. The participant was able to email the Research Coordinator if they needed to retrieve their PIN.

Two-Week Follow-Up. Two weeks after the In-Person phase of the study the participants were emailed a link to the Two-Week Follow-up Survey. Details on the measures used in the survey can be found below. To access the follow-up survey the participant needed access to their PIN. The participant was able to email the Research Coordinator if they need to retrieve their PIN.

Materials and Facilities

The participant needed access to a computer to sign up to participate in the study. If a personal computer was not available the participants had access to computers on campus to sign up for the study. The In-Person phase of the study was conducted in room 353 in Pearse Hall on the UWM campus. The participant and the RA used a pen to sign two physical copies of the consent form. A computer in room 353 was used to complete the baseline and post-course surveys and also used to play the video for the control condition.

Measures

Table 2 below provides a guide for the measures used in each survey set. Details on each measure can be found in their respective appendices.

Table 2. Measures by Time Point

Measures	Baseline	Post Intervention	48 Hour Follow-Up	2 Week Follow-Up
Demographic	X			
Adult Attachment Scale	X			
Social Connectedness Scale – Revised	X			
Social Connected Scale – RIS6	X	X	X	X
The Inclusion of Other in the Self Scale	X	X		
Manipulation Check		X		

Demographic Information. Basic demographic information was collected on the baseline questionnaire used in the study. Information included gender, ethnicity, age and relationship status. Refer to (Appendix V) for further details on the demographic survey.

Adult Attachment Scale (AAS) (Collins & Read, 1990). This version of the AAS (Appendix VI) is an 18-item self-report instrument used to assess and categorize an individual's adult attachment style into one of four proposed style types (Secure, Preoccupied, Dismissive and Fearful). Items on this measure are rated on a 5-point Likert scale where 1 is "not at characteristic of me" to 5 "fully characteristic of me." This measure has reasonable internal consistency as represented by Cronbach's alphas of .75. Test-retest reliability is also considered to be reasonable for the all factors with correlation scores ranging from .52 to .71.

Social Connectedness Scale – Revised (SCS-R) (Lee, Draper & Lee, 2001). This is a 20-item measure (Appendix VII) used to assess a person's general feelings of connectedness to society. Participants rated statements (e.g., "I feel comfortable in the presence of strangers") on a scale from 1 ("strongly disagree") to 6 ("strongly agree"). SCS-R has demonstrated high internal reliability and has reasonable psychometric qualities (SCS-R, Lee, Draper & Lee, 2001).

Social Connected Scale (RIS-6). This is a 6-item instrument (Appendix VIII) derived from a modified version of the Social Connectedness Scale – Campus (SCS-C, Lee, Draper & Lee, 2001) measure and is used to measure various feelings of the participant's connectedness with the RA. The participant rates his/her feelings of connectedness (e.g., "I feel a close bond with my peer coach [term used to identify RA during the exercise]") with the RA on a 6-point Liket scale (1 = "Strongly Disagree" and

6 = “Strongly Agree”). A factor analysis of the SCS-C scores on the results of an earlier version of this study, conducted during the fall of 2012, found that these 6-items of the SCS-C related strongly with each other. Suggesting a more condensed version of the modified SCS-C could be used for similar studies. A study team at University of Washington (UW) is using the RIS6 measure with a related study that also explores the relationship between reinforcement and connectedness. Measures of validity and reliability are currently being evaluated at the UW.

The Inclusion of Other in the Self Scale (IOS) (Aron et al., 1992). The ISO is a 2-item self-report pictorial measure (Appendix IX) used to evaluate an individual’s feelings of closeness with a targeted group or individual. It has one customizable instrument designed to provide a visual representation of closeness with another person/or people. The measure consists of 7 Venn diagrams; each with two circles (labeled “self” and “other”) that progressively overlap to represent varying degrees of closeness. The second question is an opened question asking the participant if and what the RA could have done to increase feelings of closeness during the session. The ISO has been high test-retest reliability, high correlations with other measures of closeness and was sensitive to an experimental manipulation designed to enact or enhance feelings of closeness (Aron et al., 1992).

Manipulation Check. This set of questions (Appendix X) was used to gage the participant’s engagement in the experimental exercises. All participants, including those in the control group, were asked about his/her general engagement in the session’s activates. Individuals who participated in the low and natural feedback groups were asked how open they felt with the RA, how difficult was it to answer the questions with the RA,

if they could have been more open and vulnerable, and how warm and open the RA was during the session. These participants were also asked to rate the degree of comfort that had answer each of the 20 closeness-generating questions on a 7-point Likert scale (1 = "Extremely Uncomfortable" to 7 = "Extremely Comfortable").

Results

Preliminary Analysis

There were no significant baseline differences on any of the outcome measures: RIS6, $F(2, 95) = 1.133$, $p = .326$; IOS, $F(2, 95) = 1.695$, $p = .189$. The was also no significant baseline differences on measures of potential moderators: AAS, $F(2, 95) = .397$, $p = .674$; SCS, $F(2, 95) = .907$, $p = .407$. Further comparison between groups revealed no significant baseline differences on key demographics: gender, $F(2, 95) = 2.319$, $p = .104$; age, $F(2, 33) = 2.769$, $p = .079$; ethnicity, $F(2, 95) = .011$, $p = .989$; relationship status, $F(2, 95) = .590$, $p = .556$.

Primary Outcomes

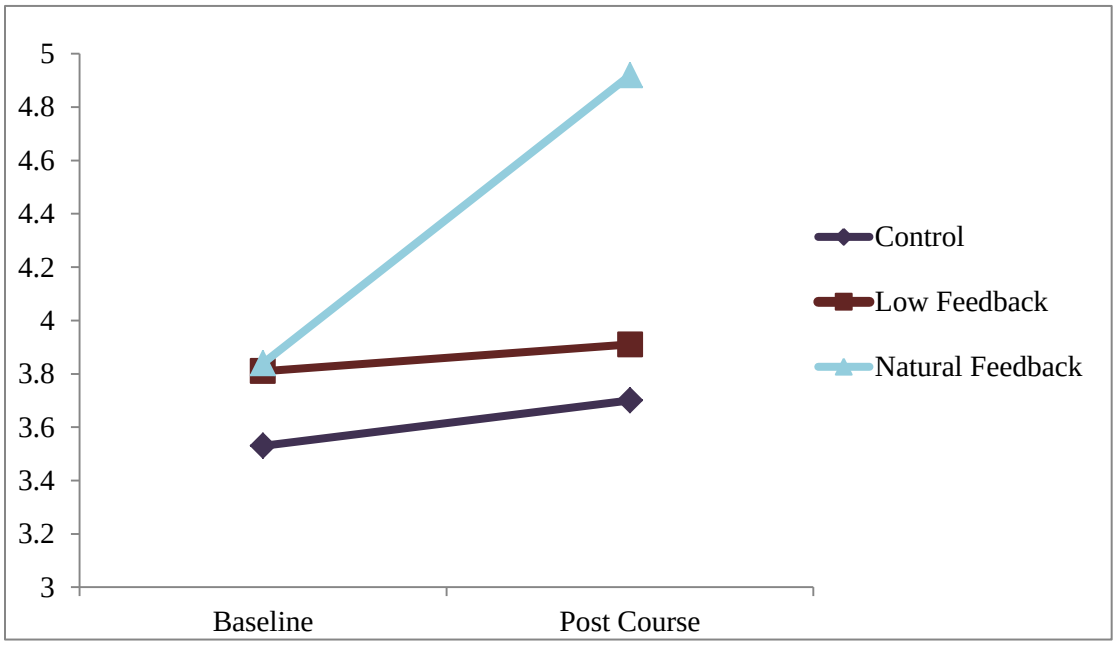
The means and standard deviations of all outcome measures at each time point are presented in Table 3.

