Relationship Focused Therapy:
Applying Principles of Close Relationships to Clinical Relationships

By

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Abstract

Decades of social-psychological research on close relationships indicates that factors such as mutual self-disclosure and support equity promote positive relational outcomes. Yet most mental health service providers are not typically expected to integrate such relational practices into their interactions with mental health service recipients. For example, clinicians do not traditionally disclose their personal experiences to clients, despite empirical evidence in the non-clinical domain indicating that mutual self-disclosure can lead to positive relational outcomes. Also, support in the therapeutic relationship is usually provided in a non-equitable manner (i.e., clients receive but rarely provide support), despite social-psychological research suggesting that this can lead to diminished relationship quality for both interaction partners. The current research therefore examines how practitioner self-disclosure and client support provisioning can be beneficially applied to the therapeutic relationship. First, in two preliminary correlational studies we review the extent to which self-disclosure and support are associated with relational and clinical outcomes, from the perspective of clients (Study 1a) and then separately from the perspective of practitioners (Study 1b). In Study 2 we replicated preliminary findings using actual client-practitioner dyads, rather than separate samples of clients and practitioners. In Study 3, we conducted a 12-week long experimental trial in order to investigate whether different types of practitioner self-disclosures differentially influence a relational (i.e., trust) and clinical outcome (i.e., symptom improvement). The importance of congruence in self-disclosure and support provisioning between mental health clients and practitioners, the types of practitioner disclosures that are most beneficial for clients, and the importance of clients' perceptions of their practitioners' relational strategies in the therapeutic context are discussed.

Relationship Focused Therapy: Applying Principles of Close Relationships to Clinical Relationships

Mental illness diagnoses have risen exponentially in the past decade (Olfson, Blanco, Wang, Laje, & Correll, 2014; Weinberger et al., 2018; Stolzer, 2016), and so has the number of individuals seeking treatment and support (Gronholm, Thornicroft, Laurens, & Evans-Lacko, 2017; Olfson et al., 2016). Critical to the delivery of virtually all mental health related services is the development of a therapeutic relationship between a practitioner and a client (Bachelor, 2013; Ardito & Rabellino, 2011). Although some guidelines exist to instruct practitioners on how to develop and maintain their relationships with clients, there is considerable debate regarding which relational strategies should and should not be implemented (Kahn, 1991; Ardito & Rabellino, 2011; Norcross & Wampold, 2011). Furthermore, those that have been proposed are still in the early stages of garnering rigorous, evidence-based support (Norcross & Lambert, 2018; King & Simmons, 2018). The present research, therefore, aims to advance a new approach to relationship building in the therapeutic context by applying theoretically driven and empirically based social-psychological principles of close relationships to the clinical relationship between practitioners and clients.

Specifically, this work focuses on two interpersonal behaviors that are viewed by social psychologists as critical to the development of healthy social relationships: (1) *mutual self-disclosure,* which refers to interactions between individuals where they both communicate personally relevant information, thoughts, and feelings to one another (Derlega, Metts, Petronio, & Margulis, 1993; Wei, Russell, & Zakalik, 2005; Greene, Derlega, & Mathews, 2006); and (2) *support equit*y, which refers to the bidirectional (rather than one-sided) provisioning of support between interaction partners (e.g., Gleason, Iida, Bolger, & Shrout, 2003).

Each of these practices highlights a principle of relationship building that social-psychologists have been emphasizing for many years: the principle of reciprocity. That is, both members of a dyad must engage in behaviors designed to promote interpersonal closeness if the goal is to initiate and maintain functional social interactions (Buunk & Schaufeli, 1999). In this sense, the current research advocates for a shift toward the development of reciprocal, interpersonal connections between clients and practitioners where they both engage in self-disclosure and support provisioning, and a shift away from the unidirectional practices maintained in traditional clinical settings where clients (but not practitioners) are expected to self-disclose and practitioners (but not clients) are expected to provide support.

Why is it Important to Build Healthy Relationships?

Decades of research on close relationships suggests that healthy relationships are at the center of psychological and physical well-being (House, Landis, & Umberson, 1989; Umberson & Karas-Montez, 2010; Loving & Slatcher, 2013). Positive social relationships help humans manage physical and emotional pain (MacDonald & Leary, 2005), stop the release of stress hormones and reduce threat-related activity in the brain (Coan, Schaefer, & Davidson, 2006), and are associated with a significantly lower risk of mortality (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015). In contrast, social isolation, social rejection, and social subordination are among the strongest predictors of stress and compromised health. For example, data from a large meta-analysis indicates that "individuals with adequate social relationships have a 50% greater likelihood of survival compared to those with poor or insufficient social relationships" (Holt-Lunstad, Smith, & Layton, 2010, p. 14). Furthermore, research has demonstrated that chronic social isolation is a stronger predictor of premature death than factors such as smoking, excessive alcohol consumption, and obesity (Holt-Lunstad, Smith, & Layton,

2010). Thus, meaningful social connections are not just a matter of well-being, they are a matter of survival.

However, despite their importance, the quantity and quality of social relationships may be decreasing in modern industrialized societies. Over the last 30 years the number of Americans who report that they have “no one to discuss important issues with” has nearly tripled and significantly fewer people report having a "confidant” in their lives (McPherson, Smith-Lovin, & Brashears, 2006). Increased feelings of social isolation are almost certainly related to the increased reports of serious psychological distress recorded in the last decade (Tsai, Lucas, & Kawachi, 2015), with "loneliness and interpersonal stress" recently entering the top reasons individuals report seeking psychological services (Ahmadpanah et al., 2017; Webber & Fendt-Newlin, 2017). The nature and quality of the relationship between practitioners and clients may therefore be uniquely impactful in the treatment protocol at this historical moment, and its development and maintenance should be approached with the same scientific rigor as more traditional components of mental health related services (e.g., medication development and prescribing practices).

How is the Therapeutic Telationship Traditionally Conceptualized in Clinical Practice?

Most commonly, practitioners cultivate relationships with their clients in order to promote and encourage client uptake of a particular treatment strategy. For example, when therapists practice from a psychodynamic perspective, the *working or therapeutic alliance* between a practitioner and client exists primarily to facilitate the psychotherapeutic work the client is undertaking internally to resolve personally experienced symptoms (Kelley, Gelso, Fuertes, Marmarosh, 2010; Hatcher & Barends, 2006). Similarly, in the context of cognitive behavioral therapy (CBT), practitioners may engage in relationship oriented behaviors (e.g.,

opening up about their experiences using a CBT strategy) in order to model how clients can successfully integrate that strategy into their own lives (Dixon et al., 2001). Broadly speaking, a successful therapeutic alliance is considered one where the practitioner and therapist have agreed upon the treatment goals and where the practitioner's relationship to the client positions them to intervene when the client deviates from the prescribed treatment (Kelley, Gelso, Fuertes, Marmarosh, 2010; Summers & Barber, 2003).

The strategies used to develop the therapeutic alliance in a traditional clinical setting have been mostly divorced from (and sometimes in complete opposition to) those recommended by social-psychologists for healthy relationship initiation and maintenance. For example, clinical psychologists recommend minimizing their own personal self-disclosures (Dixon et al., 2001) whereas social psychologists highlight mutual self-disclosure as a fundamental building block to interpersonal closeness (Greene, Derlega, & Mathews, 2006; Derlega, Wilson, & Chaiken, 1976: Derlega, & Grzelak, 1979). Likewise, clinical psychologists mainly endorse relationships where practitioners unidirectionally provide (and do not receive) support and guidance to clients, whereas social psychologists emphasize the importance of bidirectionality in support provisioning when interacting with close relationship partners (Ryon & Gleason, 2018). Taken together, the emphasis in traditional clinical relationships is in building familiarity with and trust in the prescribed treatment, not necessary in each other.

Less common, but not altogether absent, are therapeutic relationships where the goal is for practitioners and clients to build familiarity with and trust in one another. In these cases, the creation of successful interpersonal connections is itself considered the primary treatment, and more traditional clinical outcomes are conceptualized as downstream of the therapeutic relationship. For example, in the framework of Intentional Peer Support (IPS; Mead, 2001),

practitioners are encouraged to build closeness and intimacy with their clients through relationship building strategies that are much more closely aligned with social-psychological principles. Specifically, peer supporters are encouraged – and sometimes required – to share their personal mental-health related experiences with clients so that they can "build connections with those who have traveled similar paths and might feel shame or fear at disclosing their own experiences" (Mead, Hilton, & Curtis, 2001; Mead & MacNeil, 2005). This is also the strategy implemented in a variety of self-help and community support groups such as Alcoholics Anonymous (King & Simmons, 2018).

However, an important critique of these relationship-focused styles of therapy (e.g., Intentional Peer Support) is that there is relatively little empirical research examining the extent to which specific relationship-building strategies influence targeted interpersonal and intrapersonal outcomes in the clinical domain (King & Simmons, 2018). For example, although a recent meta-analysis was conducted by Hill, Knox, and Pinto-Coelho (2018) to review the ways in which practitioner self-disclosure impacts client outcomes, the researchers concluded that there is "promising but insufficient evidence" (p. 309) to determine whether and under what circumstances practitioner disclosure may be beneficial (or harmful). This is largely due to the fact that studies examining practitioner self-disclosure tend to be overwhelmingly qualitative in nature and often only examine a small handful of individuals in a case-study type format. Similarly, although a substantial body of anecdotal evidence from individuals participating in group-based therapies (e.g., Schizophrenics Anonymous, the Hearing Voices Network) speaks to the likelihood that mutual support leads to positive clinical outcomes, there are very few experimentally controlled trials investigating this topic and possibly none that specifically focus on the reciprocal (versus unidirectional) nature of support as the key mechanism of action.

What can Social-Psychological Principles add to the Framework of Therapeutic Relationships?

Basic research conducted by relationship scientists in the non-clinical domain offers compelling evidence that reciprocity in disclosure (*mutual* self-disclosure) and reciprocity in support (support *equity*) are associated with a number of positive outcomes. For example, relationship partners who report opening up to one another about their personal thoughts and feelings also report fewer physical health problems (e.g., weight change, headaches; Pennebaker & O'Heeron, 1984), higher self-concept clarity (Lepore, Ragan, & Jones, 2000), fewer intrusive thoughts following a stressful event (Lepore and Helgeson, 1998), decreased social isolation (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000), increased self-worth (Beals, 2003), more daily positive affect (Gable, Reis, Impett, & Asher, 2004), and improved relationship quality (Gable & Reis, 2010; Gable & Anderson, 2016). Likewise, when support provisioning is provided in a more equitable manner between relationship partners (that is, neither partner feels unfairly over-benefitted or under-benefitted), individuals also report less negative affect (Coyne, Wortman, & Lehman, 1988), less emotional exhaustion (Buunk & Schaufeli, 1993), decreased loneliness (Buunk & Mutsaers, 1999), and improved relationship quality (Kuijer, Ybema, & Buunk, 1998) – especially when one of the relationship partners is coping with a major life stressor such as cancer (Kuijer, Ybema, & Buunk, 1998) or mental disability (Van Dierendonck, Schaufeli, & Buunk, 1996). Interestingly, one known investigation of support equity in the *clinical* domain was reported in a general psychology textbook. Specifically, in their chapter on social support, Gottlieb and colleagues (1985) noted that the asymmetry in "helping-behaviors" characteristic of most psychiatric relationships leads to "less satisfying interactions for both practitioners and patients, because the practitioner is drained and the patient feels uncomfortably indebted to

them" (p. 430). Altogether, these findings suggest that there are many benefits to building relationships characterized by more (versus less) reciprocal patterns of disclosure and support.

Therefore, the overarching questions to be addressed by the current research are: Do the social-psychological principles of reciprocity described above confer similar benefits to clinical relationships as they confer to close relationships? Are there meaningful benefits to practitioners self-disclosing (alongside their clients) and clients providing support (alongside their practitioners)?

Preliminary Studies

Given that research on close relationships suggests that mutual self-disclosure and support equity are related to positive outcomes in the general population, two preliminary studies aimed to explore whether these relational practices also predict positive outcomes in clinical therapeutic relationships. Specifically, two large-scale online studies surveyed mental health service recipients (Study 1a) and mental health service providers (Study 1b) in order to examine the ways in which these two relational practices (mutual self-disclosure and support equity) were related to relational and clinical outcomes. The data reported in these preliminary studies were collected as part of two larger surveys examining the relational experiences of mental health service recipients and mental health service providers.

Methods

Participants

Participants in Study 1a ($N = 1280$) were young adults enrolled in college who identified as having received mental-health related services. Participants in Study 1b ($N = 1253$) were individuals recruited from a national network of mental health practitioners who have provided mental-health related services to others. In Study 1a, 19 participants were excluded because they

failed the attention check question, and 11 were excluded because they selected the same response to every question in the survey (e.g., selecting all 7's). In Study 1b, 2 participants were excluded because they failed the attention check question; no other exclusions were made in Study 1b. Participants in Study 1a were compensated for their participation with credit that could be applied to a university course they were registered in. In Study 1b, participants were compensated by being entered into a raffle to win one of ten $50 VISA gift certificates.

In Study 1a, 37.2% of the participants identified as male, 56.5% as female and 6.3% as other non-binary gender categories (i.e., trans-man, trans-woman, genderqueer, or "other"), ages ranged from 18-27 years (M_{age} = 20.1 years, SD = 4.23 years), and the sample was racially diverse (2.4% Black/African American/Caribbean American, 36.3% Asian-American/Asian/Pacific Islander, 28.9% European-American/Anglo/Caucasian, 15.2% Hispanic-American/Latinix/Chicano/a, 0.66% = Native American/American Indian, 15.1% = Biracial/Multiracial, and 1.44% "Other"). Nearly half of the participants were single and not currently dating, and over a third were in an official relationship; the relationship status breakdown of participants was as follows: 42.7% were single & not dating, 15.8% were single & casually dating, 37.7% were in an official relationship, 1.3% were engaged, 1.6% were married, and 0.88% selected “Other”.

In Study 1b, 37.1% of the participants identified as male, 43.7% as female and 19.2% as other non-binary gender categories (i.e., trans-man, trans-woman, genderqueer, or "other") and ages ranged from 18-52 years (M_{age} = 36.6 years, SD = 12.43 years). This sample of practitioners was as racially diverse as the sample of clients in Study 1a; the racial breakdown was 6.7% Black/African American/Caribbean American, 21.2% Asian-American/Asian/Pacific Islander, 32.8% European-American/Anglo/Caucasian, 8.7% Hispanic-American/Latinix/Chicano/a,

0.31% = Native American/American Indian, 20.3% = Biracial/Multiracial, and 10% "Other". Over half of the practitioners were in an official relationship; the relationship status breakdown was as follows: 11.6% were single & not dating, 14.8% were single & casually dating, 53.6% were in an official relationship, 2.6% were engaged, 10.8% were married, and 6.6% “Other”.

Procedures

Mental Health Service Screening Question

Study 1a and 1b took place online using Qualtrics survey software. After providing their consent to participate, participants completed a screening question that is described below.

Study 1a recruited individuals who had *received* mental health related services, so participants were asked: "Have you ever had any experiences with mental health related services? For example, received counseling, guidance, or help with something in your life from a professional or semi-professional provider."

Study 1b recruited individuals who had *provided* mental health related services, so participants were asked: "Have you ever had a job or volunteer position where you provided mental health related support or services to others? For example: This could be working as a peer specialist, a community organizer, a volunteer, an AA-sponsor, a clinician, or any other type of role where you connected with others around mental health related experiences."

If participants selected "Yes" in response to the screening question then they were directed to the first page of the survey. If they responded "No" then they were redirected to a separate study that is not related to the current research.

Target Prompt

Prior to beginning the main survey, participants read a prompt instructing them to think of a specific individual throughout the survey.

In Study 1a, the prompt was as follows: "During this survey, we want you to think about a specific person that has provided mental health related services or support to you. If possible, this should be someone you've interacted with in an official, formal, or semi-formal capacity. For example, perhaps this person is a therapist, counselor, psychiatrist, or peer supporter. Many people may come to mind, so please focus on a person that you can remember relatively well. Ideally, you will think of somebody you've had multiple interactions with over time. You will be reflecting on your experiences with this person throughout the survey, so take your time deciding who you want to focus on."

In Study 1b, the prompt was as follows: "During this survey, we want you to think about a specific person that you have provided mental health related support or services to. If possible, this should be someone you interact with in an official, formal, or semi-formal capacity. For example, perhaps they are a client of yours, or a participant in a program you work with, or someone who is part of an organization you are connected to. Many people may come to mind, so please focus on a person that you can remember relatively well. Ideally, you will think of somebody you've had multiple interactions with over time. You will be reflecting on your experiences with this person throughout the survey, so take your time deciding who you want to focus on."

Participants then provided the initials of the person they would reflect on throughout the survey.

Service Related Details and Demographics

Participants reported on several service related details about themselves and/or their client, which are outlined in Table 1. If they were reporting on somebody that they were not currently interacting with, then they were directed to a version of the survey that was written in

the past tense (e.g., "How frequently did you see this person?" instead of "How frequently do you see this person?"). Lastly, they completed demographic information and were directed to a debriefing page describing the purpose of the study.

