



Empirical Paper

A Pilot Study of Convergence: The Science, Art and Spirit of Compassion

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Over recent years, spirituality, science and the arts have converged in an attempt to cultivate compassion in society. Drawing on these backgrounds a novel intervention was developed that included both meditation and music. The aim of this study was to pilot test this novel intervention called “Convergence”, a two-hour standalone intervention that combined a Loving-Kindness Meditation with a musical score in order to enhance compassionate motivation and action of participants. Overall 28 participants engaged in the pre-, post-, two-week follow-up pilot trial of Convergence, with the majority of the participants being female (25 females; 89%), and having low levels of previous meditation experience. Participants were taken through a series of experiential exercises and conversations that combined meditative practice and music. Immediately following the intervention participants indicated a significant increase in overall compassionate motivation and action, as well as specific increase in their ability, need and desire to act self-compassionately. These results maintained at two-week post intervention. The pilot trial provides encouraging findings for the novel intervention; and it is recommended that future research evaluate its efficacy in a randomised controlled trial.

Keywords: Compassion, self-compassion, loving-kindness meditation, music

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Abstract

Over recent years, spirituality, science and the arts have converged in an attempt to cultivate compassion in society. Drawing on these backgrounds a novel intervention was developed that included both meditation and music. The aim of this study was to pilot test this novel intervention called “Convergence”, a two-hour standalone intervention that combined a Loving-Kindness Meditation with a musical score in order to enhance compassionate motivation and action of participants. Overall 28 participants engaged in the pre-, post-, two-week follow-up pilot trial of Convergence, with the majority of the participants being female (25 females; 89%), and having low levels of previous meditation experience. Participants were taken through a series of experiential exercises and conversations that combined meditative practice and music. Immediately following the intervention participants indicated a significant increase in overall compassionate motivation and action, as well as specific increase in their ability, need and desire to act self-compassionately. These results maintained at two-week post intervention. The pilot trial provides encouraging findings for the novel intervention; and it is recommended that future research evaluate its efficacy in a randomised controlled trial.

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The world continues to evolve, and while abuse, violence, war and trauma still seem to be ever-present, there is a growing worldwide movement that is trying to tip the balance: cultivating compassion and self-compassion throughout societies (Charter for Compassion, <http://charterforcompassion.org>).

Compassion is not a new concept. Ancient spiritual and religious traditions have always incorporated compassion in their teachings and practices (Goetz, Keltner, & Simon-Thomas, 2010). What is notable more recently is the attention also being given to compassion by the scientific community (Leaviss & Uttley, 2014). Work is being done from the perspectives of evolutionary science, psychological science and neuroscience, often in collaboration with spiritual teachers, to understand compassion, and develop programs and interventions to help cultivate it (Gilbert, 2014).

Compassion has been defined in many different ways (Goetz et al., 2010), however it may be best captured as a complex multidimensional construct that is comprised of four key components: (1) an awareness of suffering (cognitive component), (2) sympathetic concern related to being emotionally moved by suffering (affective component), (3) a wish to see the relief of that suffering (intentional component), and (4) a responsiveness or readiness to help relieve that suffering (motivational component; Jazaieri et al., 2013). Suffering in this context refers to one's struggle with the difficulties they are experiencing (e.g., anger, depression, loneliness, anxiety). Incorporated in this circle of compassion is also the notion of self-compassion, which has been defined by Neff (2003) to include three components, (1) being mindful, rather than over-identifying with problems; (2) connecting with others, rather than isolating oneself; and (3) adopting an attitude of self-kindness, rather than being judgmental.

Studies in neuroscience have found that the feeling of compassion is associated with the 'bonding hormone' oxytocin, which results in humans wanting to approach and care for

others (Goetz et al., 2010; Klimecki, Leiberg, Ricard, & Singer, 2013). High levels of compassion have been associated with improved emotion regulation and mental health, and improved immune functioning and physical health (Seppala, Rossomando, & Doty, 2013). Similarly, high levels of self-compassion have been found to correlate with a greater sense of emotional wellbeing, enhanced quality of life, and less emotional turmoil when resolving relationship conflict (Yarnell, & Neff, 2013). By contrast, individuals with low levels of self-compassion and compassion have been found to have high levels of self-criticism, guilt, rumination, and worry (Gilbert, McEwan, Matos, & Ravis, 2010; Raes, 2010).