Table 3. Means and Standard Deviations for Outcome Measures

	Control (n = 34) Mean (SD)	**Low Feedback** (n = 31) Mean (SD)	**Natural Feedback** (n = 33) Mean (SD)	**Total Sample** (N = 98) Mean (SD)
RIS6				
Baseline	3.53 (.97)	3.81 (1.04)	3.84 (.68)	3.72 (.91)
Post Course	3.70 (1.04)	3.91 (1.26)	4.92 (.85)	4.18 (1.18)
48 Hour	3.23 (.89)	3.54 (1.24)	4.34 (.95)	3.72 (1.12)
Two Week	2.91 (1.01)	3.09 (1.01)	3.85 (1.22)	3.28 (1.11)
IOS				
Baseline	2.09 (1.29)	2.26 (1.57)	1.67 (1.11)	2.00 (1.34)
Post Course	2.44 (1.35)	2.87 (1.75)	3.91 (1.84)	3.07 (1.75)

Mauchly's Test of Sphericity was not significant for the RIS6 measure; therefore, we can assume equal variances of the differences between conditions. A repeated measures ANOVA revealed a significant main effect of Time, $F(1, 95) = 27.81$, $p < .01$, $\eta^2 = .226$, and an interaction of Condition by Time, $F(2, 95) = 13.622$, $p < .01$, $\eta^2 = .223$. Post hoc Tukey HSD tests revealed significant differences between natural feedback and control groups ($p = .002$, Cohan's $d = .963$), as well as differences between natural feedback and low feedback groups approaching significance ($p = .054$). No significant differences were found between the low feedback condition and control. Refer to Figure 4 for pre-post change by condition.

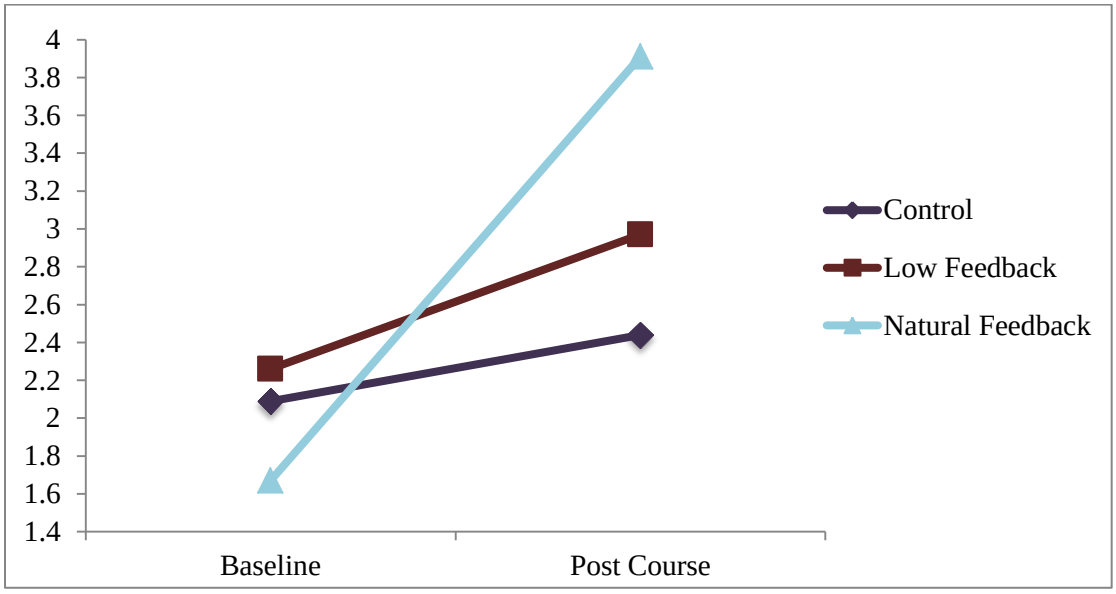
Figure 4. RIS6 Baseline and Post Course



Mauchly's Test of Sphericity was also not significant for the IOS measure; therefore, we can assume equal variances of the differences between the conditions. A repeated measures ANOVA also revealed a significant between-group differences significant main effect of Time, $F(1, 95) = 75.306$, $p < .01$, $\eta^2 = .442$, and an interaction

of Condition by Time, $F(2, 95) = 17.330$, $p < .01$, $\eta^2 = .329$. Post hoc independent t-tests revealed significant differences between natural feedback and control groups on post course scores ($p < .01$) and low feedback ($p = .024$, Cohan's $d = 1.549$). No significant differences were found between the low feedback condition and control. Refer to Figure 5 for pre-post change by condition.

Figure 5. IOS Baseline and Post Course



Exploratory Outcomes

Exploratory Aim 1. There was not enough variability in the Social Connectedness Scale, Adult Attachment Style categorizations, age or relationship to explore moderating effects; therefore, no analyses was conducted. Since significant results were found on measures of connectedness through the use of a repeated measures ANOVA, the same analysis was used to explore moderating effects of gender and ethnicity. Moderator analysis of gender retained significance on measures of connectedness, no moderating effects of gender were present. Males retained a significant effect of Time, $F(1, 18) = 9.842$, $p < .01$, $\eta^2 = .353$, and an interaction effect of Condition

by Time, $F(2, 18) = 5.016$, $p = .019$, $\eta^2 = .358$. Females retained a significant effect of Time, $F(1, 74) = 19.452$, $p < .01$, $\eta^2 = .208$, and an interaction effect of Condition by Time, $F(2, 74) = 9.253$, $p < .01$, $\eta^2 = .20$. Refer to Table 4 for means and standard deviations of the gender analysis.