Table 1

Service Related Details for Clients and Practitioners

Study 1a (clients)			Study 1b (practitioners)		
Variable	**Response**	**%**	**Variable**	**Response**	**%**
Practitioner Training	Professional	48.7	Practitioner Training	Professional	53.7
	Semi-Professional	49.2		Semi-Professional	45.9
	No Training	2.1		No Training	0.4
Currently Receiving Services from Practitioner?	Yes	64.6	Currently Providing Services to Client?	Yes	91.8
	No	35.4		No	8.2
Duration of Service from Practitioner	Less than 1 month	2.2	Duration of Service to Client	Less than 1 month	0.4
	1 month-6 months	13.8		1 month-6 months	7.2
	6 months-1 year	38.0		6 months-1 year	32.3
	1-2 years	34.3		1-2 years	45.5
	2-3 years	7.6		2-3 years	4.6
	3-4 years	4.1		3-4 years	4.1
	4-5 years	0		4-5 years	3.7
	Longer than 5 years	0		Longer than 5 years	2.2
Average Frequency of Service from Practitioner	More than once a day	0	Average Frequency of Service from to Client	More than once a day	2.6
	Once a day	1.2		Once a day	4.4
	A couple times a week	9.9		A couple times a week	16.4
	Once a week	49.2		Once a week	56.2
	Once a month	33.5		Once a month	18.2
	Once every 3 months	6.2		Once every 3 months	4.8
	Once every 6 months	3.8		Once every 6 months	1.1
	Once a year	1.3		Once a year	1.8
	Less than once a year	0.5		Less than once a year	0.3
Received a Formal Mental Illness Diagnosis?	Yes	47.8	Client Received a Formal Mental Illness Diagnosis?	Yes	61.7
	No	52.2		No	38.3
Diagnosis Type (check all that apply)	Antisocial Personality	0	Client Diagnosis Type (check all that apply)	Antisocial Personality	6.3
	Anxiety	31.9		Anxiety	42.1
	ADHD	8.4		ADHD	18.9
	Bipolar Disorder	3.5		Bipolar Disorder	21.2
	Borderline Personality	1.6		Borderline Personality	8.6
	Depression	33.3		Depression	58.1
	Eating Disorder	5.9		Eating Disorder	22.9
	OCD	3.8		OCD	27.6
	PTSD	7.4		PTSD	28.5
	Schizophrenia	0.3		Schizophrenia	13.9
	Substance Abuse	1.7		Substance Abuse	41.1
	Other	1.8		Other	12.8
Currently Taking Psychiatric Medication?	Yes	35.5	Client Currently Taking Psychiatric Medication?	Yes	56.3
	No	64.5		No	43.7

Measures

Participants answered several questions about their relationship and interactions with the person they were reporting on. Note that in each of the following items, "this person" refers to the individual that participants chose to reflect on at the beginning of the survey.

Self-disclosure

Self-disclosure was measured with the following items: "How much do you open up to this person about your personal experiences, thoughts, and feelings?" and "How much does this person open up to you about their personal experiences, thoughts, and feelings?" The response scale was 1 = *not at all*, 4 = *somewhat*, and 7 = *a lot*.

Support Provisioning

Support was measured with the following items: "Overall, how much do you provide support to this person?" and "Overall, how much does this person provide support to you?" The response scale was 1 = *not at all*, 4 = *somewhat*, and 7 = *a lot*.

Relationship Outcomes

Several outcomes related to the participant's assessment of their relationship with the target person were measured using global, face-valid items. The response scale for each item was 1 = *not at all*, 4 = *somewhat*, and 7 = *extremely.* Trust was measured with the question "Overall, how much would you say you trust this person?" Commitment was measured with the question "Overall, how committed do you feel to your relationship with this person?" Satisfaction was measured with the question "Overall, how satisfied are you with your relationship with this person?"

Clinical Outcomes

Participants in Study 1a reported on their mental health and clinical related experiences, and in Study 1b participants reported on the mental health and clinical related outcomes of their client.

In Study 1a these items were as follows: "To what extent do you feel like your mental-health related symptoms have improved since seeing this person?" where the response scale was 1 = *not at all*, 4 = *somewhat*, and 7 = *a lot*. "How willing are you to comply with the treatment this person recommends to you?" where the response scale was 1 = *not at all*, 4 = *somewhat*, and 7 = *extremely.* "How often do you experience the desire to harm yourself?" where the response scale was 1 = *never*, 4 = *sometimes*, 7 = *all the time*, and "How often do you experience thoughts or impulses to take your own life?" where the response scale was 1 = *never*, 4 = *sometimes*, 7 = *all the time*.

In Study 1b these items were as follows: "To what extent do you feel like this person's mental-health related symptoms have improved since seeing you?" where the response scale was 1 = *not at all*, 4 = *somewhat*, and 7 = *a lot*. "How willing has this person been to comply with the treatment you recommend to them?" where the response scale was 1 = *not at all*, 4 = *somewhat*, and 7 = *extremely.* Practitioners were not asked to report on the extent to which their clients were experiencing the desire to self-harm or thoughts related to suicide due to concerns over confidentiality guidelines.

Correlations, means, and standard deviations for each of the measured variables are reported in Tables 2 and 3.

Table 2

Study 1a - Clients Reports

	Variable	1	2	3	4	5	6	7	8	9	10	11
1	C disclosure	---										
2	P disclosure	.12	---									
3	C support	.08	.38**	---								
4	P support	.41**	.18	.08	---							
5	Trust	.42**	.41**	.31*	.17	---						
6	Commitment	.19	.37*	.22*	.23*	.13	---					
7	Satisfaction	.08	.31*	.13	.11	.20	.17	---				
8	Improvement	.13	.14	.13	.12	.31*	.24*	.23*	---			
9	Compliance	.13	.09	.08	.09	.54**	.29*	.12	.19*	---		
10	Self-Harm	-.09	-.10	-.21*	-.17	-.09	-.28*	.03	-.53**	-.03	---	
11	Suicide	-.12	-.14	-.10	-.18	-.11	-.22*	.01	-.47**	-.08	.76**	---
	M	4.91	2.38	2.30	3.71	4.21	4.15	4.27	4.12	5.09	2.36	2.06
	SD	2.80	2.71	2.95	3.02	2.79	2.94	2.78	2.88	2.89	3.31	3.54

* = p < .01, ** = p < .001. C stands for "client", and P stands for "practitioner".

Table 3

Study 1b - Practitioner Reports

	Variable	1	2	3	4	5	6	7	8	9
1	C disclosure	---								
2	P disclosure	.08	---							
3	C support	.07	.22*	---						
4	P support	.59**	.18	.06	---					
5	Trust	.12	.51**	.31*	.17	---				
6	Commitment	.19	.47**	.28*	.25*	.03	---			
7	Satisfaction	.08	.33*	.35*	.48**	.11	.03	---		
8	Improvement	.28*	.17	.03	.29*	.13	.37*	.01	---	
9	Compliance	.08	.29*	.01	.42*	.11	.13	.03	.21*	---
	M	6.11	2.18	2.41	5.66	3.94	5.46	4.03	4.28	4.98
	SD	2.12	2.07	1.98	2.11	2.53	2.04	2.08	2.64	2.77

* = p < .01, ** = p < .001. C stands for "client", and P stands for "practitioner".

Results

The results of these preliminary studies are presented in two sections. The first section reports on results that are consistent with a traditional clinical framework of relationships. That

is, in most clinical settings the therapeutic relationship is relatively asymmetrical by design: clients (but not practitioners) are expected to engage in self-disclosure and practitioners (but not clients) are expected to provide support. As such, the first section of results answers the following questions: (a) Overall, are clients disclosing more than practitioners (they are), (b) do practitioners provide more support than clients (they do); (c) is client disclosure associated with positive outcomes (it is), and (d) is practitioner support associated with positive outcomes (it is, although clients and practitioners disagree on how many and which ones)?

The second section reports on results that are consistent with a social-psychological framework of close relationships. Specifically, research on close relationships predicts positive outcomes when *both* interaction partners engage in self-disclosure and provide support to one another, despite the fact that this reciprocal dynamic is not likely to be promoted in a traditional therapeutic setting. This means that there should be benefits when practitioners disclose, and when clients provide support – even though by clinical standards these behaviors might be considered inappropriate "role-reversals." As such, the second section of results answers the following questions: (a) is practitioner disclosure associated with positive outcomes (it is), (b) is client support associated with positive outcomes (it is); (c) is the extent to which clients and practitioners perceive that they engage in similar levels of self-disclosure (mutual self-disclosure) associated with positive outcomes (it is), and (d) is the extent to which clients and practitioners perceive that they provision similar amounts of support (support equity) associated with positive outcomes (it is, but practitioners and clients once again disagree on how many and which ones)?

Throughout these results sections, Study 1a reports on data from clients' perspectives and Study 1b reports on data from practitioners' perspectives.

Section 1: Findings consistent with a clinical framework of therapeutic relationships

Who Discloses More?

Consistent with a traditional clinical framework of relationships, both clients (Study 1a) and practitioners (Study 1b) reported that, on average, clients engaged in significantly more self-disclosure than practitioners (see Table 2).

Who Provides More Support?

Also consistent with a clinical framework, both clients (Study 1a) and practitioners (Study 1b) reported that, on average, practitioners provided significantly more support than clients (see Table 2).

Table 4

Descriptive and inferential statistics for average perceptions of self-disclosure and support

	Client Disclosure Mean (SD)	Practitioner Disclosure Mean (SD)	t	df	p-value	d	95% CI
Study 1a	4.91 (2.80)	2.38 (2.71)	4.17	1278	< .001	0.55	[1.01, 4.22]
Study 1b	6.11 (2.12)	2.18 (2.07)	4.82	1251	< .001	1.87	[1.15, 4.68]
	Client Support Mean (SD)	Practitioner Support Mean (SD)	t	df	p-value		95% CI
Study 1a	2.30 (2.95)	3.71 (3.02)	-3.58	1278	<.001	-0.47	[-3.78, -0.98]
Study 1b	2.41 (1.98)	5.66 (2.11)	-4.65	1251	<.001	-1.59	[-4.79, -1.01]

Is Client Self-disclosure Associated with Positive Outcomes?

Client self-disclosure was positively associated with trust (Study 1a) and symptom improvement (Study 1b). That is, in Study 1a, the more clients reported engaging in self-disclosure, the more they reported trusting their clinicians. In Study 1b, the more practitioners reported their clients engaging in self-disclosure, the more they perceived their clients' symptoms

improving. No other outcomes were significantly associated with client self-disclosure, although each association was in the expected direction (see Table 5).

Table 5

Pearson correlation coefficients between client self-disclosure and outcome variables

Client-Self Disclosure		
Outcome Variable	Client Reports	Practitioner Reports
Trust	.42**	.12
Commitment	.19	.19
Satisfaction	.08	.08
Improvement	.13	.28*
Compliance	.13	.08
Self-Harm	-.09	--
Suicidal	-.12	--

Is Practitioner Support Associated with Positive Outcomes?

In study 1a, clients reported that the more practitioners provided them with support, the more satisfied they were with the therapeutic relationship. In study 1b, practitioners reported that the more support they provided to clients, the more committed to and satisfied with the relationship they were; additionally, from the perspective of practitioners, their support was also positively associated with client symptom improvement and treatment compliance (see Table 6).

Table 6

Pearson correlation coefficients between practitioner provided-support and outcome variables

Practitioner Provided Support		
Outcome Variable	Client Reports	Practitioner Reports
Trust	.17	.17
Commitment	.23*	.25*
Satisfaction	.11	.48**
Improvement	.12	.29*
Compliance	.09	.42*
Self-Harm	-.17	--
Suicidal	-.18	--

Summary

Taken together, there is some evidence that traditional clinical practices (client self-disclosure and practitioner provided support) promote positive outcomes in the therapeutic setting – but the number of positive outcomes these practices are associated with is somewhat underwhelming. Particularly interesting is that, from the perspective of clients, these practices are not associated with any clinically-relevant outcomes and are only associated with a single relational outcome each (client self-disclosure positively predicts trust, practitioner support positively predicts commitment).

Of additional note is the discrepancy between the number of outcomes practitioner-provided support is associated with when examined from the perspective of the clients versus the practitioners. Specifically, clients report that receiving support from their practitioner is associated with only one positive outcome, whereas practitioners report that providing support is associated with multiple positive outcomes (for them and their clients). Although the causes for this discrepancy are unclear, this suggests that clients and practitioners do not necessarily agree on the ways practitioner-provide support is beneficial in the therapeutic context. Previous

reviews in the clinical literature have documented the fact practitioner- and client- assessments of the therapeutic relationship and treatment progress frequently differ (Ardito, 2011), but more importantly, evidence suggests that the client's assessment is a more reliable predictor of relevant outcomes over time (Castonguay et al., 2006). Thus, if we place a special emphasis on client reports, our preliminary findings suggest that relationship practices in line with a traditional clinical framework predict relatively few relational outcomes.

Section 2: Findings Consistent with a Social-Psychological Framework of Close Relationships

Is practitioner self-disclosure associated with positive outcomes?

Although it may be considered untraditional for practitioners to share their personal experiences, thoughts, and feelings with clients (Dixon et al., 2001), the present data suggest that practitioner self-disclosure is associated with multiple positive outcomes (seven significant associations as compared to the two reported from client self-disclosure). Specifically, the more clients report their practitioners self-disclose (Study 1a) and the more practitioners report self-disclosing (Study 1b) the more they trust, feel committed to, and feel satisfied with their therapeutic relationship. Additionally, in Study 1b practitioners report that the more they engage in self disclosure, the more their clients comply with their treatment recommendations (see Table 7.

Table 7

Pearson correlation coefficients between practitioner self-disclosure and outcome variables

Practitioner Self-Disclosure		
Outcome Variable	Client Reports	Practitioner Reports
Trust	.41**	.51**
Commitment	.37*	.47**
Satisfaction	.31*	.33*
Improvement	.14	.17
Compliance	.09	.29*
Self-Harm	-.10	--
Suicidal	-.14	--

Is Client Provided Support Associated with Positive Outcomes?

In study 1a, client provided support was associated with multiple positive outcomes. Specifically, as the amount of support clients report providing to their practitioner increases, the extent to which they trust and feel committed to the relationship also increases. Furthermore, the more clients report providing support to their practitioner, the less they report experiencing the desire to self-harm. A similar pattern of results is observed in Study 1b. The more practitioners feel supported by their clients, the more they trust in, feel committed to, and feel satisfied with the relationship (see Table 8).

Table 8

Pearson correlation coefficients between client provided-support and outcome variables

Client Provided Support		
Outcome Variable	Client Reports	Practitioner Reports
Trust	.31*	.31*
Commitment	.22*	.28*
Satisfaction	.13	.35*
Improvement	.13	.03
Compliance	.08	.01
Self-Harm	-.21*	--
Suicidal	-.10	--

These finding are somewhat counterintuitive if approached from the lens of traditional clinical expectations of clients. In fact, some guidelines of therapeutic practice have warned that expecting a client to provide support to a practitioner can lead to negative outcomes for the clients and the therapeutic relationship (Gabbard & Nadelson, 1995; Hundert & Applebaum, 1992). Data from these preliminary studies does not, however, appear to support these assertions. Rather, these data appear more consistent with social-psychological findings arguing that *providing* support can be associated with more positive outcomes than receiving support (Gleason et al., 2003, 2018). That is, the present findings suggest that client-provided support is associated with positive outcomes for clients, practitioners, and the therapeutic relationship.

Mutual Self-Disclosure

Next, we examined whether positive outcomes are predicted by the extent to which clients and practitioners engage in *similar* levels of self-disclosure. For example, is trust higher when participants indicate that both they and their target person disclose "a lot" compared to when participants indicate that they disclose "a lot" but their target person discloses "a moderate amount"? To do this, a response surface analysis (RSA) was conducted on each outcome variable

following procedures outlined by Humberg, Steffen Nestler, and Back (2018). The following polynomial regression equation was fitted to the data:

$$Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2$$

Here, each outcome (e.g., trust) is represented as a surface (Z) that is estimated from the following five parameters: (X) self-reported disclosure, (Y) perceptions of target-disclosure, (X^2) a quadratic term formed by squaring self-reported disclosure, (XY) a cross-product term formed by multiplying self-reported disclosure by perceptions of target-disclosure, and (Y^2) a quadratic term formed by squaring perceptions of target disclosure.

These statistical models allow us to determine the extent to which similarity in scores (also called *congruence* in scores) predicts relevant outcomes. There are three types of congruence effects we will be exploring: (1) *strict congruence effects*, which emerge when more similar scores predict greater outcomes (e.g., more trust) regardless of whether the scores are similar and high (both people disclose a lot) or similar and low (both people don't disclose at all); (2) *broad congruence with common main effects,* which emerges when similar high scores predict greater outcomes than similar low scores; this type of congruence effect also allows for the possibility that slightly non-congruent scores (e.g., a client who discloses a lot and a practitioner who discloses a moderate amount) have greater outcomes than people with congruent scores (e.g., neither client nor practitioner discloses at all); and (3) *no congruence effects*, meaning that similar scores are not associated with greater outcomes than dissimilar scores.