Cultivating Compassion through Meditation

Throughout the spiritual traditions, meditation has long been a pathway to developing love, kindness and compassion for others and for oneself (Gilbert & Choden, 2013). Now also incorporated into widespread general community and clinical practice, meditation refers to a family of self-regulation practices that focus on training attention, and have been found to improve resilience, and stress and coping for adults (Galante, Galante, Bekkers, & Gallacher, 2014). The Loving-Kindness Meditation (LKM) is a fundamental exercise in mindful-compassion programs (Galante et al., 2014; Hoffmann, Grossman, & Hinton, 2011). LKM typically includes six-steps and lasts 10-15 minutes and involves the following structured approach: (1) initiate mindfulness of breathing, (2) then direct caring feelings towards oneself, (3) then towards loved ones, (4) then towards acquaintances/strangers, (5) then towards someone with whom one experiences interpersonal difficulties, and (6) then finally to all people and all living beings without distinction (Hoffman et al., 2010). At each step the LKM involves the repetition of short phrases or well-wishes (e.g., *may I/you be safe, may I/you be peaceful, may I/you be healthy, may I/you live with ease*) towards oneself and others. In a review, Hoffman and colleagues (2011) found the LKM to have moderate but significant effects on alleviating depression, social anxiety, marital conflict, and anger.

Moreover, a systematic review and meta-analysis found the LKM to have moderate but significant effects on increasing mindfulness and compassion, and reducing depression (Galante et al., 2014; Hoffman et al., 2011).

Research has found that compassion towards ourselves and others is something that we can cultivate, with compassion-based programs, often incorporating variations of LKM, demonstrating efficacy in improving mindfulness, compassion, interpersonal relationships and psychological flexibility, as well as reducing guilt and stress (Hoffman et al., 2010; Jazaieri et al., 2013; Leaviss & Uttley, 2014; Yadavaia, et al., 2014). Some of the notable programs that have been evaluated through randomised controlled trials include: Compassion Focused Therapy (Gilbert, 2014), the Compassion Cultivation Training Program (Jazaieri et al., 2013) and the Mindful Self-Compassion Program (Germer & Neff, 2003).

The Role of Music in Cultivating Compassion

Music, like compassion, is also a pervasive practice throughout spiritual traditions, used throughout all cultures, and can be traced back to the very earliest humans. Archeologists have found bone and ivory flutes dating back 35,000 years, at a time when modern humans had only just begun colonising Europe (Huron, 2003). It seems that music has played a significant role for us ever since, and the reason for this may be that music is adaptive (Dingle, Brander, Ballantyne, & Baker, 2013).

Evolutionary science has begun to suggest an evolutionary adaptation for music. Huron (2003) hypothesised evolutionary theories about the relationship between music, love and social bonding. Music may have assisted early humans to soothe and care for their babies, aide in learning and passing on information through oral traditions, attract a suitable mate, coordinate efforts and work together, and ultimately inspire the kind of cohesion needed to fight together against a threat (Huron, 2003). Brahms' Lullaby, the Alphabet Song, football club songs and national anthems are all modern examples of these same functions being

relevant today. Koelsch (2013) reviewed the social functions of music today, finding that playing music in a group has many benefits for social cohesion, with individuals communicating, coordinating and cooperating better together.

The function of music to bring people together in love and social bonding (Huron, 2003), as well as the role it plays in enhancing social cohesion today (Koelsch, 2013), mirror what is also hypothesised to be an evolutionary function of compassion, which has been said to enhance the welfare of vulnerable offspring, to be a desirable attribute in mate selection processes, and to enable cooperative relations with non-kin (Keltner, 2009). Indeed, both compassion and music have the capacity to help improve mood, improve quality of life, and help with emotion regulation (Goetz et al., 2010; Thayer, Newman, & Mclain, 2004). We propose that including music alongside meditation, specifically meditations related to LKM, may enhance programs designed to increase the motivations surrounding care for one another and ourselves, and prevent or relieve the suffering of others, or generally speaking, help cultivate compassion.