Table 4. Means and Standard Deviations for Gender

		Baseline Mean (SD)	**Post Course** Mean (SD)
Control (*n* = 34)			
	Male (*n* = 9)	4.07 (.42)	4.11 (.72)
	Female (*n* = 25)	3.34 (1.04)	3.55 (1.11)
Low Feedback (*n* = 31)			
	Male (*n* = 9)	3.72 (.71)	3.87 (.93)
	Female (*n* = 22)	3.84 (1.17)	3.93 (1.38)
Natural Feedback (*n* = 33)			
	Male (*n* = 3)	3.44 (.84)	5.00 (.33)
	Female (*n* = 30)	3.88 (.66)	4.92 (.89)
Total (*N* = 98)			
	Male (*n* = 21)	3.83 (.63)	4.13 (.84)
	Female (*n* = 77)	3.69 (.97)	4.19 (1.26)

Moderating effects of ethnicity were only explored on Caucasian and African/Black American participants due to sample size of other ethnicities in the participant sample. Moderator analysis of ethnicity also retained significance on measures of connectedness, no moderating effects of gender were present. Caucasians retained a significant effect of Time, $F(1, 61) = 18.566$, $p < .01$, $\eta^2 = .233$, and an interaction effect of Condition by Time, $F(2, 61) = 8.828$, $p < .01$, $\eta^2 = .224$. African/Black Americans retained a significant effect of Time, $F(1, 15) = 37.507$, $p < .01$, $\eta^2 = .714$, and an interaction effect of Condition by Time, $F(2, 15) = 7.293$, $p < .01$, $\eta^2 = .704$. Refer to Table 5 for means and standard deviations of the ethnicity analysis.

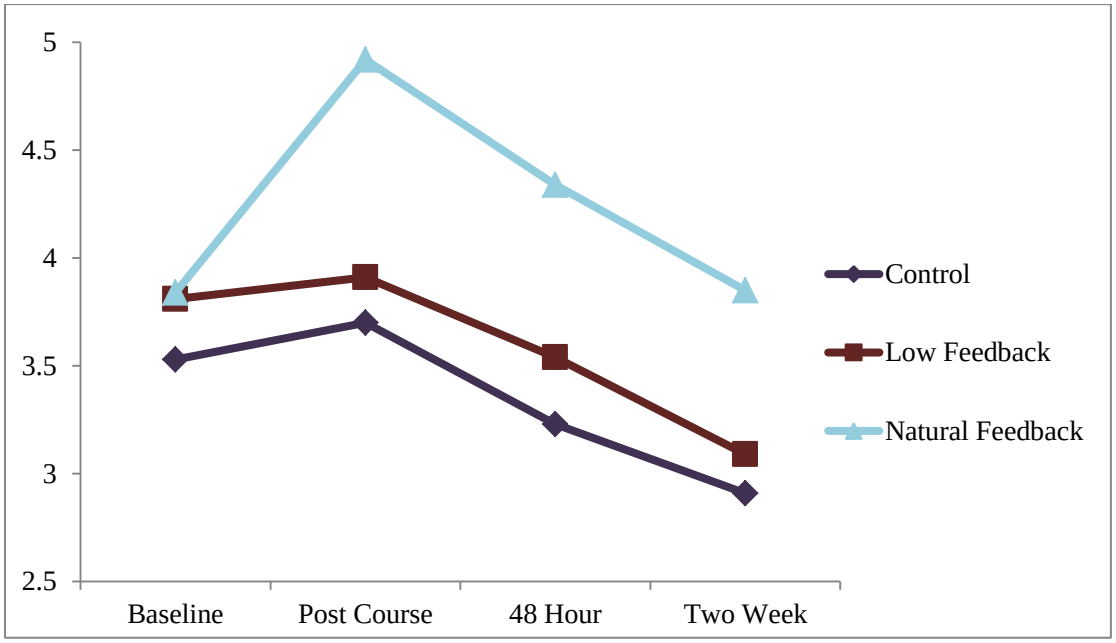
Table 5. Means and Standard Deviations for Ethnicity

	Baseline Mean (SD)	Post Course Mean (SD)
Control (*n* = 28)		
Caucasian (*n* = 22)	3.64 (0.99)	3.83 (0.96)
African/Black American (*n* = 6)	3.03 (1.14)	2.94 (1.16)
Low Feedback (*n* = 26)		
Caucasian (*n* = 23)	3.95 (1.03)	4.01 (1.30)
African/Black American (*n* = 3)	3.06 (1.13)	4.17 (0.73)
Natural Feedback (*n* = 28)		
Caucasian (*n* = 19)	3.89 (0.72)	4.89 (0.70)
African/Black American (*n* = 9)	3.70 (0.63)	5.43 (0.43)
Total (*n* = 82)		
Caucasian (*n* = 64)	3.83 (0.93)	4.21 (1.12)
African/Black American (*n* = 18)	3.37 (0.92)	4.39 (1.36)

Exploratory Aim 2. The means and standard deviations of the RIS6 measure at each time point are presented in Table 3. A repeated measures ANOVA was used to explore the potential sustained effects of the closeness generating exercise over a two-week period. A significant effect of Time ($p < .01$, $\eta^2 = .252$) and a significant Time by Condition interaction ($p < .01$, $\eta^2 = .122$) were present. Post hoc Tukey HSD tests revealed a significant difference between natural feedback and control ($p < .01$, Cohan's $d = 0.685$). Significant differences were not found between the natural feedback and low feedback condition; however, results were approaching significance ($p = .068$). Follow-up t-tests were conducted to further assess between-group differences at the 48-hour and 2-week follow-ups. Significant differences between the natural feedback condition and control were found at the 48-hour ($p < .01$, Cohan's $d = -1.209$) and 2-week ($p < .01$, Cohan's $d = -.886$) follow-ups. Significant differences were also found between the natural feedback and low feedback conditions at the 48-hour ($p < .01$, Cohan's $d = -.72$) and 2-week ($p = .013$, Cohan's $d = -.713$) follow-ups. No significant differences were

found between the low feedback condition and control at either of the two follow-ups. Another repeated measures ANOVA was used to explore within-group differences of the closeness generating exercise over a two-week period. A significant linear decrease occurred over time for the low feedback ($p < .01$, $\eta^2 = .486$) and control condition ($p < .01$, $\eta^2 = .436$). A significant cubic change occurred over time for the natural feedback condition ($p < .01$, $\eta^2 = .627$). Refer to Figure 6 for visual representation of findings.

Figure 6. RIS6 Change Over 2 Weeks



Discussion

The current study was designed to evaluate the use of natural feedback in response to self-disclosure to increase connection between the participant and RA. Findings from the study supported our primary hypothesis; those in the natural feedback condition felt more connected to the RA compared to those in the control condition and compared to those in the low feedback condition (this comparison was significant for the ISO and just short of significant for the RIS6). A significant between-group difference

was also found when comparing measures of connectedness between the natural feedback condition and the control over a two-week time period. Further comparisons revealed that within-group feelings of connection for the low feedback and control conditions decreased over time, suggesting that these individual's feelings of connection to the RA got worse over time. Feelings of connection to the RA also decreased with those in the natural feedback condition; however, these scores did not drop below baseline levels, suggesting that those in the natural feedback condition had feelings of connectedness with the RA that decayed over time back to baseline levels.