The results of each response surface analysis are presented for clients' perceptions of disclosure similarity in Table 9 and Figure 1 (Study 1a), and for practitioners' perceptions of disclosure similarity in Table 10 and Figure 2 (Study 1b).

From the perspective of clients (Study 1a), perceived similarity in self-disclosure predicted multiple relational and clinical outcomes. First, treatment compliance met the criteria for a strict congruence effect. This means that clients reported their highest levels of treatment compliance when their levels of self-disclosure were more similar to their practitioners' levels of self-disclosure – regardless of whether they were both disclosing a lot or they were both disclosing a little. Additionally, trust, commitment, and symptom improvement all met the criteria for broad congruence. That is, trust, commitment, and symptom improvement all increased as a function of how similar client self-disclosure levels were to their practitioner's self-disclosure levels – and scores that were similar and high predicted higher outcomes (e.g., more trust) than scores that were similar are low.

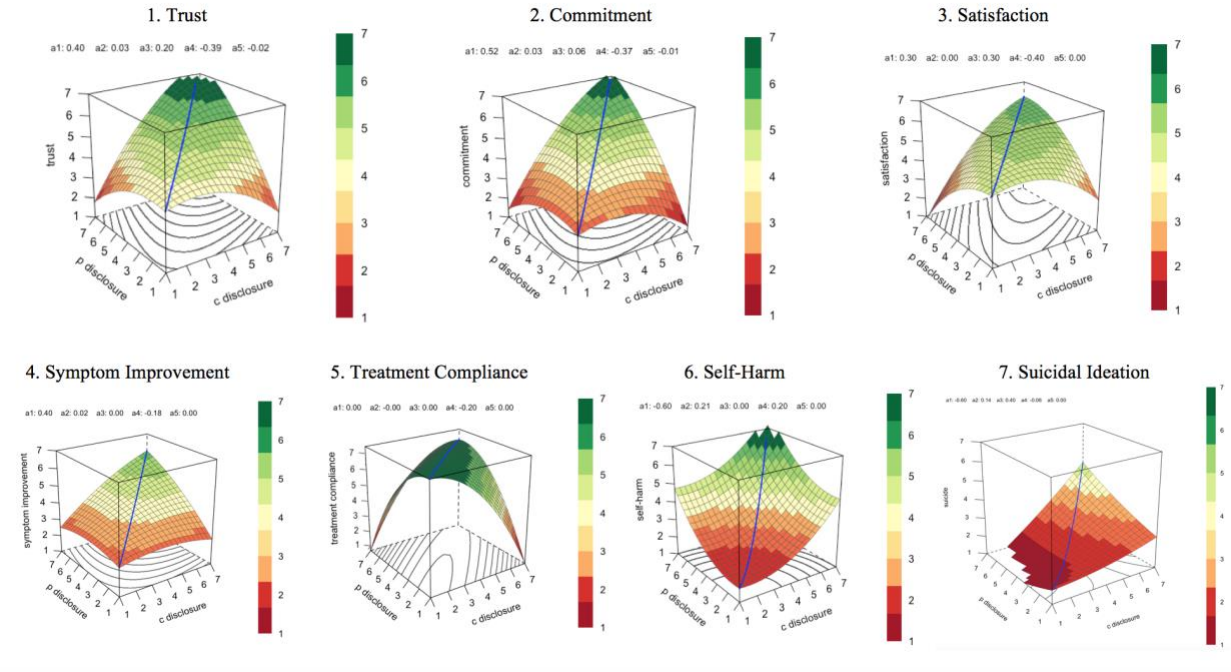
Table 9

Client Reports (Study 1a). Similarity in Self-Disclosure and Outcomes

	Estimated Regression Model $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2$						First Principal Axis		
Surface	b_0	b_1	b_2	b_3	b_4	b_5	p_{10}	p_{11}	Congruence Classification
1. Trust	3.32*	0.30*	0.10*	-0.10*	0.21*	-0.08*	0.00	0.98	Congruence effect w/ common main effects
2. Commitment	2.12*	0.29*	0.23*	-0.09*	0.20*	-0.08*	0.08	0.96	Congruence effect w/ common main effects
3. Satisfaction	4.23*	0.30*	0	-0.10*	0.20	-0.10	0.11†	1.02	No congruence effect
4. Improvement	2.20*	0.21*	0.21*	-0.05*	0.10*	-0.04*	0.08	0.97	Congruence effect w/ common main effects
5. Compliance	6.81*	0	0	-0.05*	0.10*	-0.05*	0.00	1.04	Strict congruence effect.
6. Self-harm	2.12*	-0.30*	-0.30*	0.10*	.005	0.11*	0.14‡	1.51[a]	No congruence effect
7. Suicide	2.17	-0.10	-0.52*	-0.02	0.10*	0.02	0.38*	0.91	No congruence effect

Figure 1

Client Reports (Study 1a). Similarity in Self-disclosure



A very similar pattern of results emerged from the perspective of practitioners (Study 1b, see Table 10). Specifically, trust, commitment, satisfaction, and treatment compliance all met the criteria for broad congruence with common main effects. This means that each of these outcomes increased as a function of how similar practitioners perceived their self-disclosure levels to be to their client's self-disclosure levels – and similar high scores were associated with higher outcomes (e.g., greater satisfaction, more treatment compliance) than similar low scores.

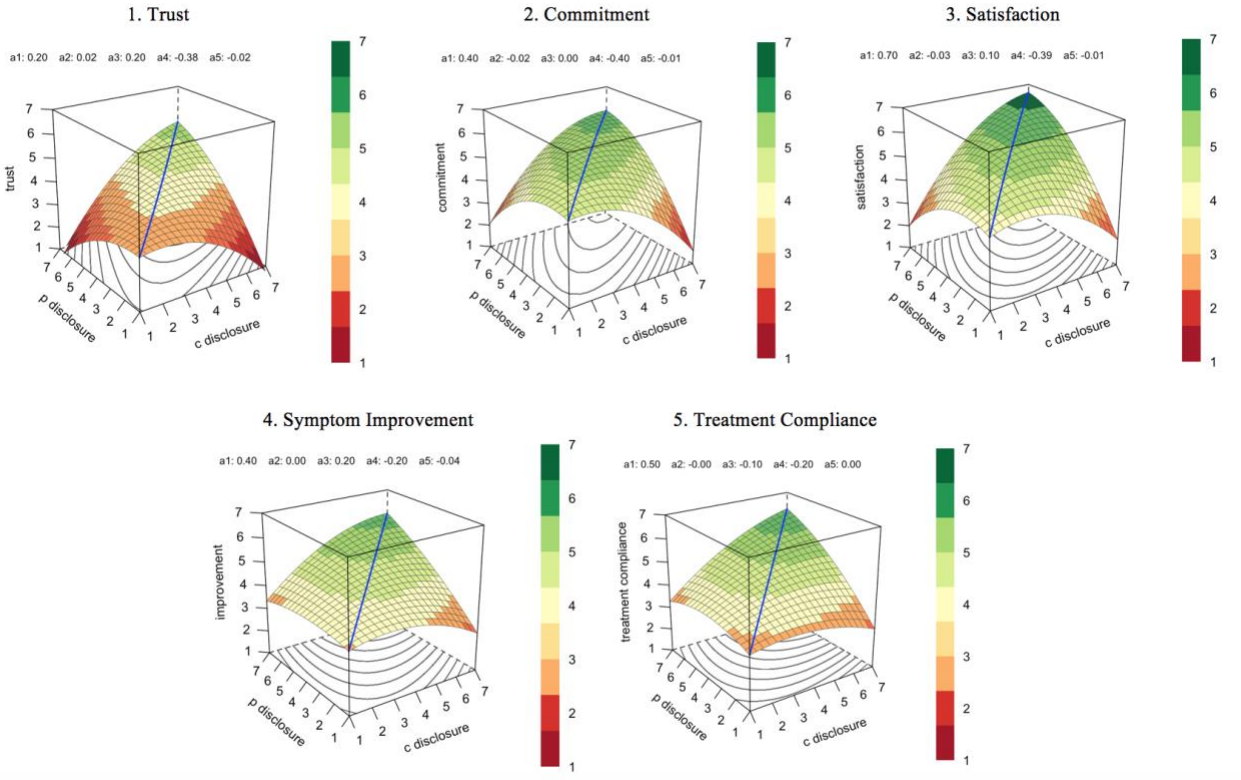
Table 10

Practitioner Reports (Study 1b). Similarity in Self-Disclosure and Outcomes

	Estimated Regression Model $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2$						First Principal Axis		
Surface	b_0	b_1	b_2	b_3	b_4	b_5	p_{10}	p_{11}	Congruence Classification
1. Trust	2.96*	0.21*	0.11*	-.010*	0.20*	-0.07*	0.01	0.99	Congruence effect w/ common main effects
2. Commitment	4.12*	0.20*	0.21*	-0.11*	0.19*	-0.10*	0.02	0.98	Congruence effect w/ common main effects
3. Satisfaction	3.23*	0.42*	0.31*	-0.11*	0.18*	-0.10*	0.04	0.99	Congruence effect w/ common main effects
4. Improvement	3.17*	0.31*	0.10	-0.70*	0.10	-0.30*	0.12*	0.81[a]	No congruence effect
5. Compliance	2.81*	0.21*	0.33*	-0.52*	0.10*	-0.51*	0.00	1.01	Congruence effect w/ common main effects

Figure 2

Practitioner Reports (Study 1b). Similarity in Self-disclosure



Support Equity

Response surface analyses were also conducted in order to examine whether the extent to which clients and practitioners engaged in similar levels of *support* predicted greater outcomes. Here, each outcome was estimated from the following five parameters: (*X*) self-reported support, (*Y*) perceptions of target-support, (X^2) a quadratic term formed by squaring self-reported support, (*XY*) a cross-product term formed by multiplying self-reported support by perceptions of target-support, and (Y^2) a quadratic term formed by squaring perceptions of target-support.

The results of each response surface analysis are presented for clients' perceptions of support similarity in Table 11 and Figure 3 (Study 1a), and for practitioners' perceptions of support similarity in Table 12 and Figure 4 (Study 1b).

For clients (Study 1a), perceived similarity in support provisioning significantly predicted *all* outcomes except suicidal ideation. There were three strict congruence effects: clients reported their highest levels of trust, satisfaction, and symptom improvement when they and their practitioners were providing similar levels of support to one another. Additionally, satisfaction, treatment compliance, and self-harm each met the criteria for broad congruence with common main effects. This means that in addition to the fact that more similar scores were associated with more positive outcomes, similar high scores (both people provided a lot of support) yielded greater outcomes (more satisfaction, more treatment compliance, and less self-harm) than similar low scores (both people provided very little support).

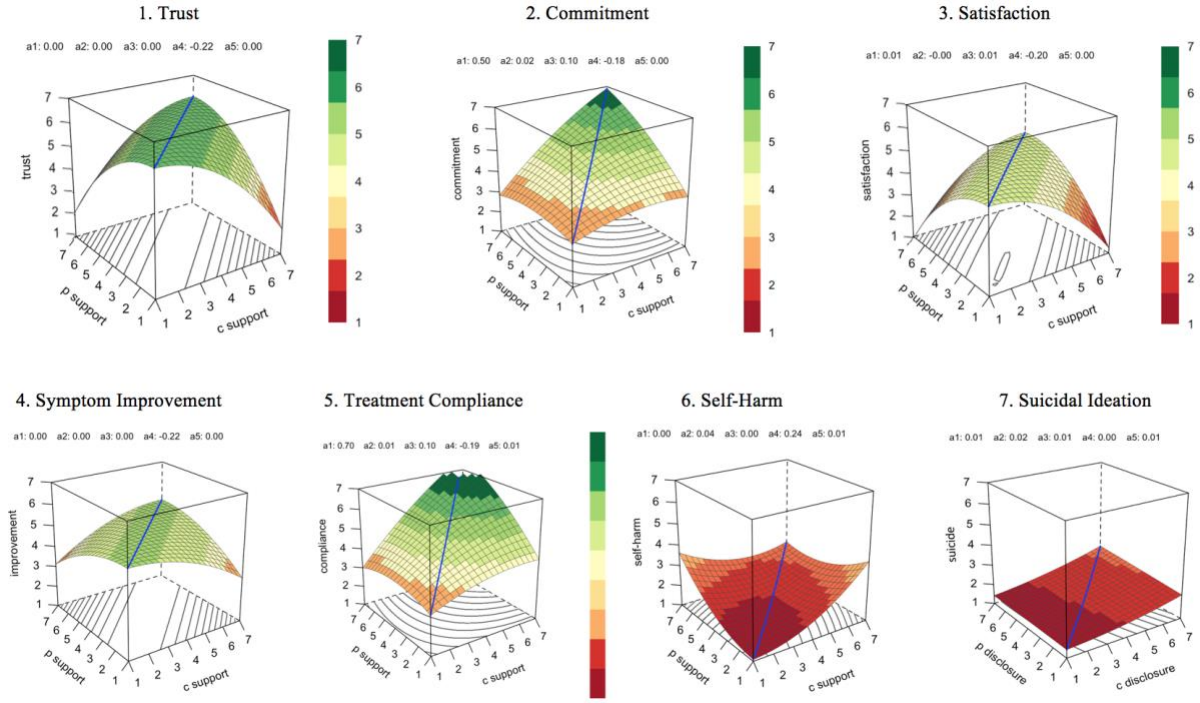
Table 11

Client Reports (Study 1a). Similarity in Support Provisioning and Outcomes

	Estimated Regression Model $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2$						First Principal Axis		
Surface	b_0	b_1	b_2	b_3	b_4	b_5	p_{10}	p_{11}	Congruence Classification
1. Trust	6.53*	0	0	-0.55*	0.11*	-0.55*	0.02	0.99	Strict congruence effect
2. Commitment	2.43*	0.31*	0.22*	-0.04*	0.10*	-0.40*	0.01	1.01	Congruence effect w/ common main effects
3. Satisfaction	5.85*	0.01	0	-0.05*	0.10*	-0.05*	0.00	1.02	Strict congruence effect
4. Improvement	4.19*	0	0	-0.21*	0.02*	-0.22*	0.01	0.99	Strict congruence effect.
5. Compliance	2.28*	0.42*	0.31*	-0.04*	0.10*	-0.05*	0.02	1.02	Congruence effect w/ common main effects
6. Self-harm	1.02*	0.11*	0.31*	0.02*	0.12*	0.03*	0.00	1.01	Congruence effect w/ common main effects
7. Suicide	1.37*	0.01	0	0.01	0.01	-.001	0.24*	0.80[a]	No congruence effect

Figure 3

Client Reports (Study 1a). Similarity in Support Provisioning



Support equity seemed less important from the perspective of practitioners (Study 1b). Specifically, only trust and client symptom improvement were significantly associated with perceived similarity in support provisioning. Both met the criteria for broad congruence with common main effects, wherein similar high scores were associated with greater outcomes than similar low scores.