Motivational Interviewing

Definitions of compassion often include intentional and motivational components (Gilbert, 2014; Jazaieri et al., 2013). Importantly, a dose-response effect has been found to mediate the outcome of LKM, meaning the more frequently an individual engages and repeats the LKM the more significant the outcomes (Hoffman et al., 2011), suggesting the importance of commitment to taking action. Consequently, it is important to explore avenues that help enhance the motivation and commitment for taking compassionate action towards others or oneself. Motivational Interviewing (MI; Miller, & Rollnick, 2013), and the insights it has gained regarding enhancing motivation for behaviour change generally, may provide a model for assessing and enhancing motivation and commitment for compassionate action.

MI is a therapeutic approach that aims at facilitating and enhancing a client's motivation for change. MI is defined by Miller and Rollnick (2013) as "*a collaborative method of communication with particular attention to the language of change. It is designed to strengthen an individual's motivation for and movement toward a specific goal by eliciting and exploring the person's own arguments for change.*" Interestingly, MI itself incorporates compassion, along with partnership, evocation and acceptance, as part of the MI Spirit, or the relationship context within which the motivational interview is conducted. Initially developed for problem drinkers, MI has been found to be an effective approach to helping people change a range of health-related behaviours such as drinking, smoking, drug use, gambling, diet and exercise, and treatment adherence (Lundahl, Moleni, Burke, Butters, Tollefson, Butler, & Rollnick, 2013; Miller & Rollnick, 2013).

The theorised components of a person's motivation to change, referred to in the above definition of MI as "*the person's own arguments for change*" (Miller, & Rollnick, 2013) include their *desire* (what they would like to change), their *ability* (how they would make the change and how confident they are that they can do it), their *reasons* (why they would make the change), their *need* (what makes change important to them personally), and their *commitment* (what they will do). As part of a motivational interview, the clinician evokes 'change talk' from clients on these five components, generally by asking open-ended questions, providing affirmations, and using reflections, as well as summarising what the client is saying, thereby helping the client to formulate their own coherent argument for change. Client change talk or intention to change talk during a motivational interviewing session has been found to predict better client outcomes (Apodaca, & Longabaugh, 2009).

Current measures of compassion do not assess for motivation or commitment to taking compassionate action (MacBeth & Gumley, 2012). To date, compassion towards others and oneself has been separately measured (MacBeth & Gumley, 2012), with the Fear of

Compassion Scale (FCS; Gilbert, McEwan, Matos, & Rivis, 2010) being the most widely used measure to assess for compassion towards others, and the Self-Compassion Scale (SCS; Neff, 2003) being the most widely used measure to assess self-compassion. The FCS includes 38 items and the SCS has 26 items, and both have good psychometric properties (Gilbert, 2014; Neff, 2003). However, a significant limitation of both these compassion measures is that neither assesses the motivation or commitment of compassionate action of the individual. Presumably both are important to measure to determine if compassion programs can enhance an individual's willingness to act on compassion (MacBeth & Gumley, 2012). As a result, the aim of this study was to assess whether our developed '*Convergence*' program impacted people's motivation to be more compassionate towards self and others.

What is Convergence?

Convergence, developed by clinical psychologist Stan Steindl (SS) and musician Anthony Garcia (AG), is a stand-alone two-hour group intervention that combines compassion meditations (LKM) with original music developed to complement the meanings and feelings evoked by the meditation. Please see Table 2 for a description of the program content for Convergence.

Developing the Musical Component.

The first step in developing the musical component of Convergence was to establish a conceptual framework for the integration of loving-kindness meditations with music and to explore an appropriate methodology for balancing musical and spoken word content for each meditation. During these initial planning stages of the Convergence project, a process of creative collaboration between SS and AG led to the development of a method for incorporating musical content in each of the mediations. Specifically, this process involved SS reciting the mediations as AG intuitively improvised solo classical guitar material in response to the words and meanings. At times the improvisations functioned as

accompaniment material softly pulsating underneath the spoken words. During extended pauses in dialogue, musical content was developed with the intention of creating an aesthetic that emotionally supported the core directives of the meditation. When a palpable sonic synergy developed, melodic, harmonic and rhythmic materials were notated to capture the emotive quality that emerged during the improvisation process. These materials were then mapped out in a series of ‘improvisation frameworks’ or preparative scores linked to each meditation. The frameworks incorporated evocative titles such as ‘Kindness Raga’ or ‘Well Wishes’ (See Figure 1) to help integrate the music and dialogue.