Micro-Mechanism of the Therapeutic Relationship

The goal of this study was to examine a mechanism of change related to the therapeutic relationship; specifically we were interested in understanding how natural feedback to self-disclosure statements can increase feelings of connectedness between two individuals. In the therapeutic context, the theoretical idea is that when the client feels supported by the therapist after they self-disclose, they feel more connected to the therapist and in turn the therapeutic relationship is strengthened. Our procedure used in this study replicated the intimacy process involved in general interpersonal relationships as proposed by Reis and Shaver's (1988) theoretical Interpersonal Process Model of Intimacy. Reis and Shaver (1988) suggested that intimacy or connection between two individuals is established through conscientious responses of one individual to another's self-disclosure statements. It is this process of self-disclosure and response that we believe is most salient to the therapeutic relationship. Several studies have determined that the stronger the connection between the therapist and client, the greater the treatment outcome (Horvath & Bedi, 2002, Orlinsky et al., 2004). Our results demonstrate the

effectiveness of using natural feedback to self-disclosure to increase connection between two individuals. These findings would suggest that the strategic use of this process in the therapeutic context could aid in the development and maintenance of the therapeutic relationship, in turn, improving treatment outcome.

A Model for Evaluating Mechanisms of Change

The findings of this study also point to the beneficial utility of researching mechanisms of change. As noted by Kazdin (2007), there is a growing need for understanding mechanisms related to treatment outcome and many researchers in the field are turning their attention to mechanism research. In this study we provided a model for pursuing mechanism research that explored theoretically derived components related to the development and maintenance of a good therapeutic relationship. This study is not without its limitations; however, it does demonstrate the successful exploration of a mechanism of change through the use of an analog therapeutic interaction.

Potential Alternative Explanations of Study Findings

Our study presented a novel approach to understanding a micro-mechanism of change involved in the therapeutic relationship. Though these findings were significant, we were not able to rule out all alternative explanations of the outcome of greater closeness between those in the natural feedback condition and the RA. One alternative explanation for the findings could be the varying interaction periods between conditions. On average, the natural feedback group had longer sessions than the low feedback group because the RA responded to the participant's self-disclosures in this condition only. This would increase their overall interaction time and may have led to a greater feeling of

connection. Future studies should have a different comparison condition that would control better for the interaction time of the session.

It is also possible that providing feedback to self-disclosure statements had little to do with the increased feelings of connectedness between the natural feedback condition and the RA. The connection may have been established through a reciprocal interaction. A better comparison group for this study would be one that had the RA asking the questions that involved no self-disclosure, such as trivia questions (e.g., "Who is the president of the United States?").

The idea behind the low feedback condition was to have a comparison group that would directly show the impact of feedback over and above simply asking the question. It is possible that the difference between the groups had little to do with natural feedback but instead, those in the low feedback condition may have felt off put because the RA never responded to their self-disclosure statements. Therefore, the participant may have just disliked the interaction with the RA resulting in an inability to generate closeness. A better comparison group is needed to explore this potential confound, perhaps one that is similar to the trivia group suggested above. This basic interaction would most likely be a more pleasant experience for the participant, which would cut out the unpleasant confound of the low feedback group in our study, giving us a better picture of the influence of natural feedback.

Another alternative is that it may not be specific natural feedback that mattered in the natural feedback condition. Perhaps it was simply the RA's praise of the participant that increased the feelings of connection. In other words, we do not know if the contingent responding of the RA to the participant, after the self-disclosure, is what

mattered. A comparison condition that would control for this possibility would be one in which the RA provided non-contingent praise to the participant, without asking self-disclosure questions beforehand.

Another interesting finding from this study was that participants in the natural feedback condition had feelings of connection with the RA that did not fully decline to baseline after 2 weeks. It is possible that multiple sessions would maintain and possibly strengthen the connection over time. This concept is worth exploring further because it relates directly to how a therapeutic relationship would develop: over time, with multiple sessions. Future research should investigate the use of multiple sessions employing a closeness generating exercise with a natural feedback condition and a strong comparison group.

Other Limitations

The current study has several limitations to consider with potential impact on the internal and external validity of the findings.

Internal Validity. The advertisement used during recruitment and the consent both contained several details about the study that could have possible influence the participant's performance in the study. Though steps were taken to reduce the study language used in these documents, it is possible that demand characteristics could have influenced the external and internal validity of the study. Behavioral observations are less sensitive to demand characteristics and could be added to improve the study.

Another limitation of the current study was that no blinds were used with the RAs who were running participants creating a potential experimenter bias. All research staff apart of the study knew the goals, objectives and hypothesis of the study. It is possible

that this experimenter "buy in" caused the RAs to act in a way that influenced the outcome of the study. Future versions of this study could implement a blind with the RAs to help diminish the effects of experimenter bias.

Finally, the low feedback and control conditions were too polarized compared to the natural and low feedback conditions. A better control group would have the participants interact with the RA in the same question and answer style as the other conditions but instead of questions related to self-disclosure the questions could be trivia or fact based.

External Validity. All participants were students at the University of Wisconsin-Milwaukee who were taking psychology courses, most of which were majoring in psychology. Increasing the sample size, using community samples and samples from different regions of the country would help to improve the generalizability of the findings.

This study was designed to look at a micro-mechanism related to the therapeutic relationship, however, the study was an analog replication of treatment and did not directly look at the therapeutic relationship. It is possible that these results are only demonstrating an interaction between two individuals and might not relate to an interaction seen in a treatment setting. To improve the generalizability of the findings, future studies could examine the impact of natural feedback in actual therapy interactions.

Conclusion

The current study presents findings that 1) support the theory that natural feedback of self-disclosure statements improves interpersonal connectedness and 2)

provides an efficacious model of mechanism research. Several confounds and alternatives explanations exist, further replications of the findings are merited.

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Appendix A – SONA Advertisement

Interpersonal Relationship Study

Abstract:
Earn 4 hours of extra credit!

Description NOTE: IF YOU WOULD LIKE TO PARTICIPATE BUT CANNOT MAKE ANY OF THE TIME SLOTS, PLEASE CONTACT KNTRLAB@UWM.EDU TO MAKE AN APPOINTMENT. For this study you will first complete an initial survey with questions focusing on your interpersonal relationship style. Then a research assistant will guide you through an exercise meant to help us observe the way you create closeness in your relationships with others. After the exercise, there will be one more survey to complete before you leave. The in-lab portion of the study will take about an hour to complete. The rest of the study will consist of 2 online follow-up surveys that take about 15 minutes to complete. Completion of the study (in-lab portion and two online follow-up) is worth 4 hours of extra credit. The exercises in this study are not designed to address mental disorders or distressed relationship issues. If you have significant trouble with depression, anxiety, or interpersonal relationships, we ask that you do not participate in this study.