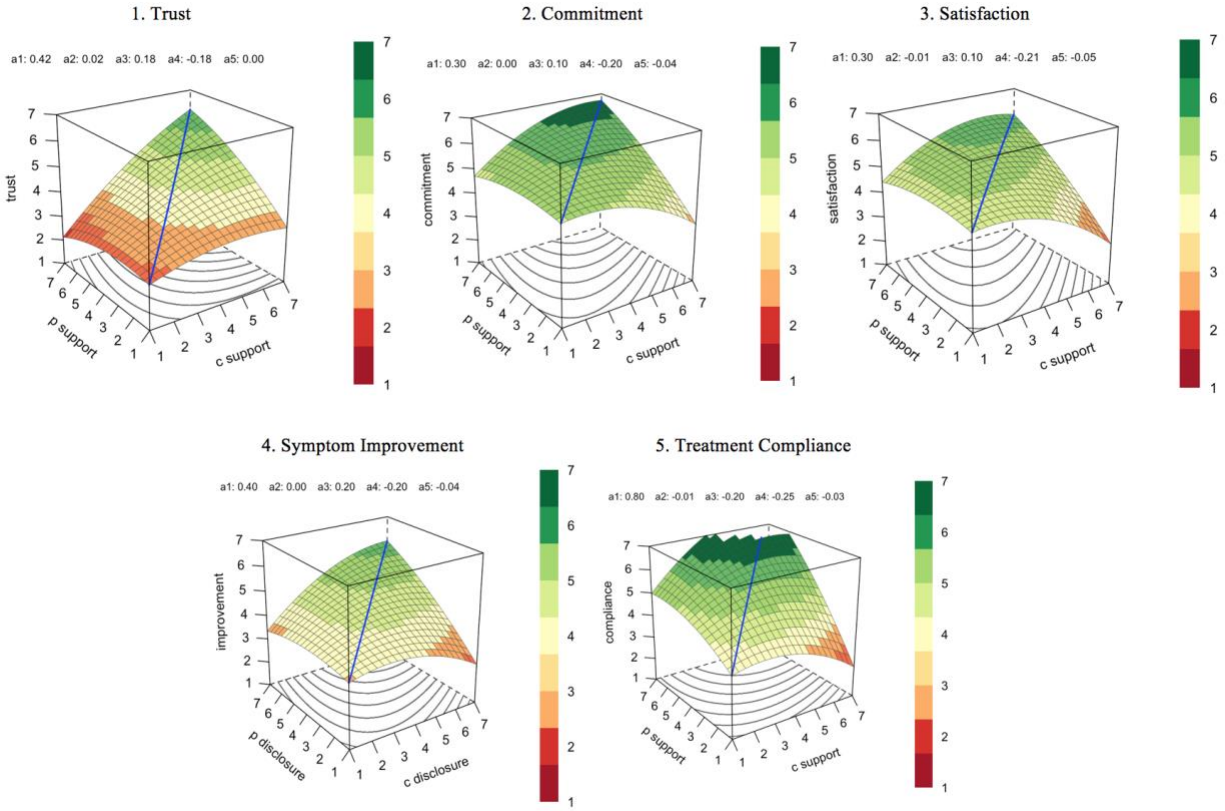
Table 12

Practitioner Reports (Study 1b). Similarity in Support Provisioning and Outcomes

	Estimated Regression Model $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2$						First Principal Axis		
Surface	b_0	b_1	b_2	b_3	b_4	b_5	p_{10}	p_{11}	Congruence Classification
1. Trust	2.28*	0.30*	0.12*	-0.04*	0.10*	-0.04*	0.03	1.00	Congruence effect w/ common main effects
2. Commitment	4.63*	0.21*	0.13*	-0.07	0.10	-0.03	0.31*	1.07	No congruence effect
3. Satisfaction	3.16*	0.20*	0.11*	-0.04	0.11	-0.02	0.04	1.20[a]	No congruence effect
4. Improvement	2.85*	0.20*	0.14*	-0.05*	0.18*	-0.02*	0.02	0.81[a]	Congruence effect w/ common main effects
5. Compliance	2.86*	0.31*	0.52*	-0.08	0.12	-0.05	0.38*	1.27[a]	No congruence effect

Figure 4

Practitioner Reports (Study 1b). Similarity in support provisioning



Summary

Results suggest that even though practitioner self-disclosure and client-provided support are not usually encouraged within traditional clinical practice -- and are sometimes actively discouraged -- they are none the less associated with a variety of positive outcomes for both practitioners and clients. Furthermore, the extent to which clients perceive *similarity* in disclosure-tendencies and support-provisioning descriptively predicts more outcomes than any of the other parameters investigated throughout these preliminary studies. However, it should be noted that perceived similarity in relational behaviors may be more important to clients than to practitioners when it comes to predicting positive outcomes in the therapeutic setting.

Discussion

In these two preliminary studies, clients and practitioners reported on the degree to which self-disclosure and support-provisioning behaviors were present in their therapeutic relationships as well as on relevant relational outcomes (trust, commitment, and satisfaction) and clinical outcomes (symptom improvement, treatment compliance, self-harm, and suicidal ideation). Although these data were correlational in nature and direct comparisons could not be made between client and practitioner reports, some preliminary conclusions can be drawn. Mainly, (1) traditional clinical practices do confer some benefits to the therapeutic relationship as do relational practices more reflective of social-psychological recommendations and (2) although there is, on average, an asymmetry in the extent to which clients and practitioners engage in self-disclosure and support-provisioning behaviors, more symmetrical behaviors are often associated with more positive outcomes. Thus, these preliminary data lay a useful foundation from which to build studies that more precisely manipulate and measure the ways in which social-psychological principles of relationship science can be beneficially applied to the therapeutic relationship.

There are several limitations of the preliminary studies. First and foremost, these data were not truly dyadic in nature. As such, all measures of similarity were based on individuals' perceptions rather than more objective measures (e.g., observer reports), or truly dyadic reports (e.g., actor-partner model estimates). Additionally, because these data were cross-sectional in nature, it is difficult to tap into the ways mutual-self disclosure and support equity unfold across the natural progression of a therapeutic relationship. Studies 2 and 3 aim to address each of these issues.

Overview of Studies 2 and 3

Studies 2 and 3 investigated the effects of self-disclosure and support-provisioning on the outcomes of practitioner-client dyads. Study 2 extended the preliminary findings by examining the same research questions reviewed above within actual practitioner-client dyads using the actor-partner interdependence model. Study 3 investigated whether client outcomes varied in response to an experimental manipulation of practitioner self-disclosure style (no disclosure, self-disclosures, relational disclosures); these data were collected longitudinally over a 12-week period. Whereas Study 2 treated self-disclosure and support as predictors of relevant outcomes, Study 3 treated self-disclosure as an independent variable (disclosure type was experimentally manipulated), and reports of support provisioning and receipt as outcomes (since they were only measured). Together, these studies represent the first dyadic, quantitative, highly powered, and longitudinal investigations of mutual self-disclosure and support equity in clinical populations.

Study 2

Methods

Participants

Participants were 233 practitioner-client dyads recruited from a national database of mental health service providers and recipients. This database is maintained conjointly by the National Alliance on Mental Illness (NAMI), the New York State Office of Mental Health (OMH), and the Center for Practice Innovations (CPI) at Columbia Presbyterian Hospital. Exact demographics and clinical information for both practitioners and clients are reported in Table 13. Participants were compensated for their enrollment in this study by being entered into a drawing for one of twenty $50 Amazon.com gift certificates (10 were awarded to practitioners, and 10 were awarded to clients).

Table 13

Practitioner and Client Demographics and Clinical Information

Variable	Response	%
Practitioner Training	Certified Peer Specialist	42.5
	Licensed Social Worker	30.4
	Licensed Psychologist	20.6
	Licensed Psychiatrist	6.4
Duration of Professional Relationship (length of time clients and practitioners had been working with each other)	Less than 1 month	7.7
	1 months-3 months	9.0
	3 months-6 months	14.2
	6 months-1 year	30.9
	1-2 years	23.2
	2-3 years	6.9
	3-4 years	3.9
	4-5 years	2.6
	Longer than 5 years	1.7
Client Diagnosis Type (select all that apply)	Antisocial Personality	18.0
	Anxiety	49.8
	ADHD	9.9
	Bipolar Disorder	17.6
	Borderline Personality	4.7
	Depression	46.8
	Eating Disorder	27.9
	OCD	13.3
	PTSD	19.3
	Schizophrenia	18.5
	Substance Abuse	22.7
	Other	8.3
Currently Taking Psychiatric Medication?	Yes	83.3
	No	16.7

Procedure

The procedures of Study 2 were identical to those reported in the preliminary studies with two exceptions. First, the demographic and clinical information we were able to obtain was slightly more limited (relative to Study 1) due to different levels of constraint imposed by the Institutional Review Boards that authorized this study. Second, the survey instructions were adapted to account for the fact that we were collecting data from practitioner-client dyads. This means within each dyad, the practitioner was reporting on their client and the client was

reporting on their practitioner. There was no repetition within the dataset, that is: no clients were reporting on the same practitioner, and no practitioners were reporting on multiple clients within our dataset. Each dyad was assigned a unique code. The survey instructions read as follows: "During this survey, you will be reflecting on your experiences with the practitioner/client you have been pre-assigned to report on. Please be sure that you are thinking about this person when responding to the following questions."

Measures

In this study, each member of the practitioner-client dyad reported on the following measures, defined exactly as they were described in the preliminary studies: self-disclosure, support provisioning, trust, commitment, and symptom improvement. Note that for self-disclosure, support provisioning, trust, and commitment each member of the dyad reported on their own subjective experiences (e.g., practitioners report on how much they trust their client, and clients report on how much they trust their practitioners). For symptom improvement, the clients reported their subjective experiences and the practitioner reported their perceptions of their client's experience (e.g., clients indicated how much they feel their symptoms had improved and practitioners reported how much they perceived their client's symptoms as having improved).

Data Analytic Plan

Two forms of data analysis were performed on the data collected in Study 2. The first involved the Actor-Partner Interdependence Model (APIM; Cook & Kenny, 2005), in order to identify the extent to which clients and practitioners impact each other's outcomes. The second involved dyadic response surface analyses (RSA), in order to determine the extent to which

congruence in the predictor variables of clients and practitioners predicted client and practitioner outcomes.

Both the APIM and the RSA accounted for dependence between dyad members. Given that our dyad members could be differentiated on the variable of mental health service provider versus recipient, the dyads were treated as distinguishable. According to Kenny et al. (2006), SEM with distinguishable dyads is the simplest data analytic method to estimate the APIM. This involves estimating the APIM parameters as they are outlined in two linear equations:

$$Y_{client} = A_{client}X_{client} + P_{(client)(practitioner)}X_{practitioner} + E_{client},$$

$$Y_{practitioner} = A_{practitioner}X_{practitioner} + P_{(practitioner)(client)}X + E_{practitioner},$$

where Y_{client} is the client's outcome, $Y_{practitioner}$ is the practitioner's outcome, X_{client} is the client's predictor, and $X_{practitioner}$ is the practitioner's predictor. There are two actor effects: in the first equation A_{client} refers to the effect of the client's predictor on their own outcome and in the second equation $A_{practitioner}$ refers to the effect of the practitioner's predictor on their own outcome. The are also two partner effects: in the first equation $P_{(client)(practitioner)}$ refers to the effect of the practitioner's predictor on the client's outcome and in the second equation $P_{(practitioner)(client)}$ refers to the effect of the client's predictor on the practitioner's outcome.

Additionally, the SEM approach to dyadic data analysis allows for testing of whether certain effects within the model are significantly different from one another by placing equality constraints on the model and then determining if the constraints worsen the model fit. Therefore, for each model separately, equality constraints were applied to test whether client or practitioner disclosure were statistically equal to one another with regard to their impact on client outcomes, as well as whether the client and practitioner support were statistically equal to one another regarding client outcomes. When the chi-square difference test is statistically significant, it

indicates that the effects cannot be the statistically equal. In order to conduct the chi-square difference test, the difference of the chi-square values of the two models is computed (relevant effects constrained to be equal and relevant effects unconstrained) as well as the difference of the degrees of freedom for each model.

$$\chi^2_{difference} = \chi^2_{constrained} - \chi^2_{unconstrained}$$

$$df_{difference} = df_{constrained} - df_{unconstrained}$$

Analyses were conducted using a combination of in R statistical software using the DyadR package as well as the APIM_MM package, and Mplus software (Muthén and Muthén, Los Angeles, CA, USA).

Results

Means and Correlations

Means and correlations for all variables included in the statistical models are presented in Table 14 and Table 15, respectively. Replicating results from the preliminary studies, clients reported engaging in self-disclosure significantly more than practitioners, and reported engaging in support provisioning significantly less than practitioners. On average, clients and practitioners reported statistically similar levels of trust and perceptions of client symptom improvement. On average, practitioners reported slightly but significantly higher levels of commitment compared to clients.

Table 14

Study 2 - Descriptive and Inferential Statistics for APIM Variables

	Clients Mean (SD)	Practitioners Mean (SD)	t	df	p-value	d	95% CI*
Disclosure	6.27 (2.34)	3.15 (2.31)	5.22	231	< .001	1.24	[1.95, 4.29]
Support	4.18 (2.02)	5.28 (1.99)	4.82	231	< .001	0.54	[-1.77, -0.43]
Trust	4.41 (2.14)	4.47 (2.18)	1.12	231	0.241	0.05	[-0.67, 0.79]
Commitment	4.96 (1.52)	5.24 (1.31)	2.71	231	0.042	0.19	[-0.34, -0.22]
Improvement	4.78 (2.04)	4.91 (2.07)	1.53	231	0.102	0.06	[-0.8, 1.06]

*95% CI is surrounding the mean difference between groups.

Table 15

Study 2 - Correlations for APIM Variables

	Variable	1	2	3	4	5	6	7	8	9	10
1	C disclosure	---									
2	P disclosure	.41	---								
3	C support	.41	.60	---							
4	P support	.46	.55	.72	---						
5	C trust	.58	.67	.84	.64	---					
6	P trust	.63	.54	.74	.68	.81	---				
7	C commitment	.64	.50	.75	.67	.74	.67	---			
8	P commitment	.41	.53	.74	.67	.70	.70	.88	---		
9	C improvement	.68	.46	.80	.60	.79	.66	.70	.64	---	
10	P improvement	.71	.58	.55	.63	.53	.64	.54	.66	.56	---

Note: All correlations were significant at the .01 level

Dyadic Analyses of Actor Partner Interdependence Models

Results for each dyadic APIM are presented in Figures 5 - 10. All beta coefficients reported are standardized.

Self-disclosure

Client and practitioner disclosure both significantly and positively impacted all client and practitioner outcomes. However, of important note is that, according to the chi-squared

difference tests, practitioner disclosure had the same or a stronger effect on client outcomes compared to client disclosure. Specifically, practitioners' disclosure had a significantly stronger impact on clients' commitment as well as their reported symptom improvement relative to clients' own disclosure. That is, constraining practitioner and client disclosure to be equal significantly worsened the fit of the models where commitment was the primary outcome ($\chi^2(1) = 5.20$, $p = 0.037$), and where symptom improvement was the primary outcome ($\chi^2(1) = 7.60$, $p = 0.027$), respectively. Practitioner and client disclosure had similar impacts on clients' trust.

Support Provisioning

The extent to which clients and practitioners reported provisioning support to the other person both significantly and positively impacted all client and practitioner outcomes. Importantly, according to the chi-squared difference tests, the extent to which clients reported they provided support to their practitioners had a significantly stronger impact on their trust, commitment, and symptom improvement relative to practitioner provisioned support. That is, constraining practitioner and client support to be equal significantly worsened the fit of the all the models including that for which trust was the primary outcome ($\chi^2(1) = 7.18$, $p = 0.025$), commitment was the primary outcome ($\chi^2(1) = 4.22$, $p = 0.011$), and symptom improvement was the primary outcome ($\chi^2(1) = 6.15$, $p = 0.038$), respectively.

Figure 5

Dyadic Model Assessing the Effects of Self-Disclosure on Client and Practitioner Trust

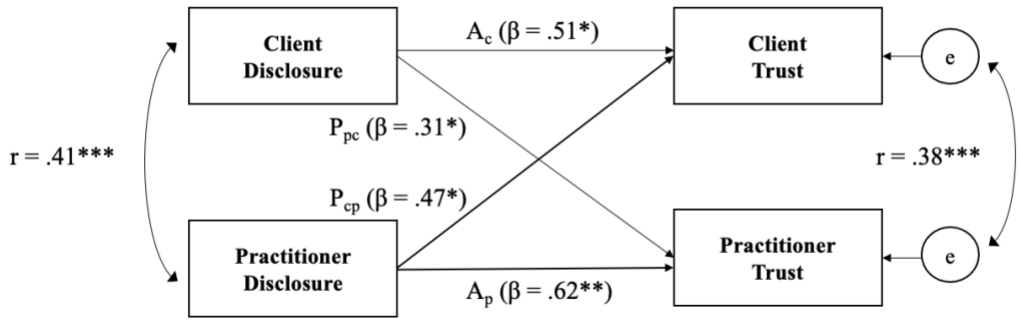


Figure 6

Dyadic Model Assessing the Effects of Self-Disclosure on Client and Practitioner Commitment

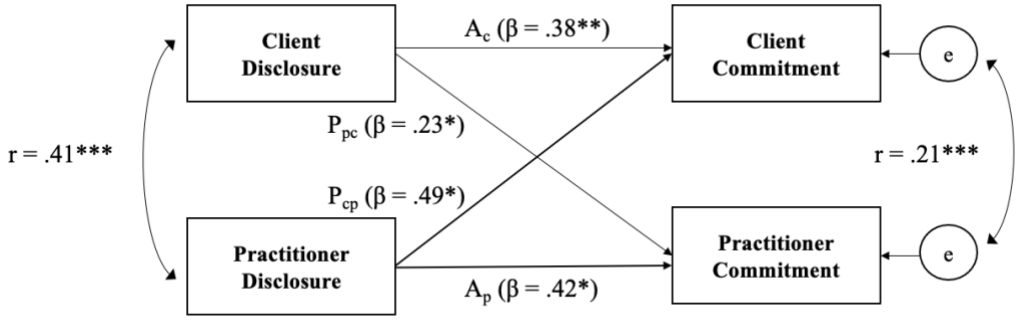


Figure 7

Dyadic Model Assessing the Effects of Self-Disclosure on Perceptions of Client Symptom Improvement