May you be safe
 May you be peaceful
 May you be healthy
 May you live with ease

Well Wishes

The musical notation is on a single staff in treble clef, with a key signature of three sharps (F#, C#, G#) and a common time signature (C). The piece begins at measure 45. The melody consists of quarter notes: G4, A4, B4, C5, B4, A4, G4. There are rests in measures 46 and 47. The piece concludes with a final chord of E4, G4, B4, C5. Chord symbols 'C#mi' and 'E' are placed above the staff. The bass line consists of sustained notes: G2, C3, E3, G3, B3, C4, E4, G4, B4, C5.

Figure 1. Meditation 2 – Loving Kindness Towards Others [Phase 2. Well Wishes Towards Others]

These scores functioned as improvisation frameworks (skeletal scores inserted within the meditation text) that guided the music-making process during the Convergence intervention itself (Garcia, 2015).

These improvisation frameworks allowed scope for new, spontaneously generated material, to emerge during the intervention, a process that invested the meditations with a quality of the ‘*here and now*’ energising the spoken dialogue with a performance-based quality, potentially distinct in character to a meditation presented without music. For example, at times during the meditation the music was pulsating in time with the spoken word, giving the dialogue a creative expressive quality that might not otherwise emerge

without live musical support. A sound sample of the music with the spoken word (the initial 5-minutes of a Loving-Kindness Meditation) that was used for Convergence can be found at this link <https://soundcloud.com/anthonygarciacomposer/convergence-excerpt-soul-space-2015>.

Aim and hypotheses

The aim of this study was to test the initial feasibility of the Convergence program and also receive feedback regarding the acceptability of the intervention in a pilot trial. Initial feasibility studies afford the program developers the opportunity to learn how the program impacts the primary outcome measures (in our case compassion motivation), and how it is received in terms of acceptability from the consumers (individuals receiving the intervention; Sanders & Kirby, 2014). Our primary outcome was to determine whether Convergence significantly influenced people's motivation to be more compassionate towards themselves and towards others, and whether this would change two-weeks post-completion of the intervention. We also wanted to assess whether people felt more committed to act compassionately after the intervention. Finally, we also wanted to explore the acceptability of the program and whether people would recommend it to others.

Method

Participants

Participants were recruited through advertising the study via online mediums such as a clinical psychology professional network on Facebook and email contacts of those signed up to a local compassion network. The study was also promoted through word of mouth by the study investigators. Overall we had 28 participants engage in the study, with the majority of the participants being female (25 females; 89%), having completed university education (96%), and the average age was 38.65 years ($SD = 10.59$). The majority of the sample only had a little bit of experience with meditation (46%) and music (36%). We contacted all the

participants two-weeks post the Convergence intervention, with only 14 of the original 28 participants completing the measures. Importantly, chi-square analyses showed no significant difference between the two time periods on the demographic characteristics collected, please see Table 1 below.

Table 1

Demographic Characteristics of Sample

Characteristics	Sample Immediate Response <i>N</i> = 28	Sample Short-Term Response <i>N</i> = 14	χ^2	<i>p</i>
Gender				
<i>Male</i>	3 (11%)	2 (14%)	.373	.541
<i>Female</i>	25 (89%)	12 (86%)		
Age				
25-30	10 (36%)	4 (29%)	10.667	.873
31-35	3 (10%)	1 (7%)		
36-40	2 (7%)	2 (14%)		
41-45	2 (7%)	1 (7%)		
46-50	8 (29%)	4 (29%)		
51-55	2 (7%)	1 (7%)		
60+	1 (4%)	1 (7%)		
Highest Level of Education				
<i>High School</i>	1 (4%)	1 (7%)	1.059	.589
<i>Undergraduate</i>	10 (36%)	5 (36%)		
<i>Postgraduate</i>	17 (60%)	8 (57%)		
Meditation Experience				
<i>None</i>	2 (7%)	1 (7%)	.188	.979
<i>A little bit</i>	13 (46%)	6 (43%)		
<i>A moderate</i> <i>amount</i>	9 (33%)	5 (36%)		
<i>Quite a lot</i> <i>Extensive</i>	4 (14%)	2 (14%)		
	0 (0%)	0 (0%)		