Appendix B – Consent Form

UNIVERSITY OF WISCONSIN – MILWAUKEE
CONSENT TO PARTICIPATE IN RESEARCH

This Consent Form has been approved by the IRB for a one year period

1. General Information

Study title:

Interpersonal Relationship Study

Person in Charge of Study (Principal Investigator):

Dr. Jonathan Kanter, Ph.D., Principal Investigator, Dept. of Psychology, University of Wisconsin-Milwaukee, 414-229-3834, jkanter@uwm.edu

2. Study Description

You are being asked to participate in a research study. Your participation is completely voluntary. You do not have to participate if you do not want to.

Study description:

The ability to create closeness not only improves relationships, but also correlates with overall mental health and functioning in life. Thus, feeling connected with others is very important, but communicating with people with whom we have close relationships (e.g., partners, friends, family members or co-workers) can sometimes be difficult. There are many different ways one can improve communication. The purpose of this study is to compare the effectiveness of two different methods that have shown promise in improving relationships: 1) self-disclosure, and 2) connecting with nature.
The exercises in this study are not designed to address mental disorders or distressed relationship issues. If you have significant trouble with depression, anxiety, or interpersonal relationships, we ask that you do not participate in this study.

3. Study Procedures

What will I be asked to do if I participate in the study?

The purpose of this research is to assess the effects of a single session on the quality of your interpersonal communication style with a particular person of your choosing (such as a partner, friend, family member, co-worker etc,). This person does not participate in this study and will be unidentifiable on the questionnaires.

Random Assignment:

You will be randomly assigned to a condition where you either will be asked to meet with a research assistant or you will be assigned to a group where you will watch a nature video. Regardless of the condition you will be assigned to, there will be pre and post questionnaires that we will ask you to fill out in the research lab. These questionnaires should take you no longer than 20 minutes to complete. Upon completion of the pre-questionnaires you will be instructed by the research assistant what condition you have been assigned to, at which point you will either follow the research assistant to a classroom with a TV that can play the nature video or you will be guided to an available room to meet with a research assistant one on one.

Whether you will be assigned to the nature video or the one on one condition with a research assistant will not affect how long the study is. Once you get to your assigned condition you will be there for 50 minutes and will then fill out post-questionnaires following the completion of your condition.

In the condition where you will meet with a research assistant you will go over questions that both the research assistant and you will be asked to answer. You will be asked a total of 20 questions. This condition will also be audiotaped, that is, the questions and your responses will be audiotaped for further analysis. Please refer to section 7 (Confidentiality) for a description how our confidentiality process. If at any point you should experience extreme discomfort you may ask to discontinue from the study without any penalty. Furthermore, if you choose to discontinue you will still have the opportunity to take the follow-up questionnaires so that you may receive full credit.

Questionnaires:
These questionnaires ask about your mood, ways you experience day-to-day events in your life, and your relationships. Some examples of the most personal and sensitive questions are: "I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them", "I worry that I will be hurt if I allow myself to become too close to others", "I feel like an outsider", and "My painful memories prevent me from having a fulfilled life". We will also ask you some questions about a specific person in your life with whom you interact frequently. We will not ask you to provide anything that would identify him or her like a name or contact information.

4. Risks and Minimizing Risks

What risks will I face by participating in this study?

The risks associated with participation are primarily related to the sensitivity of some of the questions. You will be asked to answer questions about your mood and how you view interpersonal relationships in general as well as about particular people you know. These questions may make you uncomfortable, or be perceived as an intrusion of privacy. You might know the researcher or research assistants conducting the intervention and may feel embarrassed about participation in the in-person session. If you are assigned to the self-disclosure condition, you may find the some of the questions (see examples above), to be

anxiety-provoking or upsetting, or to bring up feelings of sadness. You are free to withdraw at any time and choose to not answer any in-person question or questionnaire item without penalty. If you know any of the study team members (researchers or research assistants) or feel uncomfortable being in the group you were assigned to, you can withdraw without penalty.

5. Benefits

Will I receive any benefit from my participation in this study?

There is no proven personal benefit for you from being in this study. It is possible that you may experience increased levels of connectedness which may generalize to your interpersonal relationships, but we cannot guarantee this. It is also possible that the questionnaires regarding interpersonal relationships that all participants receive may help to improve these relationships by drawing attention to them.

6. Study Costs and Compensation

Will I be charged anything for participating in this study?

You will not be responsible for any of the costs from taking part in this research study.

Are subjects paid or given anything for being in the study?

For participating in the in person session and the two follow-up surveys you will receive a total of 4 hours of extra credit. Please note that extra credit will only be awarded to participants who complete both the in person session and the two follow-up surveys. You are free to terminate your participation in the study at any time and will be given credit for the amount of the study that you completed. If you should terminate your participation during the in person session out of discomfort you will receive credit for the time completed and have the option of completing the follow up surveys to receive additional credit.

7. Confidentiality

What happens to the information collected?

All information collected about you during the course of this study will be kept confidential to the extent permitted by law. We may decide to present what we find to others, or publish our results in scientific journals or at scientific conferences will have access to the information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review this study's records.

We have taken steps to protect you from the risks mentioned above. Participation in this research is voluntary, and you are free to skip over any questions you do not want to

answer or to end your participation at any time. If you choose to end your participation early, we will give you course credit for the amount of time you have participated. All of your data and the audiotaped session are confidential and only identifiable by your PIN (explained below). We will do our best to protect the data from unauthorized disclosure. Your name will not be written on any assessment instruments. Your data and audiotaped session will be identified by a PIN randomly generated for research purposes, not your name. Only you and the researchers will know the PIN. You will not be identified in any research reports or presentations of this research. Your name and contact information will be accessible only to research staff for the purposes of contacting you to complete the study, and will be stored separately from your data on computers with password protection and in locked file cabinets. We will retain your name and contact information until January 31, 2017. These data will be retained indefinitely, identified only by the PIN. The audiotaped session will be destroyed one year after study session has been completed (i.e.: study session ends March 11th, 2013, audiotape of session will be destroyed on or before March 11th, 2014). Please note that in the reminder emails for the follow-up surveys will contain your unique PIN number, thus creating a link between your PIN and email that is outside of our lab. If this makes you uncomfortable and you do not want your PIN located in any emails please tell the researchers of your concern. A researcher will then help you create your own PIN and then ask you for a hint you would like to receive should you forget your PIN.

If you become concerned about your mental health, or experience discomfort as a result of your participation, you can contact Dr. Kanter to discuss this. We will be happy to provide referrals for mental health counseling services, but you may have to pay for any of those services you choose to receive. We may contact you by email if we become concerned about your mental well-being and inform you about such services on campus or in the local community.