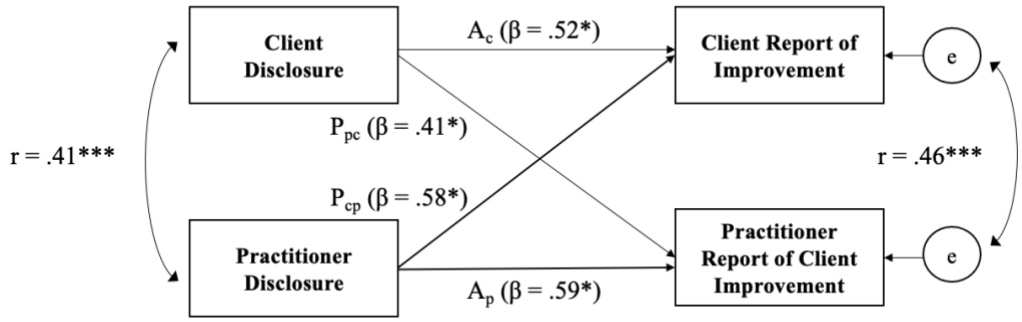


Figure 8

Dyadic Model Assessing the Effects of Support Provisioning on Client and Practitioner Trust

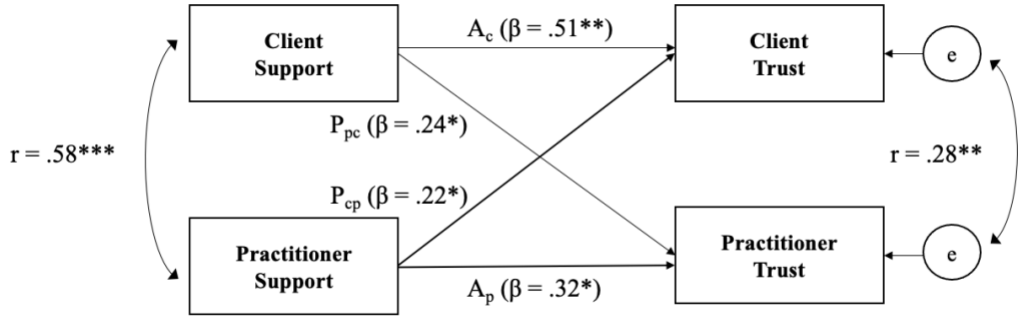


Figure 9

Dyadic Model Assessing the Effects of Support Provisioning on Client and Practitioner Commitment

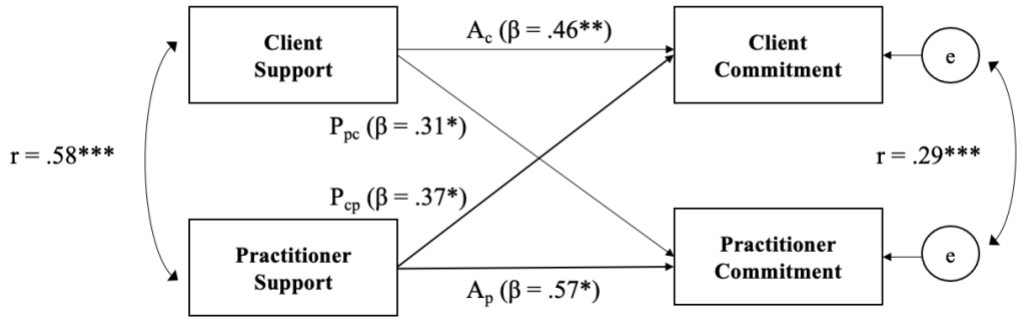
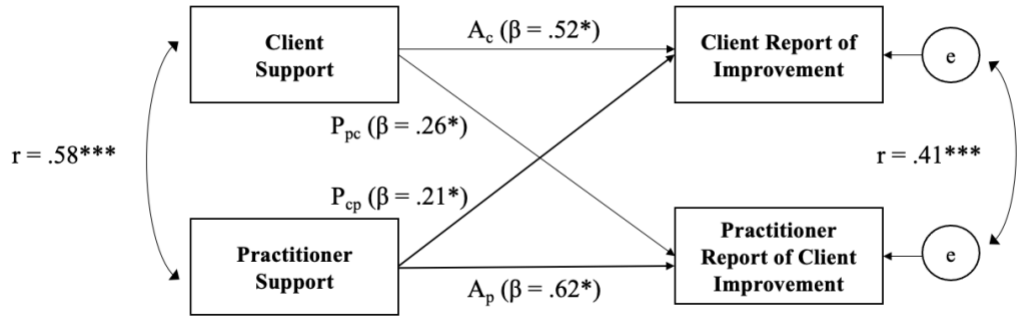


Figure 10

Dyadic Model Measuring the Effects of Support Provisioning on Perceptions of Client Symptom Improvement



Dyadic Response Surface Analyses

Following analytic procedures outlined by Derrick et al. (2016), mixed effect polynomial regressions with response surface analyses were conducted to determine the extent to which congruence between practitioner and client self-reported disclosure and support, respectively, predict the outcomes of interest.

Mutual Self-disclosure

Replicating the findings presented in the preliminary studies, results indicate that increased congruence in reports of disclosure between clients and practitioners predicted increases in trust, commitment, and symptom improvement for both dyad members (see Table 16 for model parameters and congruence classifications).

None of the dyadic response surface analysis models met the criteria for *strict congruence*. Rather, the surface classification for every model run was *congruence with common main effects*, meaning that predictor scores that were congruent and high were associated with higher scores on the outcome variable compared to predictor scores that were congruent and low. This means that while congruent scores predicted higher outcome scores than noncongruent scores generally, the best outcomes were achieved when clients and practitioner reported similarly high levels of disclosure compared to similarly low levels of disclosure. For example, a dyad where the client and practitioner each reported they engaged in self-disclosure "a lot" would have higher trust scores than a dyad where each member indicated they engaged in self-disclosure "a little", as well as higher scores than a dyad where one person engaged in self-disclosure "a lot" and the other engaged in self-disclosure "a little". Visual representations for each surface area are presented in Figure 11.

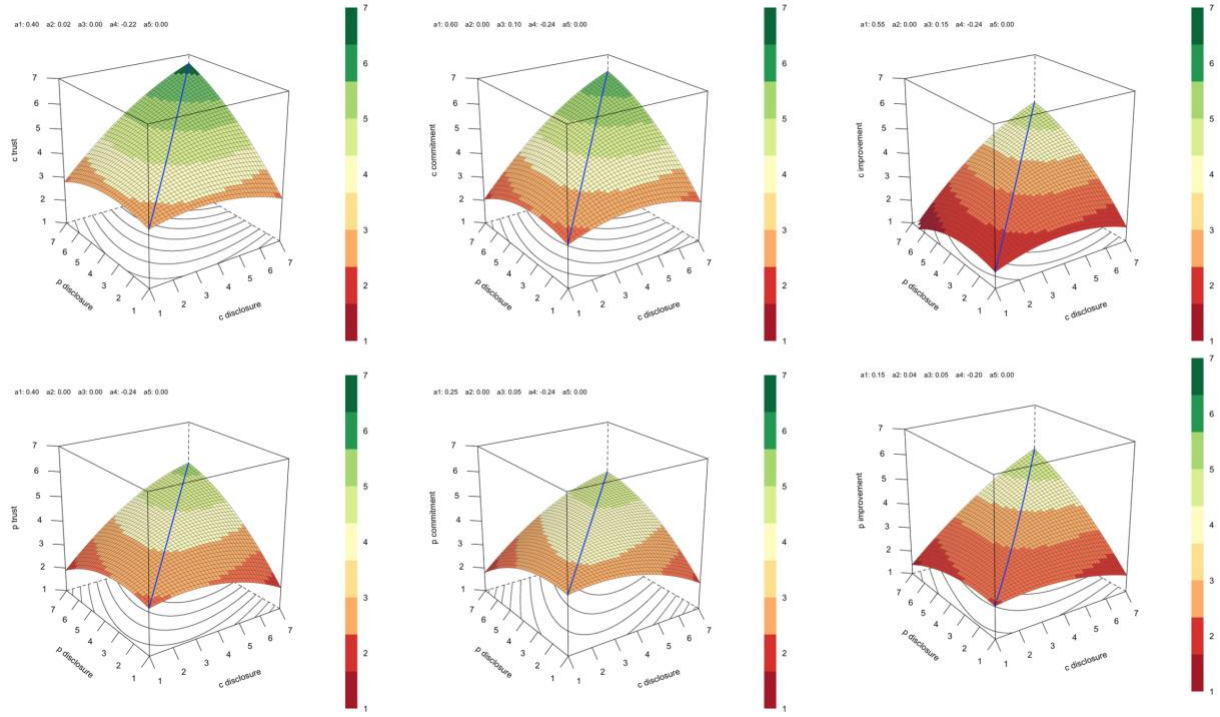
Table 16

The Effect of Congruence in Disclosure on Client and Practitioner Outcomes

	Estimated Regression Model $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2$						First Principal Axis		
Surface	b_0	b_1	b_2	b_3	b_4	b_5	p_{10}	p_{11}	Congruence Classification
C trust	4.14*	0.21*	0.12*	-0.42*	0.10*	-0.19*	0.00	1.01	Congruence with common main effects
P trust	1.23*	0.32*	0.21*	-0.17*	0.11*	-0.40*	0.01	1.00	Congruence with common main effects
C commitment	4.13*	0.29*	0.25*	-0.05*	0.12*	-0.12*	0.01	1.01	Congruence with common main effects
P commitment	1.52*	0.38*	0.31*	-0.08*	0.09*	-0.11*	0.02	1.02	Congruence with common main effects
C improvement	2.17*	0.14*	0.22*	-0.22*	0.11*	-0.04*	0.00	0.99	Congruence with common main effects
P improvement	1.46*	0.21*	0.26*	-0.05*	0.10*	-0.02*	0.01	1.00	Congruence with common main effects

Figure 11

Surface Representations for the Effect of Self-Disclosure on Client and Practitioner Outcomes



Note: Client outcomes are in the top row (from left to right): trust, commitment, and symptom improvement Practitioner outcomes are in the bottom row (from left to right): trust, commitment, and perceptions of client symptom improvement

Support Equity

Increased congruence between reports of support provisioning between clients and practitioners also predicted increases in trust, commitment, and symptom improvement (see Table 17 for model parameters and congruence classifications). Visual representations for each surface area are presented in Figure 12.

Just as in the response surface analyses for which client and practitioner self-disclosure were the predictors, none of the models where client and practitioner support provisioning were the predictors met the criteria for strict congruence, but were all classified as demonstrating *congruence with common main effects*. This means that while congruent scores predicted higher outcome scores than noncongruent scores generally, the best outcomes were achieved when clients and practitioner reported similarly high levels of support provisioning compared to similarly low levels of support provisioning.

An interesting and distinct surface shape emerged for the outcomes of trust and commitment. Specifically, the curved surface is rotated slightly along the first principle axis in the x-direction, indicating that the lowest trust and commitment scores (for both clients and practitioners) should occur not just when support provisioning is incongruent between practitioners and clients, but when clients report providing much higher levels of support than practitioners. This is not entirely surprising given that the typical expectation in a therapeutic setting is that the practitioner will provide support to the client. So although more equitable provisioning of support within the therapeutic relationship is associated with the best outcomes,

incongruence that is created because practitioners are providing more support than clients is unlikely to create any major expectation violations.

For the outcome of symptom improvement, the rotation along the first principle access flips toward the y-direction. That is, the response surface analyses indicates that the lowest scores for symptom improvement occur when practitioners are providing much higher levels of support relative to clients. Whereas incongruence in the other direction (clients providing more support than practitioners) is not associated with particularly low scores on symptom improvement. This, too, is unsurprising given that previous research has demonstrated that client symptom improvement is associated with increases in self-efficacy and relational competence. As such, as clients improve they are likely to be more capable of providing support in the therapeutic relationship. Indeed, this in and of itself is often an index of clinical improvement.

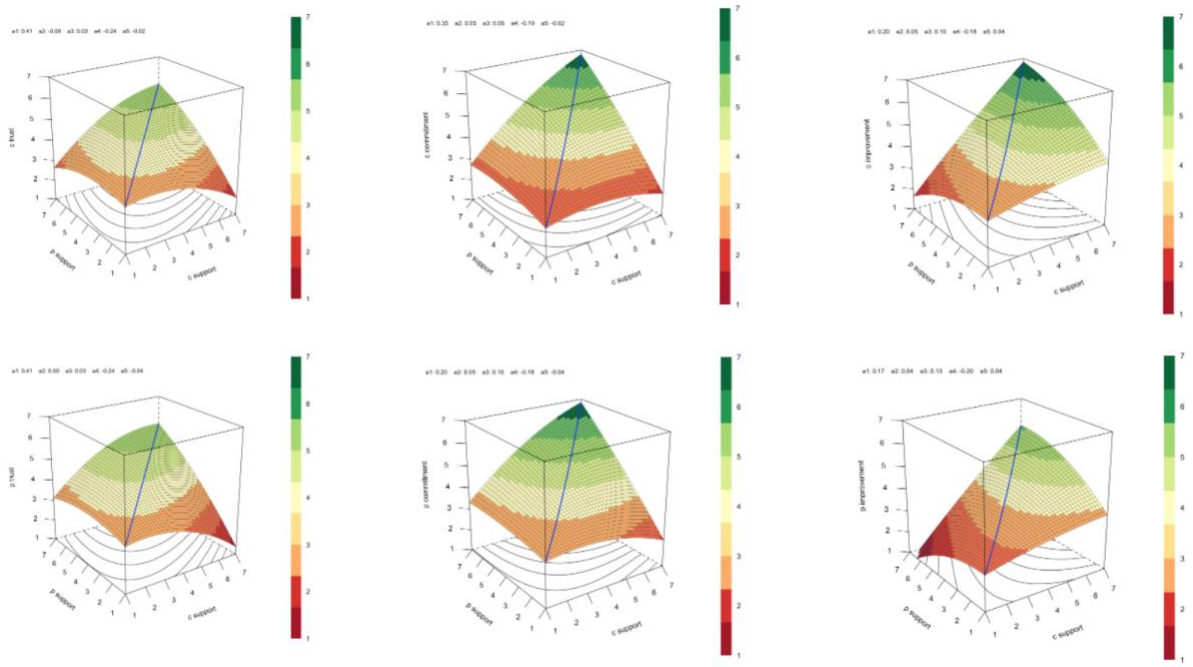
Table 17

The Effect of Congruence in Support Provisioning on Client and Practitioner Outcomes

	Estimated Regression Model $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2$						First Principal Axis		
Surface	b_0	b_1	b_2	b_3	b_4	b_5	p_{10}	p_{11}	Congruence Classification
C trust	3.05*	0.26*	0.14*	-0.21*	0.09*	-0.14*	0.00	1.01	Congruence with common main effects
P trust	2.51*	024*	0.19*	-0.19*	0.10*	-0.21*	0.00	1.01	Congruence with common main effects
C commitment	2.52*	0.26*	0.15*	-0.12*	0.13*	-0.24*	0.01	1.00	Congruence with common main effects
P commitment	2.73*	0.27*	0.30*	-0.11*	0.11*	-0.16*	0.02	1.01	Congruence with common main effects
C improvement	1.33*	0.34*	0.25*	-0.19*	0.07*	-0.06*	0.02	0.99	Congruence with common main effects
P improvement	1.49*	0.31*	0.36*	-0.08*	0.06*	-0.04*	0.01	1.01	Congruence with common main effects

Figure 12

Surface Representations for the Effect of Support on Client and Practitioner Outcomes



Note: Client outcomes are in the top row (from left to right): trust, commitment, and symptom improvement Practitioner outcomes are in the bottom row (from left to right): trust, commitment, and perceptions of client symptom improvement

Discussion

Study 2 provides evidence for several important hypotheses. First, replicating results from the preliminary Studies 1a and 1b with practitioner-client dyads, increases in practitioner self-disclosure and client support provisioning both positively and significantly predict increases in the extent to which clients and practitioners trust each other, feel committed to their working relationship, and perceive the client's clinical symptoms as improving. Second, congruence in self-disclosure and support provisioning behaviors between clients and practitioners is associated with increases in positive outcomes (trust, commitment, and symptom improvement) relative to incongruence self-disclosure and support provisioning behaviors.

Lastly, in this dyadic study the data indicate that self-disclosure behaviors and support provisioning behaviors between clients and practitioners are indeed positively and strongly correlated -- a finding that was not obtained in the preliminary studies. That is, as the extent to which clients report self-disclosing increases, the extent to which practitioners report self-disclosing also increases. Additionally, as the extent to which practitioners report providing support increases, the extent to which clients report providing support also increases. These findings are consistent with theories of relational reciprocity may have previously been obscured due to the fact that the preliminary studies relied on clients' perceptions of their practitioners behaviors and practitioner's perceptions of their clients behaviors, rather than true dyadic level reports.

Study 3

The primary goal of study three was to shed light on what types of practitioner disclosures are most likely to have a positive impact on clients. Indeed, convincing practitioners that there are benefits to engaging in self-disclosure without providing guidance on which types of personal thoughts, feelings, and experiences are most appropriate to share prevents this research from being practically applied. As such, Study 3 investigates whether systematically varying the types of disclosures made by practitioners causally impacts clients outcomes.