Music Experience	6 (21%)	4 (29%)	1.143	.887
<i>None</i>	10 (36%)	5 (36%)		
<i>A little bit</i>	3 (11%)	1 (7%)		
<i>A moderate amount</i>	7 (25%)	3 (21%)		
<i>Quite a lot</i>	2 (7%)	1 (7%)		
<i>Extensive</i>				

Note. χ^2 Pearson's chi-square

Procedure

The participants completed the 2-hour Convergence workshop with two facilitators guiding the intervention (SS & AG). The participants were voluntary and motivated, as participants had to actively sign-up and pay (AUD\$27.49) for the intervention.

The facilitators guided the participants through the course of the two-hour workshop providing psychoeducation regarding recent developments in the science of compassion, then the three core meditations (affectionate breathing, loving-kindness for others and loving-kindness for self), with time for large group discussion and inquiry following each meditation (see Table 2).

The facilitators followed a manualised protocol developed for the delivery of the Convergence program. The manual included the script for each meditation with timing and sequencing of individual musical pieces and improvisations interwoven through the meditations. The musical pieces were original compositions written by AG, and performed live by him on the day. Careful planning was put into the meditation scripts and the musical accompaniment so that each meditation exercise was completed in 20 minutes.

Design

The design of the study was an initial feasibility pilot test with measurement at three time points, pre-, post- and two-week follow-up intervention. The study was an initial trial of the program Convergence.

Measures

Demographics Questionnaires. A brief demographics questionnaire was used to collect data concerning participants' age, gender, educational background, and previous meditation and music experience.

Compassion Motivation Scale. A brief 11-item measure was developed for the purpose of this study to determine whether the intervention impacted participants' motivation for compassion towards self and others. Currently, a measure assessing this construct is lacking, thus we created a new measure to assess this construct. The developed measure was informed by the scientifically supported motivational components drawn from the literature surrounding MI (Miller & Rollnick, 2013). The measure included one item regarding awareness of suffering, five items measuring motivation and commitment for compassion, and five items measuring motivation and commitment for self-compassion. Participants were asked to respond on a five-point Likert Scale from 1 = strongly disagree; 3 = neutral; 5 = strongly agree. Sample items from the compassion subscale included: '*I would like to be kind and caring towards others*' and '*helping those in need is an important value for me*'. Sample items from the self-compassion subscale included: '*there are advantages to being kind and caring towards myself*' and '*it is important to me to be accepting of my whole self*'. The compassion motivation scale has a total score and two subscales of compassion and self-compassion, which are averaged. The compassion subscale had good internal consistency of $\alpha = .63$; the self-compassion subscale was $\alpha = .79$, with a total scale $\alpha = .84$. See Table 3 for a list of the items of the Compassion Motivation Scale.

Table 3

Items for the Compassion Motivation Scale

Subscale	Item
Awareness of Suffering	I recognise suffering as part of the human experience

Compassion Items

<i>Compassion: Desire (CD)</i>	I would like to be kind and caring towards others
<i>Compassion: Reason (CR)</i>	Supporting and nurturing others has many benefits
<i>Compassion: Need (CN)</i>	Helping those in need is an important value for me
<i>Compassion: Ability (CA)</i>	I feel confident that I can help people who might be suffering
<i>Compassion: Commitment (CC)</i>	I am committed to act more compassionately towards others

Self-Compassion Items

<i>Self-Compassion: Desire (SCD)</i>	I would like to be tender and warm towards myself
<i>Self-Compassion: Reason (SCR)</i>	There are advantages to being kind and caring towards oneself
<i>Self-Compassion: Need (SCN)</i>	It is important to me to be accepting of my whole self
<i>Self-Compassion: Ability (SCA)</i>	I am able to be loving towards myself when I feel emotional pain
<i>Self-Compassion: Commitment (SCC)</i>	I am committed to act more compassionately towards myself

Consumer Feedback. We also asked participants to complete a brief five-item scale that assessed the acceptability of the Convergence program on a five-point Likert Scale from 1 = strongly disagree; 3 = neutral; 5 = strongly agree. These items included: *I enjoyed the Convergence experience; I found the combination of meditation and music useful; I will use these practices to cultivate compassion; I will use these practices to cultivate self-compassion; and I would recommend Convergence to my family, friends and peers.*

Compassionate Action. At follow-up we also included two-items to assess for compassionate action. These included: ‘*compared to usual, how often did you act compassionately towards others over the last two weeks*’ and ‘*compared to usual, how often did you act self-compassionately over the last two week*’. These items were scored on a five-point Likert scale, from 1 = a lot less; 2 = a little less; 3 = about the same; 4 = a little more; and 5 = a lot more.