If you do not want to participate or have questions or concerns about the study, please send an email to Dr. Kanter at jkanter@uwm.edu or speak to one of the researchers present. If you have questions about this research later on, please contact Dr. Kanter (listed above) or the project coordinator Joe Murphy at murphyjd@uwm.edu.

8. Alternatives

Are there alternatives to participating in the study?

For alternatives to this study please consult with your individual professors, or visit SONA for more information.

9. Voluntary Participation and Withdrawal

What happens if I decide not to be in this study?

Your participation in this study is entirely voluntary. You may choose not to take part in this study. If you decide to take part, you can change your mind later and withdraw from

the study. You are free to not answer any questions or withdraw at any time. Your decision will not change any present or future relationships with the University of Wisconsin-Milwaukee.

10. Questions

Who do I contact for questions about this study?
For more information about the study or the study procedures or treatments, or to withdraw from the study, contact:

Dr. Jonathan Kanter
University of Wisconsin-Milwaukee
414-229-3438
jkanter@uwm.edu

Who do I contact for questions about my rights or complaints towards my treatment as a research subject?
The Institutional Review Board may ask your name, but all complaints are kept in confidence.

Institutional Review Board
Human Research Protection Program
Department of University Safety and Assurances
University of Wisconsin – Milwaukee
P.O. Box 413
Milwaukee, WI 53201
(414) 229-3173

11. Signatures

Research Subject's Consent to Participate in Research:
To voluntarily agree to take part in this study, you must sign on the line below. If you choose to take part in this study, you may withdraw at any time. You are not giving up any of your legal rights by signing this form. Your signature below indicates that you have read or had read to you this entire consent form, including the risks and benefits, and have had all of your questions answered, and that you are 18 years of age or older.

_____
Printed Name of Subject/ Legally Authorized Representative

_____
Signature of Subject/Legally Authorized Representative Date

Research Subject's Consent to Audio/Video/Photo Recording:

It is okay to audiotape me while I am in this study and use my audiotaped data in the research.

Please initial: ____Yes ____No

Research Subject's Acknowledgment of Credit Assignment:

I understand that due to the nature of the study credit will not be assigned until 2 weeks after the in person session has been completed.

Please initial: ____Yes ____No

Principal Investigator (or Designee)
I have given this research subject information on the study that is accurate and sufficient for the subject to fully understand the nature, risks and benefits of the study.

Printed Name of Person Obtaining Consent Study Role

Signature of Person Obtaining Consent Date

Appendix C - Closeness Generating Protocol

I. Welcoming Remarks

"Hello, thank you for participating in the Interpersonal Relationship Study. The objective of our study is to examine interpersonal relationships. My name is (RA NAME HERE), I will be your ***Peer Coach*** today. Before we begin we will have you answer a series of questions related to interpersonal relationships. Whenever a question references the ***Peer Coach***, it is referring to me, (RA NAME). Similar references will be made with other questions after our session and during the *48-Hour* and *Two-Week Follow-ups*. Do you have any questions?"

II. Rationale and Introduction to Study

A. "This study is testing a theory about feelings of interpersonal closeness. The ability to create closeness not only improves relationships, but also correlates with overall mental health and functioning in life. Each person generally has a comfort zone in terms of how we relate to others. One important dimension of closeness is being willing to move beyond one's comfort zone in knowing and being known by another. Your task in this study is simply to experiment with taking small baby steps beyond your comfort zone in sharing, and to get psychologically closer to me. The rationale is that the more I learn about you, and the more willing you are to tell me about yourself, the feelings of closeness between us will increase."

B. "I will be asking you a series of questions today. Please do your best to answer each question as genuinely as possible. Everyone has their own comfort zone, and all of the questions will give you the opportunity to move beyond your particular comfort zone. It's important to find the right level for you. The idea is that the more willing you are to engage in this process, the closer we will feel. Everyone's comfort zone is different, but natural and normal. The goal is for you to push, in small steps, against your comfort zone. The questions are arranged in such a way that as we go forward, it's more likely to push up against your comfort zone."

C. "I want to emphasize that you have the right to stop this experiment at any time without penalty. You will still get your research credits by completing your questionnaires. Do you have any questions?"

III. Explanation of Low and Natural Feedback

[Used by Research Assistants for Guidance as they Interact with Participants]

A. Low Feedback Condition

1. Posing the question: "I'm going to start with Question #1, "Would you like to be famous? In what way?"

<u>Guidance on Non-verbal Interaction with Participant:</u> Examples include paying attention *at* the person, but do not look directly in the person's eyes, avoid smiling and give

minimal indications of interest when subject is talking. The research assistant (RA) is asked to be as neutral as possible without being rude.

Guidance on Verbal Interaction with Participant: The RA will give ***no*** verbal response to the subject's answers. The RA is to continue onto the next question in the list of Closeness Generating Protocol Questions. RA could say: "Ok. Let's move on to the next question." or "The next question asks [insert next question here]."

B. Natural feedback condition (natural reinforcement condition)

When someone experiences us as naturally reinforcing of their self-disclosure, we increase the likelihood that they will feel safe sharing their thoughts and feelings, and that they will disclose beyond their comfort zone. We are reassuring them that it's okay for them to have the feelings they have. We help them feel heard, acknowledged, understood, and accepted. This type of validating behavior tends to open people up and helps them feel more free to communicate with you. Some subjects, however, may find this type of validating behavior to be aversive, and will back away. Try to tune in to each person, notice how they are reacting to your efforts to be naturally reinforcing, whether they are responding to your warmth, or if they want you to give them a little more distance and space and less responsiveness.

1. Posing the question: "I'm going to start with Question #1, "Would you like to be famous? In what way?"

Guidance on Non-verbal Interaction with Participant: Examples include warm eye contact, smiling when appropriate, leaning forward, open posture (if it fits into the context, cannot be mechanically done). Indications of interest when subject is talking (this is personal to each RA): e.g, nodding, appropriate verbal acknowledgments that you are listening or understanding such as "uh huh," "yeah."

Guidance on Verbal Interaction with Participant: After subject's response: Say something validating that helps him or her feel heard, acknowledged, understood, and/or accepted.

2. Personal and genuine reaction to what they said:

• Describe how your body feels. E.g, "I feel touched", "I feel honored that you are sharing this with me", "I really found that interesting", "I feel this deep well of peaceful sadness spreading through my body when I hear your story".

• Use risky word choices that are a little difficult to you. E.g, "My heart is really open and strong right now".

• Self disclose something about yourself that helps the person feel connected in their suffering. E.g, "It reminds me of a similar experience…".

3. Validate the emotion that was expressed, whether it is positive or negative:

• Show empathy. E.g, “Wow, that's a lot to deal with”, “I would feel the same way”, “I'd feel sad/hurt/angry/jealous, etc. too”, “That must really hurt”, “That's really hard”, “You look pretty sad”, “Cool. Neat. Wow. Excellent. etc”, “That must have been fun/exciting”, “I can see why you are proud”, “It sounds like ____ is really important to you”, “I can see why you love ____ so much”.