Method

Participants

Study participants were 121 practitioners-client dyads who were part of an intervention program offered through a network of research hospitals including Columbia Presbyterian Hospital, the Yale School of Medicine, and Rutgers University Hospital. Each practitioner-client dyad was unique, such that no single practitioner was working with more than one client in our

sample. The practitioners were certified peer specialists – which means that they were individuals who had been diagnosed with a mental health challenge who were working on clinical teams to offer therapeutic services to other individuals who had been diagnosed with mental health challenges. As such, these practitioners were uniquely positioned to effectively integrate relational practices into their therapeutic interactions with clients due to their shared mental health experiences (Mead, 2004).

Exact participant demographics for both practitioners and clients are reported in Table 18. Practitioners who opted into the study were compensated by having the costs of a continuing education training course covered in full (described below). Clients who opted into study participation were compensated with $90 prior to their first session.

Table 18

Practitioner and Client Demographics and Clinical Information

Variable	Response	%
Duration of Professional Relationship (length of time peer specialists and clients had been working with each other at week 1)	Less than 1 month	59.5
	1 months-3 months	34.7
	3 months-6 months	5.0
	6 months-1 year	0.8
Client Diagnosis Type (select all that apply)	Antisocial Personality	2.5
	Anxiety	44.6
	ADHD	9.1
	Bipolar Disorder	29.8
	Borderline Personality	0.0
	Depression	34.7
	Eating Disorder	22.3
	OCD	17.4
	PTSD	36.4
	Schizophrenia	55.4
	Substance Abuse	43.8
	Other	9.9
Currently Taking Psychiatric Medication?	Yes	96.3
	No	3.7

Procedures

Practitioner Training

All practitioners who consented to participate in this study completed a 20-hour online training course over a 3-week period that was designed to familiarize them with the theoretical underpinnings, empirical research findings, and practical applications of self-disclosure in the dyadic context. The training materials were developed by the author in consultation with licensed clinical psychologists, psychiatrists, and social workers and have met the criteria and standards

for approval as a continuing education workshop offered through the American Psychological Association.

In particular, practitioners were required to demonstrate that they had a thorough understanding of the distinction between *personal self-disclosures* which are statements that reveal something personal about the practitioner's life outside of the therapeutic session such as "I've really struggled with depression in the past" (Hill & Knox, 2002, p. 256), and *relational self-disclosures* which are statements that reveal the practitioner's thoughts or feelings regarding their relationship to the client such as "Knowing that we've both struggled with depression makes me feel like it's easier to connect with you" (Kuutmann & Hilsenroth, 2012).

In order to receive credit for this continuing education course, practitioners were required to demonstrate satisfactory knowledge of the different styles of self-disclosure, and demonstrate that they could selectively engage in each style when instructed. Specifically, practitioners had to receive a score of 90% or higher on four 20-question multiple choice tests designed to assess their understanding and working knowledge of self-disclosures.

Study Manipulation

During the third week of online training, each practitioner was randomly assigned into one of three "disclosure style" conditions. At this point, their training content exclusively focused on preparing them to engage in one of three disclosure styles during their interactions with clients. Practitioners assigned to the "personal disclosures" condition were trained to make personal disclosures during their sessions with clients, and to avoid making any relational disclosures. Practitioners assigned to the "personal + relational" disclosure condition were trained to make personal and relational disclosures to their clients during sessions. Practitioners assigned to the "no disclosure" condition were trained to avoid making any self-disclosures

during sessions with clients. In general, practitioners in the "self" and "self + relational" disclosure conditions were expected to make at least one disclosure consistent with their condition assignment per session.

To ensure practitioner comprehension of their condition assignment, they were required to receive a score of 90% or higher on one additional 20-question multiple choice test examining the differences between each type of disclosure style, as well as how to tactfully avoid making disclosures in a manner that does not disrupt the working alliance. This test was administered at the end of the three-week training period.

Therapeutic Sessions

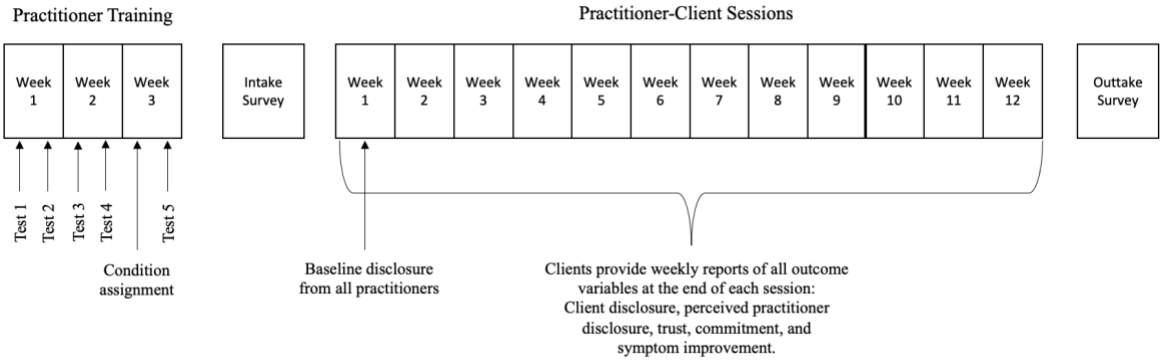
After the 3 weeks of practitioner training were complete, each practitioner-client dyad met once per week for an hour-long session for 12 consecutive weeks. In our final sample, 41 practitioner-client dyads were assigned to the “no practitioner disclosure” condition, 40 were assigned to the “practitioner personal disclosure” condition, and 40 were assigned to the “practitioner personal plus relational” disclosure condition. In the week one session, all practitioners disclosed brief information to their clients regarding their own mental health related diagnosis in order to establish the fact that they were practicing from a "peer" perspective. These disclosures were written down and approved by the research team prior to the start of the therapeutic session with the goal of making their content as standardized as possible. Moving forward, practitioners engaged in self-disclosure as per the requirements of their assigned condition.

The weekly therapeutic sessions were loosely structured and aside from the disclosure-related requirements and constraints, practitioners and clients could discuss whatever they wanted during their time together.

A visual representation of the training and study design is presented in Figure 13.

Figure 13

Study 3 Timeline



Measures

Intake Survey

Prior to their first meeting, clients answered a variety of standard mental and physical health related questions (e.g., Are you currently taking psychiatric medication?). These questions were largely not relevant to the hypotheses of the current study, but were collected as per the operating procedures of the participating clinics and mental health service sites.

Weekly Measures

Each week clients were asked to answer the following questions immediately at the end of their session. The response scale for all items was 1 = *not at all*, 4 = *somewhat*, and 7 = *a lot*.

Client Self-disclosure

Self-disclosure was measured with the following item: "During your session today, how much did you open up to your practitioner about your personal experiences, thoughts, and feelings?".

Practitioner Self-disclosure

Clients' perceptions of their practitioners' self-disclosure was measured with the item: "During your session today, how much did your practitioner open up to you about their personal experiences, thoughts, and feelings?"

Trust

Trust was assessed with the following item: "Overall, how much would you say you trust your practitioner?"

Symptom Improvement

Client symptoms improvement was measured with the item: "To what extent do you feel like your mental-health related symptoms have improved since working with this practitioner?"

Outtake Survey

During their last session, clients answered several additional questions meant to assess their overall mental health after providing their responses to the weekly measures listed above. These items were part of a separate study and were not used in any of the present study's analyses.

Results

Two separate types of analyses were conducted in order to test whether clients' outcomes varied as a function of practitioner self-disclosure style: a mixed factorial ANOVA conducted using R statistical software and a latent growth curve model conducted using MPlus (Muthén and Muthén, Los Angeles, CA, USA).

Mixed Factorial ANOVAs

Two mixed factorial ANOVAs were conducted (one for each outcome -- trust and symptom improvement, respectively) where factor 1 was practitioner disclosure style (between

subjects with three levels: no disclosure, self-disclosure only, self plus relational disclosure) and factor 2 was time (within subjects with two levels: week 1 client reports, week 12 client reports).

Trust

Analyses indicate that there was a significant main effect of practitioner disclosure style on client reports of trust $F(2,118) = 17.47$, $p = .031$, $\eta_p^2 = 0.012$. Specifically, tests for simple main effects indicate that, when collapsed across time, clients in the personal plus relational disclosure condition reported significantly higher levels of trust ($M = 4.84$, $SD = 0.85$) compared to clients in the personal disclosure only condition ($M = 4.20$, $SD = 0.87$, $F(1,118) = 9.11$, $p = .043$, $d = 0.74$) as well as compared to clients in the no disclosure condition ($M = 4.07$, $SD = 0.95$, $F(1,118) = 11.21$, $p = .021$, $d = 0.86$).

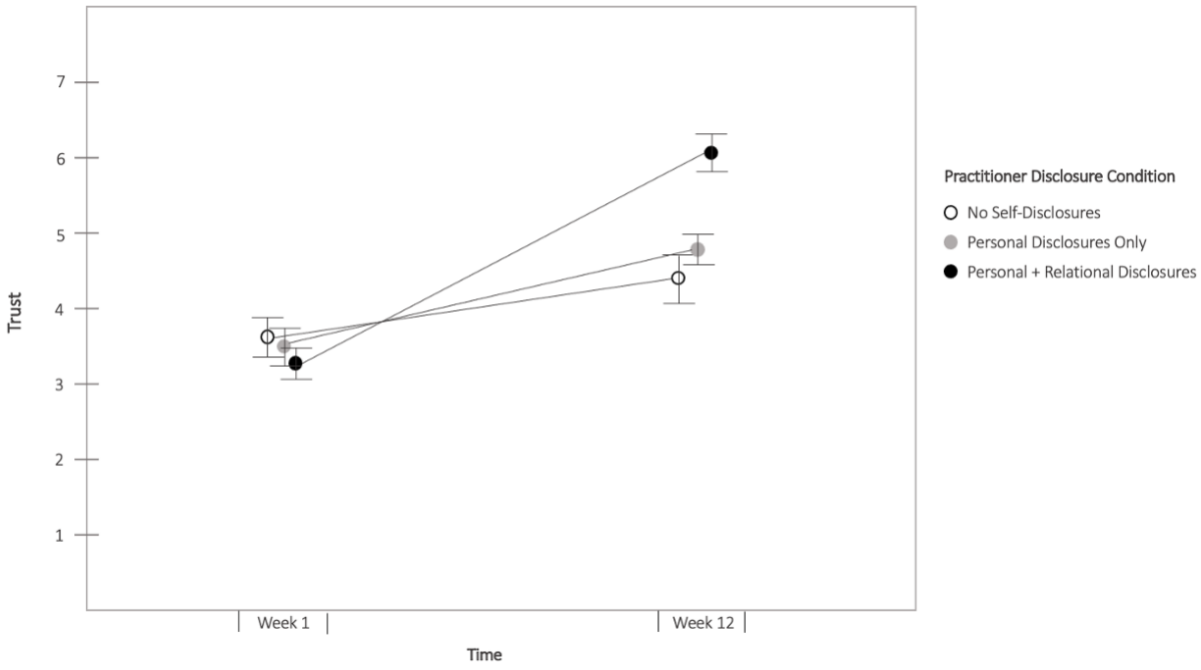
Analyses also indicate that there was a significant main effect of time on client reports of trust $F(1,118) = 19.81$, $p = .002$, $\eta_p^2 = 0.031$. Specifically, tests for simple main effects indicate that, when collapsed across practitioner disclosure style condition, clients reported significantly higher levels of trust at week 12 ($M = 5.16$, $SD = 1.01$) compared to week 1 ($M = 3.57$, $SD = 0.76$, $F(1,118) = 11.25$, $p = .021$, $d = 1.77$).

Most importantly, analyses indicate that there was a significant interaction between practitioner disclosure style and time, $F(2,118) = 12.41$, $p < .001$, $\eta_p^2 = 0.018$, such that the increase in trust from week 1 to week 12 was significantly greater for clients in the personal plus relational disclosure condition ($M_{diff} = 2.89$, $SD_{diff} = 1.16$, 95% CI_{diff} [1.77, 4.01]), relative to clients in the personal disclosure condition ($M_{diff} = 1.16$, $SD_{diff} = 1.10$, 95% CI_{diff} [0.88, 1.44]), as well as compared to clients in the no disclosure condition ($M_{diff} = 0.71$, $SD_{diff} = 1.09$, 95% CI_{diff} [-0.20, 1.62]); see Figure 14. Additionally, confidence intervals around the mean difference scores

indicate that from week 1 to week 12, trust levels increased significantly for clients in the personal disclosure condition as well as the personal plus relational disclosure condition.

Figure 14

Changes in Client Trust as a Function of Practitioner Self-Disclosure Style



Symptom Improvement

A similar pattern of results were found for clients' reports of their symptom improvement. Analyses indicate that there was a significant main effect of practitioner disclosure style on client reports of their symptom improvement $F(2,118) = 5.03$, $p = .042$, $\eta_p^2 = 0.010$. Specifically, tests for simple main effects indicate that, when collapsed across time, clients in the personal plus relational disclosure condition reported significantly higher levels of symptom improvement ($M = 3.61$, $SD = 1.35$) compared to clients in the no disclosure condition ($M = 2.93$, $SD = 1.65$, $F(1,118) = 4.03$, $p = .041$, $d = 0.45$). There were no significantly differences between the symptom improvement levels of clients in the no practitioner disclosure condition

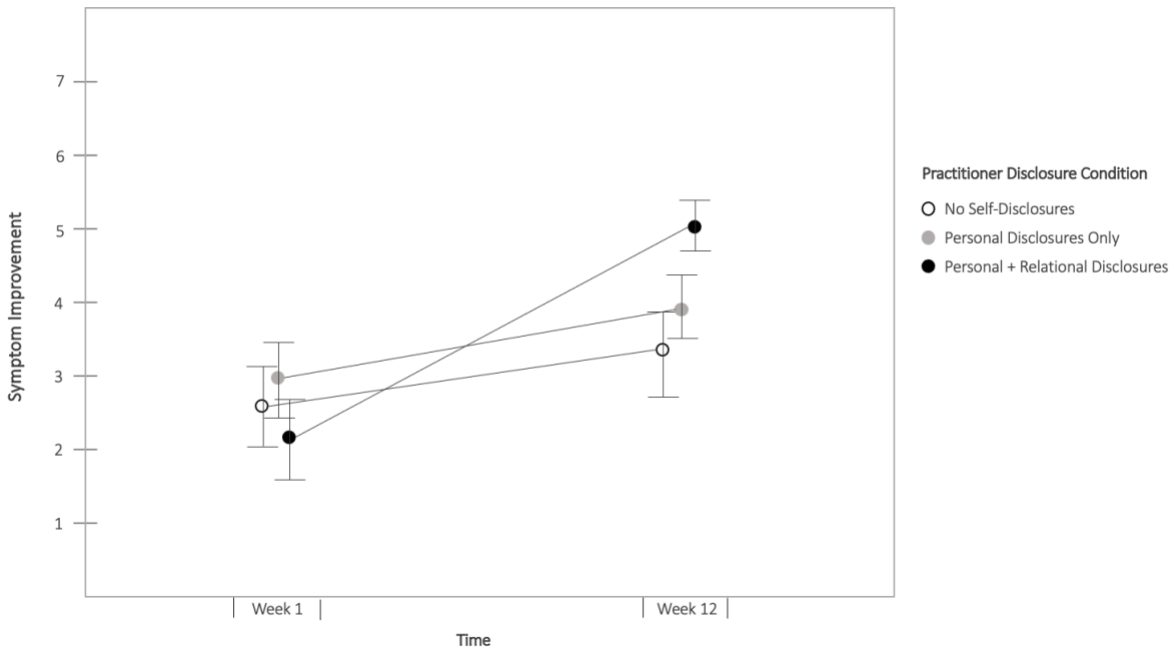
and the personal disclosure condition, nor between the personal plus relational disclosure condition and the personal disclosure condition.

Analyses also indicate that there was a significant main effect of time on client reports of their symptom improvement $F(1,118) = 8.13$ $p = .012$, $\eta_p^2 = 0.012$. Specifically, tests for simple main effects indicate that, when collapsed across practitioner disclosure style condition, clients reported significantly higher levels of symptom improvement at week 12 ($M = 4.09$, $SD = 1.43$) compared to week 1 ($M = 2.59$, $SD = 1.66$, $F(1,118) = 15.36$, $p < .001$, $d = 0.96$).

Most importantly, analyses indicate that there was a significant interaction between practitioner disclosure style and time, $F(2,118) = 8.32$, $p = 0.014$, $\eta_p^2 = 0.001$, such that the increase in symptom improvement from week 1 to week 12 was significantly greater for clients in the personal plus relational disclosure condition ($M_{diff} = 2.84$, $SD_{diff} = 1.16$, 95% CI_{diff} [2.16, 3.52]), relative to clients in the personal disclosure condition ($M_{diff} = 0.93$, $SD_{diff} = 1.10$, 95% CI_{diff} [-0.21, 2.07]), as well as compared to clients in the no disclosure condition ($M_{diff} = 0.71$, $SD_{diff} = 1.09$, 95% CI_{diff} [-0.32, 1.74]); see Figure 15. Additionally, confidence intervals around the mean difference scores indicate that from week 1 to week 12, symptom improvement increased significantly for clients in in the personal plus relational disclosure condition.