Results

Immediate Findings

The preliminary findings of the pilot feasibility trial suggested that Convergence had a positive significant impact on the participants' motivation for total compassion from pre to post intervention, $F(1, 27) = 5.117, p < .05$. When examining the subscales of compassion towards others and self-compassion, it appeared that the significant difference was for self-compassion, $F(1, 27) = 7.103, p < .05$, with compassion towards others not experiencing a statistically significant change $F(1, 27) = 2.174, p = .152$, please see Table 4 for all results.

Table 4

Repeated Measures Results for Immediate Compassion Motivation

Compassion Motivation Scale	Pre (N=28)	Post (N=28)	Univariate test
<i>Total</i>			
Mean	4.558	4.701	$F(1, 27) = 5.117, p = .032, \text{partial } \eta^2 = .159$
SD	.351	.292	
<i>Compassion</i>			
Mean	4.607	4.700	$F(1, 27) = 2.174, p = .152, \text{partial } \eta^2 = .075$
SD	.329	.342	
<i>Self-Compassion</i>			
Mean	4.486	4.679	$F(1, 27) = 7.103, p = .013, \text{partial } \eta^2 = .208$
SD	.45	.310	

Examining change from pre-to-post at the item level for the Compassion Motivation Scale using a series of pairwise t-tests, there were three items that experienced significant improvement. These items were all from the self-compassion subscale and these included the desire item, $t(1,27) = -2.714, p = .011$, need item $t(1,27) = -2.714, p = .011$, and the ability item $t(1,27) = -2.274, p = .031$. Please see Table 5 for item results for the Compassion Motivation Scale.

Table 5

Pairwise t-tests results from pre-post for items of the Compassion Motivation Scale

Compassion Motivation Scale	Pre (N = 28)	Post (N=28)	Pairwise t-test
<i>Item 1 - AS</i>			
Mean (SD)	4.679 (.476)	4.821 (.390)	$t(1, 27) = -1.441, p = .161$
<i>Item 2 - CD</i>			
Mean	4.893 (.3158)	4.929 (.262)	$t(1, 27) = -.570, p = .573$
<i>Item 3 - CR</i>			
Mean SD	4.857 (.356)	4.786 (.418)	$t(1, 27) = .812, p = .424$
<i>Item 4 - CN</i>			
Mean (SD)	4.643 (.559)	4.486 (.418)	$t(1, 27) = -1.686, p = .103$
<i>Item 5 - CA</i>			
Mean (SD)	4.071 (.716)	4.214 (.738)	$t(1, 27) = -1.441, p = .161$
<i>Item 6 - CC</i>			
Mean (SD)	4.571 (.573)	4.786 (.418)	$t(1, 27) = -1.800, p = .083$
<i>Item 7- SCD</i>			
Mean (SD)	4.679 (.548)	4.893 (.315)	$t(1, 27) = -2.714, p = .011^*$
<i>Item 8 - SCR</i>			
Mean (SD)	4.786 (.418)	4.893 (.315)	$t(1, 27) = -1.362, p = .184$
<i>Item 9 - SCN</i>			
Mean (SD)	4.643 (.488)	4.857 (.356)	$t(1, 27) = -2.714, p = .011^*$
<i>Item 10 - SCA</i>			
Mean (SD)	3.893 (.875)	4.107 (.786)	$t(1, 27) = -2.274, p = .031^*$
<i>Item 11 - SCC</i>			
Mean (SD)	4.429 (.634)	4.643 (.559)	$t(1, 27) = -1.536, p = .136$

Short-term Results

We also assessed whether the motivation for compassion towards others and self maintained at 2-week post intervention. No significant results were found, indicating the immediate benefits gained from the intervention were maintained at two-week follow-up; please see Table 6 for short-term results.