• Identify the emotional core and reflect it. E.g, “I can feel your mixture of intense sadness and love for your family but also anger and rage at what happened”.

• Identify the nature of the risk and counter it. E.g, “I know how vulnerable it feels to do what you just did and I want you to know you are safe with me and what you said is sacred”.

IV. Start of Question Interaction

A. Asking the Questions

1. Ask each question in order as it appears on the Closeness Generating Protocol Questions list (Appendix IV).

2. The questions should be asked in a very neutral “matter of fact” manner. The RAs are again asked to be as neutral as possible without being rude.

B. Responding to the Participant’s Answers

1. Low Feedback Condition

a. Non-verbal interaction: no eye contact, avoid smiling, present minimal interest in what the participant is saying.
b. Verbal interaction: no response to the participant’s answer is given. RA is to continue on to the next question.

1. Natural Feedback Condition

a. Non-verbal interaction: intense eye contact, smiling when appropriate, leaning forward, open posture and other non-verbal responses used to indicate extreme interest in participant’s response.
b. Verbal interaction: validate the participant’s response by helping him or her feel heard, acknowledged, understood, and/or accepted. RA is to be very genuine and personal with their responses to the participant’s answers.

C. Concluding Remarks if All Questions are Answered

1. Low feedback condition

1) After all questions have been answered by the RA and subject, or 50 minutes are up, whichever occurs first, the RA thanks the participant and asks them to complete the post session surveys.

2. Natural feedback condition

1) After all questions have been answered by the participant, or 50 minutes are up, whichever occurs first, the RA comments on how courageous the subject was: "It was gutsy of you to choose to answer all the questions. I really admire how you seemed to move outside of your comfort zone".
2) "This was a very special experience here with you. What you shared with me (describe a couple of things the subject said that stand out to you) helped me feel more connected to you."
3) The RA thanks the participant and asks them to complete the post session surveys.

D. Concluding Remarks if Subject Ends Session due to Discomfort before Answering all Questions:

1. Low feedback condition

1) "It's important that you observed your limits in answering the questions. I appreciate the questions that you did answer and it will be a great help to the experiment." The RA thanks the participant and asks them to complete the post session surveys.

2. Natural feedback condition

1) "It's important that you observed your limits in answering the questions. I appreciate the questions that you did answer and it will be a great help to the experiment. It was gutsy of you to answer the questions that you did, and to know that you wanted to stop when you did."
2) "I know that you probably stepped outside of your comfort zone with me to the best of your ability. What's important is that you took those steps with me today and for that I am very thankful that you were willing to do so."
3) The RA thanks the participant and asks them to complete the post session surveys.

Appendix D - Questions in Closeness Generating Protocol

1. Would you like to be famous? In what way?
2. What would constitute a "perfect day" for you?
3. For what in your life do you feel most grateful?
4. If you could wake up tomorrow having gained any one quality or ability, what would it be?
5. Your house, containing everything you own, catches fire. After saving your loved ones and pets, you have time to safely make a final dash to save any one item. What would it be? Why?
6. Given the choice of any famous person in the world (alive or dead), who would you want as a dinner guest and why?
7. Is there something that you've dreamed of doing for a long time? Why haven't you done it?
8. What is the greatest accomplishment of your life so far?
9. Can you name three things you notice that you and I have in common?
10. What roles do love and affection play in your life?
11. How does it feel to be answering these questions from me so far? Please be honest about both positive and negative feelings?
12. Share an embarrassing moment in your life.
13. If you were to die this evening with no opportunity to communicate with anyone, what would you most regret not having told someone? Why haven't you told them yet?
14. Of all the people in your family, whose death would most affect you? Why?
15. What has been the greatest loss in your life? How did this loss make you feel?
16. What your least favorite quality about yourself?
17. If you had to sacrifice your own life for one person, who would you choose and why?
18. What is the cruelest thing you have ever done to someone?
19. Tell me something you like about how I've been interacting with you. Make it something you would not normally say to someone you have just met.
20. When you are sad or hurt or alone how do you talk to yourself about your feelings (i.e.: "I just need to get over it." "It's okay to feel sad right now.")?

Appendix E - Demographic Information

Sex: *male____* *female____* *transgender/gender variant ____*

Age: _____

Race/ethnicity:

___*White/ Caucasian/ European American*
___*Black/African-American*
___*Non-white Hispanic*
___*South Asian*
___*Middle Eastern*
___*East Asian*
___*Southeast Asian*
___*Native American*
___*Pacific Islander*
___*Other:* _____

Relationship Status:
Single____
In a Relationship____

Appendix F - Adult Attachment Scale

Please read each of the following statements and rate the extent to which it describes your feelings about romantic relationships. Please think about all your relationships (past and present) and respond in terms of how you generally feel in these relationships. If you have never been involved in a romantic relationship, answer in terms of how you think you would feel.

Please use the scale below by placing a number between 1 and 5 in the space provided to the right of each statement.

1----------2----------3----------4----------5
Not at all characteristic of me — **Very characteristic of me**

(1) I find it relatively easy to get close to others. _____

(2) I do not worry about being abandoned. _____

(3) I find it difficult to allow myself to depend on others. _____

(4) In relationships, I often worry that my partner does not really love me. _____

(5) I find that others are reluctant to get as close as I would like. _____

(6) I am comfortable depending on others. _____

(7) I do not worry about someone getting too close to me. _____

(8) I find that people are never there when you need them. _____

(9) I am somewhat uncomfortable being close to others. _____

(10) In relationships, I often worry that my partner will not want to stay with me. _____

(11) I want to merge completely with another person. _____

(12) My desire to merge sometimes scares people away. _____

(13) I am comfortable having others depend on me. _____

(14) I know that people will be there when I need them. _____

(15) I am nervous when anyone gets too close. _____

(16) I find it difficult to trust others completely. _____

(17) Often, partners want me to be closer than I feel comfortable being. _____

(18) I am not sure that I can always depend on others to be there when I need them. _____

Appendix G - Social Connectedness Scale – Revised

Directions: Following are a number of statements that reflect various ways in which we view ourselves. Rate the degree to which you agree or disagree with each statement using the following scale (1 = Strongly Disagree and 6 = Strongly Agree). There is no right or wrong answer. Do not spend too much time with any one statement and do not leave any unanswered.