Figure 15

Changes in Client Symptom Improvement as a Function of Practitioner Self-Disclosure Style



Latent Growth Curve Models

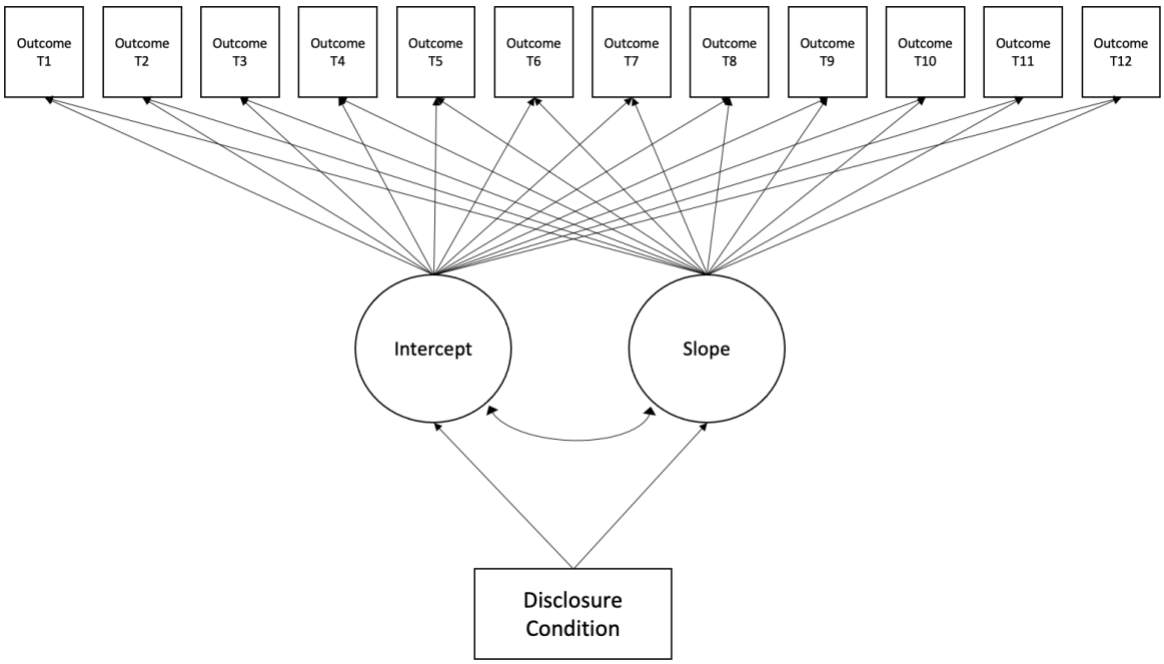
For the second analytic technique, latent growth curve models were fitted to the data following the structure presented in Figure 16. Data were modeled across all twelve time points so that I could investigate whether the average intercept and slope of each outcome variable, the covariance of the intercept and slope, and the growth parameters over time varied as a function of the practitioner-disclosure style condition. By treating practitioner self-disclosure style as a time invariant predictor in the model, these analyses could determine whether the rate of outcome change (rather than simply the magnitude of the change) was systematically influenced by practitioner disclosure-style.

The model shown in Figure 16 was fitted with condition effects estimated for the following group comparisons: (1) no practitioner disclosure versus practitioner personal

disclosure, (2) no practitioner disclosure versus practitioner personal plus relational disclosure, and (3) personal practitioner disclosure versus personal plus relational disclosure. The factor loadings of the latent intercept were all set to 1. The factor loadings for the linear slope were set to 1 through 12 for week 1 through week 12 respectively.

Figure 16

Latent Growth Curve Model of Client Outcome Trajectories Across Time.



Trust

Analyses comparing clients in the no disclosure versus the personal disclosure conditions indicated a good model fit: chi-squared was not significant ($\chi 2 = 3.24$, $p = .361$), CFI = 1.00, and RMSEA = 0.04. There was a significant effect of disclosure condition on the slope of trust over time ($\beta = 1.42$, $p < .001$), suggesting that there were significantly greater increases in trust across the 12 week time period for clients in the personal disclosure condition compared to the no disclosure condition.

Analyses comparing clients in the no disclosure versus the personal plus relational disclosure conditions also indicated a good model fit: chi-squared was not significant ($\chi 2 = 7.18$, $p = .412$), CFI = 1.00, and RMSEA = 0.03. There was a significant effect of disclosure condition on the slope of trust over time ($\beta = 2.15$, $p < .001$), suggesting that there were significantly greater increases in trust across the 12 week time period for clients in the personal plus relational disclosure condition compared to the no disclosure condition.

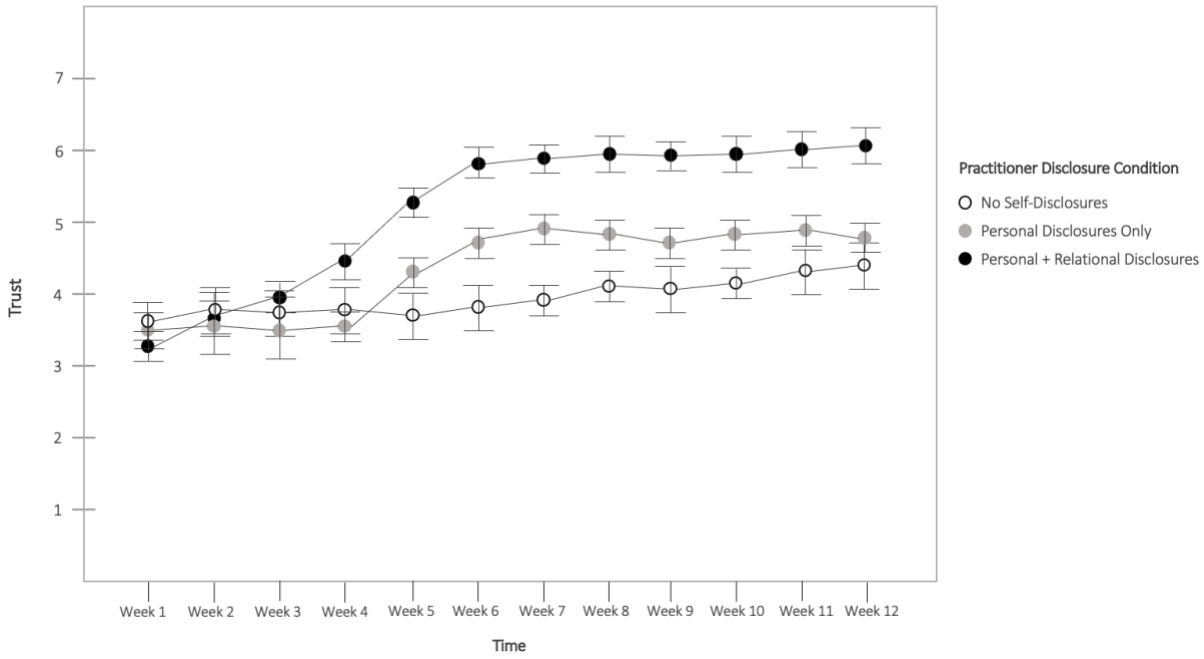
Analyses comparing clients in the personal disclosure versus the personal plus relational disclosure conditions also indicated a good model fit: chi-squared was not significant ($\chi 2 = 4.22$, $p = .388$), CFI = 1.00, and RMSEA = 0.04. There was a significant effect of disclosure condition on the slope of trust over time ($\beta = 1.73$, $p < .001$), suggesting that there were significantly greater increases in trust across the 12 week time period for clients in the personal plus relational disclosure condition compared to the personal disclosure condition.

Of important note is that the disclosure condition variable was not significantly related to intercept in any of the models, indicating that average trust at baseline did not vary as a function of disclosure condition. This is an important parameter because it suggests that clients in the three disclosure conditions were not likely to have meaningfully different levels of trust for their practitioners at baseline (b_0).

Additionally, in all models, the intercept and slope were not significantly correlated with one another, suggesting that the extent to which a client trusted their practitioner at baseline (b_0) was not associated with the rate at which their trust increased over time. Rather, the disclosure condition clients were assigned to was a more robust predictor of the rate their trust trajectory changed over time (see Figure 17).

Figure 17

Client Trust Trajectories over 12 Weeks



Symptom Improvement

Analyses comparing clients in the no disclosure versus the personal disclosure conditions indicated a good model fit: chi-squared was not significant ($\chi 2 = 5.17$, $p = .451$), CFI = 0.99, and RMSEA = 0.03. There was a significant effect of disclosure condition on the slope of symptom improvement over time ($\beta = 1.11$, $p < .001$), suggesting that there were significantly greater increases in symptom improvement across the 12 week time period for clients in the personal disclosure condition compared to the no disclosure condition.

Analyses comparing clients in the no disclosure versus the personal plus relational disclosure conditions also indicated a good model fit: chi-squared was not significant ($\chi 2 = 8.64$, $p = .311$), CFI = 1.00, and RMSEA = 0.05. There was a significant effect of disclosure condition on the slope of symptom improvement over time ($\beta = 2.11$, $p < .001$), suggesting that there were significantly greater increases in symptom improvement across the 12 week time period for

clients in the personal plus relational disclosure condition compared to the no disclosure condition.

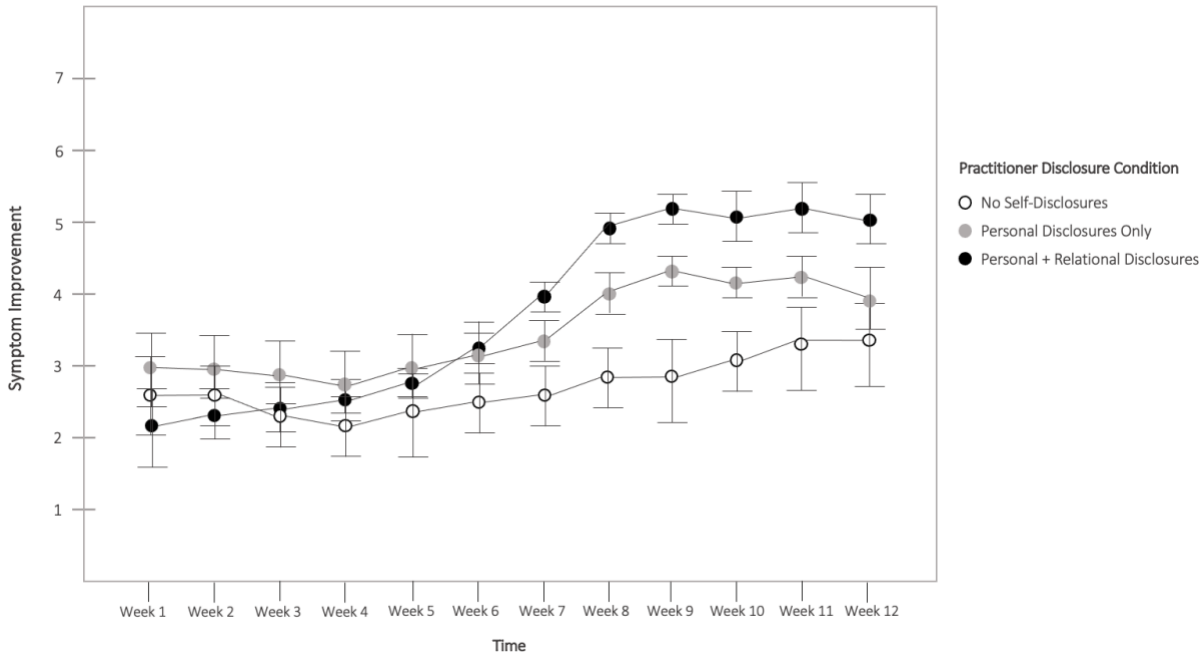
Analyses comparing clients in the personal disclosure versus the personal plus relational disclosure conditions also indicated a good model fit: chi-squared was not significant ($\chi 2 = 3.12$, $p = .323$), CFI = 1.00, and RMSEA = 0.04. There was a significant effect of disclosure condition on the slope of symptom improvement over time ($\beta = 1.73$, $p < .001$), suggesting that there were significantly greater increases in symptom improvement across the 12 week time period for clients in the personal plus relational disclosure condition compared to the personal disclosure condition.

Of important note is that the disclosure condition variable was not significantly related to the to intercept in any of the models, indicating that average symptom improvement at baseline did not vary as a function of disclosure condition. This suggests that clients in the three disclosure conditions were not likely to have different levels of clinical symptomology at baseline (b_0).

Additionally, in all models, the intercept and slope were not significantly correlated with one another, suggesting that the levels of clinical symptoms clients reported at baseline (b_0) was not associated with the rate at which their symptoms improved over time. Rather, the disclosure condition clients were assigned to was a more robust predictor of the rate their symptoms improved over time (see Figure 18)

Figure 18

Client Symptom Improvement Trajectories Over 12 Weeks



Discussion

Study 3 provided evidence for the hypothesis that the type of disclosures practitioners make differentially impact client outcomes. Specifically, when practitioners make self-disclosures that reference their personal experiences as well as their feelings and attitudes towards their relationship with the client (the "personal plus relational" disclosure condition), clients report higher levels and larger increases in trust and symptom improvement across time. When practitioners make disclosures about their personal experiences only (the "personal" disclosure condition), the magnitude and relative increase of client trust and symptom improvement across time is smaller, but still significantly greater than scenarios where practitioners are not making any type of self-disclosures to clients (the "no disclosure" condition).

One outstanding question is whether the *type* of disclosure was confounded with the *quantity* of disclosures being made by practitioners. That is, by virtue of the experimental design, practitioners in the "personal plus relational disclosure" condition were asked to make two types of disclosures with their clients in each working sessions, practitioners in the "personal disclosure" condition were asked to make only one type of disclosure, and practitioners in the "no disclosure" condition were instructed to make no disclosures. This means that it is possible that the quantity, rather than simply the type, of disclosures being made was systemically varying across conditions.

It should be noted, however, that practitioners were not instructed to limit themselves to a specific quantity of disclosures. That is, practitioners in the "personal disclosure" and the "personal plus relational disclosure" conditions were free to make as many disclosures per session as they were inclined to make, as long as the type of disclosures they were making remained consistent with their assigned disclosure condition. This means it is entirely possible that a practitioner in the "personal disclosure" condition could have made five disclosures about their personal experiences in a single session, whereas a practitioner in the "personal plus relational disclosure" condition could have made one disclosure about their personal experiences and one disclosure about their relationship with the practitioner -- ultimately leading to fewer disclosures overall.

Another interesting observation is that, although the data were fitted to linear models due to sample size constraints, there appears to be an exponential increase in trust from weeks four to six and, shortly after, an exponential increase in symptom improvement from weeks five to eight for clients in the personal and personal plus relational disclosure conditions. Although these trends are only descriptive, they suggest that rapid increases in symptom improvement (a clinical

outcome) may be downstream of rapid increases in trust (a relational outcome). This is consistent with psychosocial models of close relationships and well-being that suggest intra-individual changes are often proceeded by social or relational factors (Buunk & Schaufeli, 1999). An important implication for the present study is that the quality of the therapeutic relationship may have direct consequences for the clinical criteria that mental health practitioners prioritize the most. Furthermore, the present study suggests that relational behaviors (such as responsible and appropriate personal and relational disclosures) may be necessary antecedents to improving relational outcomes, which will in turn improve clinical outcomes. Future studies should explore the causal effects of relational factors on clinical factors with multivariate time-lagged longitudinal models.

General Discussion

The therapeutic relationship is a critical component of delivering effective and meaningful mental health services to clients, and the research presented here offers insight into behavioral strategies that can be used to deepen and improve it.

Studies 1 and 2 investigate the extent to which less traditional behaviors positively impact client and practitioner outcomes. Specifically, practitioner self-disclosures and client support provisioning are both associated with positive relational outcomes for clients and practitioners (i.e., trust, satisfaction, and commitment) as well as positive clinical outcomes for mental health patients (i.e., treatment compliance, symptom improvement). Additionally, response surface analysis at the monodic (Study 1) and dyadic (Study 2) level provide evidence that congruence in disclosure and support behaviors is associated with the highest levels of positive clinical and relational outcomes. That is, the extent to which practitioners and clients can "meet the other person where they are at" seems to be especially beneficial. This is consistent

with social-psychological theories of reciprocity (Derlega et al., 1976) and interdependence in close relationships (Rusbult & Buunk, 1993), which argue that interaction partners will experience the greatest joint benefits when they are both able to make meaningful contributions to the relationship, such that the exchange of resources is more bidirectional than unidirectional. Study 3 investigated practitioner self-disclosure strategies more closely, and provided evidence for the *types* of disclosures that are most likely to positively impact client outcomes over time. Specifically, when practitioners disclose information regarding how they feel about the *relationship* they have with their client (relational disclosures) as well as their *personal* experiences (personal disclosures), clients demonstrate the largest increases in trust and symptom improvement over time.