Table 6

Repeated Measures Results for Short-Term Compassion Motivation

Compassion Motivation Scale	Post (N=14)	FU (N=14)	Univariate test
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<i>Total</i>			
Mean	4.662	4.494	$F(1, 13) = 3.834, p = .072, \text{partial } \eta^2 =$
SD	.343	.259	.228
<i>Compassion</i>			
Mean	4.686	4.529	$F(1, 13) = 1.693, p = .216, \text{partial } \eta^2 =$
SD	.428	.267	.115
<i>Self-Compassion</i>			
Mean	4.629	4.486	$F(1, 13) = 3.736, p = .075, \text{partial } \eta^2 =$
SD	.292	.321	.223

Examining change from post-to-short-term follow-up at the item level for the Compassion Motivation Scale using a series of pairwise t-tests, there were also no significant changes for any of the items, indicating no further improvement, and the maintenance from the immediate benefits gained from the intervention. Please see Table 7 for item results for the Compassion Motivation Scale from post to short-term follow-up.

Table 7

Pairwise t-tests results from post-FU for items of the Compassion Motivation Scale

Compassion Motivation Scale	Post (N=14)	FU (N=14)	Pairwise t-test
<i>Item 1 - AS</i>			
Mean (SD)	4.714 (.469)	4.357 (.497)	$t(1, 13) = 2.110, p = .055$
<i>Item 2 - CD</i>			
Mean	4.857 (.363)	4.875 (.363)	$t(1, 13) = 0.00, p = 1.000$
<i>Item 3 - CR</i>			
Mean SD	4.786 (.426)	4.714 (.469)	$t(1, 13) = .563, p = .583$
<i>Item 4 - CN</i>			
Mean (SD)	4.786 (.426)	4.571 (.514)	$t(1, 13) = 1.385, p = .189$
<i>Item 5 - CA</i>			
Mean (SD)	4.289 (.825)	4.142 (.363)	$t(1, 13) = 0.618, p = .547$
<i>Item 6 - CC</i>			
Mean (SD)	4.714 (.469)	4.357 (.497)	$t(1, 13) = 2.110, p = .055$
<i>Item 7 - SCD</i>			
Mean (SD)	4.857 (.363)	4.786 (.426)	$t(1, 13) = 0.563, p = .583$

<i>Item 8 - SCR</i>			
Mean (SD)	4.857 (.363)	4.643 (.497)	$t(1, 13) = 1.385, p = .189$
<i>Item 9 - SCN</i>			
Mean (SD)	4.929 (.267)	4.714 (.469)	$t(1, 13) = 1.883, p = .082$
<i>Item 10 - SCA</i>			
Mean (SD)	4.000 (.679)	4.071 (.475)	$t(1, 13) = -0.322, p = .752$
<i>Item 11 - SCC</i>			
Mean (SD)	4.500 (.650)	4.214 (.699)	$t(1, 13) = -1.749, p = .104$

Consumer Feedback and Compassionate Action

We also collected consumer feedback and asked participants compared to usual how compassionate they had been to themselves and others over the two-week period post intervention. Overall, on the five-point Likert scale 82% of participants strongly agreed to enjoying the program ($M = 4.786; SD = .49$), 93% strongly agreed that it was useful ($M = 4.893; SD = .42$), and 60% strongly agreed to recommending Convergence to their friends, family, and peers ($M = 4.536; SD = .64$). In addition, immediately after the program 97% of participants either agreed (68%) or strongly agreed (29%) that they would practice compassion ($M = 4.250; SD = .52$) and 93% of participants agreed (64%) or strongly agreed (29%) that they would practice self-compassion ($M = 4.214; SD = .57$). At short-term follow-up participants were asked about how often they had acted compassionately and reported that overall they had acted about the same in terms of compassionate action towards others ($M = 3.214; SD = .58$) and about the same for compassion for self ($M = 3.64; SD = .50$).

Conclusion

The results of this pilot study suggest that Convergence, a light-touch intervention of two hours aimed at cultivating compassion by incorporating both loving-kindness meditation practices and original music performed live, had a significant impact on participants' motivation and commitment towards compassion, specifically the self-compassion subscale. The results indicated that participants' desire, need and ability to be self-compassionate all

significantly increased from pre- to post-workshop and these gains were maintained over the following two-week period. Of these three items, participants' sense of their ability to be self-compassionate was rated lowest out of the four components of motivation at pre-workshop.