Strongly Disagree	Disagree	Mildly Disagree	Mildly Agree	Agree	Strongly Agree
1	2	3	4	5	6

1. I feel comfortable in the presence of strangers	1	2	3	4	5	6
2. I am in tune with the world	1	2	3	4	5	6
3. Even among my friends, there is no sense of brother/sisterhood	1	2	3	4	5	6
4. I fit in well in new situations	1	2	3	4	5	6
5. I feel close to people	1	2	3	4	5	6
6. I feel disconnected from the world around me	1	2	3	4	5	6
7. Even around people I know, I don't feel that I really belong	1	2	3	4	5	6
8. I see people as friendly and approachable	1	2	3	4	5	6
9. I feel like an outsider	1	2	3	4	5	6
10. I feel understood by the people I know	1	2	3	4	5	6
11. I feel distant from people	1	2	3	4	5	6
12. I am able to relate to my peers	1	2	3	4	5	6
13. I have little sense of togetherness with my peers	1	2	3	4	5	6
14. I find myself actively involved in people's lives	1	2	3	4	5	6
15. I catch myself losing a sense of connectedness with society	1	2	3	4	5	6
16. I am able to connect with other people	1	2	3	4	5	6
17. I see myself as a loner	1	2	3	4	5	6
18. I don't feel related to most people	1	2	3	4	5	6
19. My friends feel like family	1	2	3	4	5	6
20. I don't feel I participate with anyone or any group	1	2	3	4	5	6

Scoring: reverse code 3, 6, 7, 9, 11, 13, 15, 17, 18 and 20. Sum scores.

Appendix H - Social Connectedness Scale – RIS6

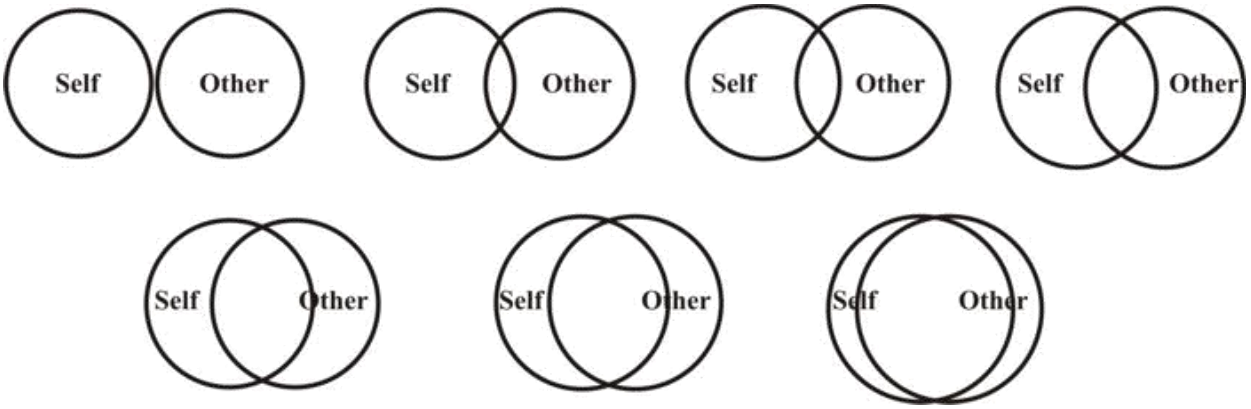
1. I feel a close bond with my peer coach	1	2	3	4	5	6
2. I feel that I can share personal concerns with my peer coach	1	2	3	4	5	6
3. I feel very distant from my peer coach	1	2	3	4	5	6
4. I can relate to my peer coach	1	2	3	4	5	6
5. My peer coach makes me feel comfortable	1	2	3	4	5	6
6. I feel disconnected from my peer coach	1	2	3	4	5	6

Scoring: reverse code 3 and 6. Sum scores.

Appendix I - The Inclusion of Other in the Self scale (IOS)

Instructions: Please circle the picture that best describes how you view or feel about the research assistant(s) with whom you primarily interacted with in this study (depicted below as "Other").

1.



2. What could the peer coach have done to make you feel closer to him or her?

Scoring and interpretation: The greater the overlap selected by the participant. The closer they feel to the RA.

Appendix J - Manipulation Check

1. To what extent do you feel were you engaged in the session's activities?

0	1	2	3	4	5	6
Not at all			**Somewhat**			**Completely**

2. How difficult was it for you to answer the questions with the peer coach?

0	1	2	3	4	5	6
Not difficult			**Somewhat**			**Very Difficult**

3. How open and vulnerable were you with the peer coach?

0	1	2	3	4	5	6
Not at all			**Somewhat**			**Completely**

4. Could you have been more open and vulnerable with the peer coach?

__Yes __No

5. How warm and supportive was your peer coach?

0	1	2	3	4	5	6
Not at all			**Somewhat**			**Completely**

6. How open and genuine was your peer coach?

0	1	2	3	4	5	6
Not at all			**Somewhat**			**Completely**

7. For the next section, please rate each question on how comfortable you were answer these questions with your peer coach. The questions are rated on a scale from 1 to 7 (1 being extremely uncomfortable and 7 being extremely comfortable).

	Extremely Uncomfortable						Extremely Comfortable
	1	**2**	**3**	**4**	**5**	**6**	**7**
Would you like to be famous? In what way?	○	○	○	○	○	○	○
What would constitute a "perfect day" for you?	○	○	○	○	○	○	○
For what in your life do you feel most grateful?	○	○	○	○	○	○	○
If you could wake up tomorrow having gained any one quality or ability, what would it be?	○	○	○	○	○	○	○
Your house, containing everything you own, catches fire. After saving your loved ones and pets, you have time to safely make a final dash to save any one item. What would it be? Why?	○	○	○	○	○	○	○
Given the choice of any famous person in the world (alive or dead), who would you want as a dinner guest and why?	○	○	○	○	○	○	○
Is there something that you've dreamed of doing for a long time? Why haven't you done it?	○	○	○	○	○	○	○
What is the greatest accomplishment of your life so far?	○	○	○	○	○	○	○
Can you name three things you notice that you and I have in common?	○	○	○	○	○	○	○
What roles do love and affection play in your life?	○	○	○	○	○	○	○
How does it feel to be answering these questions from me so far? Please be honest about both positive and negative feelings?	○	○	○	○	○	○	○
Share an embarrassing moment in your life.	○	○	○	○	○	○	○
If you were to die this evening with no opportunity to communicate with anyone, what would you most regret not having told someone? Why haven't you told them yet?	○	○	○	○	○	○	○

Of all the people in your family, whose death would most affect you? Why?	○	○	○	○	○	○	○
What has been the greatest loss in your life? How did this loss make you feel?	○	○	○	○	○	○	○
What your least favorite quality about yourself?	○	○	○	○	○	○	○
If you had to sacrifice your own life for one person, who would you choose and why?	○	○	○	○	○	○	○
What is the cruelest thing you have ever done to someone?	○	○	○	○	○	○	○
Tell me something you like about how I've been interacting with you. Make it something you would not normally say to someone you have just met.	○	○	○	○	○	○	○
When you are sad or hurt or alone how do you talk to yourself about your feelings (i.e.: "I just need to get over it." "It's okay to feel sad right now.")?	○	○	○	○	○	○	○