Limitations and Future Directions

There are several important limitations to the current set of studies. First, every outcome variable was obtained via participant self-report. While self-reports are critical for understanding how individuals perceive their selves and their interaction partners, combining self-reports with observational or behavioral data would provide a much richer picture of the interpersonal dynamic within therapeutic relationships. Because there are often logistical and ethical challenges to directly observing or obtaining audio-visual recordings of therapeutic sessions, some creativity will be needed for future studies that wish to supplement self-reports of disclosure and support provisioning with concrete behaviors enacted in clinical settings. One approach our team has recently employed is administering short quizzes to practitioners and clients to see how much they have learned about one another. For example, practitioners and clients each create a list a five open ended questions about themselves (e.g., How many siblings do I have? What do I like about working with you the most?) for the other to answer. The goal is

to measure the extent to which practitioners and clients can demonstrate accurate knowledge of each other -- which is used as a proxy for how much they have openly shared with and retained about one another. In some ways this is still a form of self-report, but the questions do have "right" and "wrong" answers and thus can be scored. Additionally, more accessible behavioral outcomes such as the consistency with which a client fills prescriptions and shows up to clinical sessions should be collected as a supplement to self-reports, if possible, in future studies.

Another limitation of the present research is that, with the exception of self-harm and suicidal ideation (Study 1a), no outcomes were included that assess negative affect (e.g., anxiety, discomfort) or negative cognitions (e.g., self-consciousness, ruminations). While demonstrating the positively association of practitioner disclosure and client-provided support with positive outcomes, it is also important to rule out the possibility that they are also positively associated with negative outcomes.

Perhaps the most pressing future direction is to further refine what specific types of practitioner disclosures and what specific types of client-provided support are most appropriate to engage in or solicit in a clinical setting. For example, research suggests that opening up about the challenging or negative experiences one has had can be an especially powerful pathway to intimacy and interpersonal bonding, can provide opportunities to model resilience, and may serve the purpose of teaching others relevant lessons (King et al., 2020). Yet it is unclear whether, in the context of a therapeutic relationship, opening up about one's negative experiences is equally appropriate for practitioners and clients.

Identifying the conditions under which it is appropriate to allow (or even ask) clients to step into a support-providing role is likely to be especially challenging and will inevitably carry more risk. However, there are systematic stages practitioners can progress through to minimize

the possibility of adversely impacting clients. For example, simply naming a supportive behavior when a client enacts one can allow their supportive contribution to become salient and be acknowledged while avoiding the risks that come with an explicit solicitation of support (see Smith, Fox, & DuBrul, under review). Furthermore, providing mental health practitioners with education on the different types of support (e.g., the difference between emotional support versus instrumental support versus informational support) may make it easier for them to identify and subsequently name supportive actions enacted by their clients. Ultimately, large scale mixed methods research is likely to provide the most detailed information concerning when it is most beneficial to allow clients to step into a support-providing role, and individual differences and variability at the level of the dyad will need to be included in analytic models in order to make the most useful, practical predictions.

Conclusion

These studies examined the extent to which self-disclosure and support provisioning in the therapeutic setting impact the outcomes of both practitioners and clients. They constitute the only highly powered, quantitative, and dyadic investigation of mutual self-disclosure and support equity in clinical populations. Additionally, to our knowledge, there are no longitudinal studies that explicitly manipulate practitioner disclosure style and measure both relational and clinical outcomes over time. Taken together, this research provides evidence there are indeed meaningful benefits to practitioners self-disclosing (alongside their clients) and clients providing support (alongside their practitioners).

References

Afifi, W. A., & Burgoon, J. K. (1998). "We never talk about that": A comparison of cross-sex friendships and dating relationships on uncertainty and topic avoidance. *Personal Relationships, 5*(3), 255-272. http://dx.doi.org/10.1111/j.1475-6811.1998.tb00171.x

Ahmadpanah, M., Astinsadaf, S., Akhondi, A., Haghighi, M., Sadeghi Bahmani, D., Nazaribadie, M., & Brand, S. (2017). Early maladaptive schemas of emotional deprivation, social isolation, shame and abandonment are related to a history of suicide attempts among patients with major depressive disorders. *Comprehensive Psychiatry, 77*, 71-79. doi:http://dx.doi.org/10.1016/j.comppsych.2017.05.008

Ardito, R. B., & Rabellino, D. (2011). Therapeutic alliance and outcome of psychotherapy: Historical excursus, measurements, and prospects for research. *Frontiers in Psychology, 2*, 11. http://dx.doi.org/10.3389/fpsyg.2011.00270

Bachelor, A. (2013). Clients' and therapists' views of the therapeutic alliance: Similarities, differences and relationship to therapy outcome. *Clinical Psychology & Psychotherapy, 20*(2), 118-135. http://dx.doi.org/10.1002/cpp.792

Beals, K. P. (2004). *Stigma management and well-being: The role of social support, cognitive processing, and suppression* (Order No. AAI3121250). Available from APA PsycInfo. (620632163; 2004-99016-062). https://www.proquest.com/dissertations-theses/stigma-management-well-being-role-social-support/docview/620632163/se-2?accountid=14505

Berg, J. H., & Clark, M. S. (1986). Differences in social exchange between intimate and other relationships: Gradually evolving or quickly apparent?. In V.J. Derlega & B.A.Winstead (Eds.), *Friendship and social interaction* (pp. 101-128). New York, NY: Springer-Verlag.

Buunk, B. P., & Mutsaers, W. (1999). Equity perceptions and marital satisfaction in former and current marriage: A study among the remarried. *Journal of Social and Personal Relationships, 16*(1), 123-132. http://dx.doi.org/10.1177/0265407599161007

Buunk, B. P., & Schaufeli, W. B. (1999). Reciprocity in interpersonal relationships: An evolutionary perspective on its importance for health and well-being. *European Review of Social Psychology, 10*(1), 259-291. doi:10.1080/14792779943000080

Campbell, L., Simpson, J. A., Boldry, J. G., & Rubin, H. (2010). Trust, variability in relationship evaluations, and relationship processes. *Journal of Personality and Social Psychology, 99*(1), 14-31. http://dx.doi.org/10.1037/a0019714

Cook, W. L., & Kenny, D. A. (2005). The Actor-Partner Interdependence Model: A model of bidirectional effects in developmental studies. *International Journal of Behavioral Development, 29*(2), 101-109. http://dx.doi.org/10.1080/01650250444000405

Coyne, J. C., Wortman, C. B., & Lehman, D. R. (1988). The other side of support: Emotional over-involvement and miscarried helping. In B. H. Gottlieb (Ed.), *Marshalling social support: Formats, processes, and effects* (pp. 305-30). Newbury Park, CA**:** Sage.

Dixon, L. (2001). Reexamination of therapist self-disclosure. (2001). *Psychiatric Services, 52*(11), 1489-1493. http://dx.doi.org/10.1176/appi.ps.52.11.1489

Derlega, V.J., & Grzelak, J., (1979). Appropriateness of self disclosure. In G.J. Chelune (Ed.), *Self-disclosure: Origins, patterns and implications of openness in interpersonal relationships* (pp. 151-176). San Francisco, CA: Jossey-Bass.

Derlega, V. J., Wilson, M., & Chaikin, A. L. (1976). Friendship and disclosure reciprocity. *Journal of Personality and Social Psychology, 34*(4), 578-582. http://dx.doi.org/10.1037/0022-3514.34.4.578

Derrick, J. L., Houston, R. J., Quigley, B. M., Testa, M., Kubiak, A., Levitt, A., Homish, G. G., & Leonard, K. E. (2016). (Dis)similarity in Impulsivity and Marital Satisfaction: A Comparison of Volatility, Compatibility, and Incompatibility Hypotheses. *Journal of Research in Personality, 61*, 35–49. https://doi.org/10.1016/j.jrp.2016.02.001

Fitzpatrick, J., & Lafontaine, M. (2017). Attachment, trust, and satisfaction in relationships: Investigating actor, partner, and mediating effects. *Personal Relationships, 24*(3), 640-662. http://dx.doi.org/10.1111/pere.12203

Gabbard G & Nadelson, C. (1995). Professional boundaries in the physician-patient relationship. *Journal of the American Medical Association*, *273*, 1445–1449.

Gable, S. L., & Reis, H. T. (2010). Good news! Capitalizing on positive events in an interpersonal context. In M. P. Zanna (Ed.), *Advances in experimental social psychology, Vol 42* (pp. 195-257). Academic Press, San Diego, CA. http://dx.doi.org/10.1016/S0065-2601(10)42004-3

Gable, S. L., Reis, H. T., Impett, E. A., & Asher, E. R. (2004). What Do You Do When Things Go Right? The Intrapersonal and Interpersonal Benefits of Sharing Positive Events. *Journal of Personality and Social Psychology, 87*(2), 228-245. http://dx.doi.org/10.1037/0022-3514.87.2.228

Gleason, M. E. J., Iida, M., Bolger, N., & Shrout, P. E. (2003). Daily supportive equity in close relationships. *Personality and Social Psychology Bulletin, 29*(8), 1036-1045. http://dx.doi.org/10.1177/0146167203253473

Gottlieb, B. (1985). Theory into practice: Issues that surface in planning interventions which mobilize support. In I. G. Sarason & B. R. Sarason (Eds), Social support: Theory, research and applications (pp. 417-37). Boston, MA: Martinus Nijhoff.

Gronholm, P. C., Thornicroft, G., Laurens, K. R., & Evans-Lacko, S. (2017). Mental health-related stigma and pathways to care for people at risk of psychotic disorders or experiencing first-episode psychosis: A systematic review. *Psychological Medicine, 47*(11), 1867-1879. http://dx.doi.org/10.1017/S0033291717000344

Halbesleben, J. R. B., & Wheeler, A. R. (2015). To invest or not? The role of coworker support and trust in daily reciprocal gain spirals of helping behavior. *Journal of Management, 41*(6), 1628-1650. http://dx.doi.org/10.1177/0149206312455246

Hill, C. E., Knox, S., & Pinto-Coelho, K. (2018). Therapist self-disclosure and immediacy: A qualitative meta-analysis. *Psychotherapy, 55*(4), 445-460. http://dx.doi.org/10.1037/pst0000182

House, J. S., Landis, K. R., & Umberson, D. (1988). Social relationships and health. *Science, 241*, 540-545. doi:10.1126/science.3399889

Hundert, E. M., & Appelbaum, P. S. (1995). Boundaries in psychotherapy: Model guidelines. Psychiatry: *Interpersonal and Biological Processes, 58(*4), 345-356. https://www.proquest.com/scholarly-journals/boundaries-psychotherapy-model-guidelines/docview/618819159/se-2?accountid=14505

Kelley, F. A., Gelso, C. J., Fuertes, J. N., Marmarosh, C., & Lanier, S. H. (2010). The Real Relationship Inventory: Development and psychometric investigation of the client form. *Psychotherapy: Theory, Research, Practice, Training, 47*(4), 540-553. http://dx.doi.org/10.1037/a0022082

King, A. J., Brophy, L. M., Fortune, T. L., & Byrne, L. (2020). Factors Affecting Mental Health Professionals' Sharing of Their Lived Experience in the Workplace: A Scoping Review. *Psychiatric Services*, *71*(10), 1047-1064. doi: 10.1176/appi.ps.201900606

King, A. J., & Simmons, M. B. (2018). A systematic review of the attributes and outcomes of peer work and guidelines for reporting studies of peer interventions. *Psychiatric Services, 69*(9), 961-977. http://dx.doi.org/10.1176/appi.ps.201700564

Kuijer, R. G.,Ybema, J. F., & Buunk, B. P. (1997). Inequity in close relationships of cancer patients and their spouses. In D. Daamen, A. Pruyn, W. Otten, & R. Meertens (Eds), *Topics in social psychology, Vol. 11* (pp. 107-21). Delft: Eburon.

Kuutmann, K., & Hilsenroth, M. J. (2012). Exploring in-session focus on the patient-therapist relationship: Patient characteristics, process and outcome. *Clinical Psychology and Psychotherapy, 19,* 187–202. http:// dx.doi.org/10.1002/cpp.743

Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A meta-analysis of the investment model. *Personal Relationships, 10*(1), 37-57. http://dx.doi.org/10.1111/1475-6811.00035

Lepore, S. J., & Helgeson, V. S. (1998). Social constraints, intrusive thoughts, and mental health after prostate cancer. *Journal of Social and Clinical Psychology, 17*(1), 89-106. doi: http://dx.doi.org/10.1521/jscp.1998.17.1.89

Lepore, S. J., Ragan, J. D., & Jones, S. (2000). Talking facilitates cognitive–emotional processes of adaptation to an acute stressor. *Journal of Personality and Social Psychology, 78*(3), 499-508. doi: http://dx.doi.org/10.1037/0022-3514.78.3.499

Loving, T. J., & Slatcher, R. B. (2013). Romantic relationships and health. In J. A. Simpson, & L. Campbell (Eds.), *The oxford handbook of close relationships* (pp. 617-637). New York, NY: Oxford University Press.

Mead, S., Hilton, D., & Curtis, L. (2001). Peer support: A theoretical perspective. *Psychiatric Rehabilitation Journal, 25*(2), 134-141. http://dx.doi.org/10.1037/h0095032

Mead, S., & MacNeil, C. (2005). Peer support: A systematic approach. *Family Therapy Magazine*, 4(5), 28–31.

Norcross, J. C., & Wampold, B. E. (2011). Evidence-based therapy relationships: Research conclusions and clinical practices. *Psychotherapy, 48*(1), 98-102. http://dx.doi.org/10.1037/a0022161

Olfson, M., Blanco, C., Wang, S., Laje, G., & Correll, C. U. (2014). National trends in the mental health care of children, adolescents, and adults by office-based physicians. *JAMA Psychiatry*, *71*, 81-90. doi:10.1001/jamapsychiatry.2013.3074

Pennebaker, J. W., & O'Heeron, R. C. (1984). Confiding in others and illness rate among spouses of suicide and accidental-death victims. *Journal of Abnormal Psychology, 93*(4), 473-476. doi:http://dx.doi.org/10.1037/0021-843X.93.4.473

Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin, 26*(4), 419-435. doi:http://dx.doi.org/10.1177/0146167200266002

Rosenfeld, L. B., & Gilbert, J. R. (1989). The measurement of cohesion and its relationship to dimensions of self-disclosure in classroom settings. *Small Group Behavior, 20*(3), 291-301. http://dx.doi.org/10.1177/104649648902000301

Rossignac-Milon, M., & Higgins, E. T. (2018). Epistemic companions: Shared reality development in close relationships. *Current Opinion in Psychology, 23,* 66-71. https://doi.org/10.1016/j.copsyc.2018.01.001

Ryon, H. S., & Gleason, M. E. J. (2018). Reciprocal support and daily perceived control: Developing a better understanding of daily support transactions across a major life

transition. *Journal of Personality and Social Psychology, 115*(6), 1034-1053. http://dx.doi.org/10.1037/pspi0000141

Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis. *Journal of Social and Personal Relationships*, *10*(2), 175-204.

Smith, L.K., Fox. L., & Dubrul, S.A. (under review). The risks and benefits of fostering mutually supportive relationships between peer specialists and their mental health clients.

Stolzer, J. M. (2016). The meteoric rise of mental illness in America and implications for other countries. *The European Journal of Counselling Psychology*, *4*, 228-246. doi:10.5964/ejcop.v4i2.77

Summers, R. F., & Barber, J. P. (2003). Therapeutic Alliance as a Measurable Psychotherapy Skill. *Academic Psychiatry, 27*(3), 160-165. http://dx.doi.org/10.1176/appi.ap.27.3.160

Tsai, A. C., Lucas, M., & Kawachi, I. (2015). Association between social integration and suicide among women in the United States. *JAMA Psychiatry, 72*(10), 987-993. http://dx.doi.org/10.1001/jamapsychiatry.2015.1002

Twenge, J. M., Joiner, T. E., Rogers, M. L., & Martin, G. N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among US adolescents after 2010 and links to increased new media screen time. *Clinical Psychological Science*, *6*(1), 3-17. https://doi.org/10.1177/2167702617723376

Umberson, D., & Montez, J. K. (2010). Social relationships and health: A flashpoint for health policy. *Journal of Health and Social Behavior, 51*(1), S54-S66. http://dx.doi.org/10.1177/0022146510383501

Webber, M., & Fendt-Newlin, M. (2017). A review of social participation interventions for people with mental health problems. *Social Psychiatry and Psychiatric Epidemiology:*

The International Journal for Research in Social and Genetic Epidemiology and Mental Health Services, 52(4), 369-380. http://dx.doi.org/10.1007/s00127-017-1372-2

Weinberger, A. H., Gbedemah, M., Martinez, A. M., Nash, D., Galea, S., & Goodwin, R. D. (2018). Trends in depression prevalence in the USA from 2005 to 2015: widening disparities in vulnerable groups. *Psychological Medicine*, *48*, 1308-1315. https://doi.org/10.1017/S0033291717002781

van Dierendonck, D., Schaufeli, W. B., & Buunk, B. P. (1996). Inequality among human service professionals: Measurement and relation to burnout. *Basic and Applied Social Psychology, 18*(4), 429-451. http