This finding related to ability was particularly interesting. In the MI literature, ability change talk is thought to reflect both *how* a person might make a change, and *how confident* a person is that they can make it (Miller, & Rollnick, 2013). For example, a person might believe that they need to exercise, but they are not yet confident that they can do it. The results of this pilot study, though very preliminary, may indicate that building a person's sense of confidence regarding self-compassion is integral to actually promoting greater self-compassionate action. Further to the MI literature, commitment language is thought to be most predictive of actual change (Miller, & Rollnick, 2013). Unfortunately, although commitment to act more compassionately to both others and oneself increased, they did not increase statistically significantly. Interestingly at post-workshop, all but two participants agreed or strongly agreed that they "will use" (an example of commitment language) the Convergence practices to cultivate compassion and self-compassion.

The intervention was considered minimal in its dosage, that being it was only a standalone two-hour intervention. As a meditative practice that requires effort and understanding, LKM has been found to significantly improve a participant's level of self-compassion (Neff & Germer, 2013; Galante, Galante, Bekkers & Gallacher, 2014) and mood (Gilbert & Proctor, 2006; Hoffman et al., 2015) over a period of 7-12 sessions. However, LKM has also been shown to have a very immediate effect on a person's cognition, influencing their affective and emotive states after only several minutes of practice, which we experienced in our study. For example, Hutcherson, Seppala & Gross (2008), conducted a brief seven-minute Loving-Kindness Meditation where participants were asked to extend loving-kindness towards others in their life followed by a subsequent stranger. After this brief

exercise, participants displayed greater positivity towards themselves compared to a control. Participants also demonstrated greater feelings of connectedness towards others in their life, which extended to include greater feelings of connectedness to successive strangers. Thus, examining the dosage effect of the Convergence meditations through making them available online would be of interest. Indeed, making the meditations available online would enable tracking of how often the tracks were listened to, providing further assessment of its perceived acceptability.

In terms of whether the intervention was deemed acceptable, participants clearly indicated their support for the intervention with 82% of participants enjoying the program and 93% finding it useful. A key reason to assess for consumer acceptability of a program is that individuals are more likely to access treatments that they view as acceptable (Borrego & Pemberton, 2007), while treatments that are perceived as unacceptable may not be accessed regardless of their effectiveness (Eckert & Hintze, 2000).

The preliminary evidence from this pilot study on the Convergence workshop suggested it enhanced participants' motivation and commitment around self-compassion. However, this pilot study did have some significant limitations. Firstly, the relatively small group of participants represented the views of a relatively homogenous group, that being predominantly highly-educated females, who were already motivated to participate in the study. In the field of compassion research it is not uncommon for the majority of participants to be female (Leaviss & Uttley, 2014). It would be of interest to repeat this study, in attempt to engage more with male participants, indeed research examining pathways to encourage more men to either attend these existing programs or develop programs that are more suited to men would be very useful for the field of compassion research. Secondly, our primary outcome measure was a newly developed compassion motivation measure, which has not been formally psychometrically developed. Although the study found the measure itself had

relatively good internal consistency, each component of motivation was only measured with a single item. There is an urgent need for a measure, such as this one, to be assessed both in terms of reliability and validity that captures both the motivation and commitment towards compassion and self-compassion. Such a measure will help determine whether programs aimed at cultivating compassionate action are able to transition significant increases in compassionate feeling into compassionate action (MacBeth & Gumley, 2012). Thirdly, we did not include other compassion measures, such as the Self-Compassion Scale (Neff, 2003) or the Fear of Compassion Scales (Gilbert, McEwan, Matos, & Ravis, 2010). The inclusion of these measures would have helped to assess for the validity of our newly developed compassionate motivation measure. Fourthly, our study design was a simplistic pilot trial, where there was no control group or randomisation of participant to condition. Thus, we cannot discount that the findings from the current study could be a result of placebo or participant expectancy of positive outcome. Future research needs to examine the intervention under more rigorous conditions that includes a control comparison such as an active LKM condition, a relaxation condition, and a waitlist control condition. Finally, future research should also consider including a musical measure, to determine whether participants found the music helped enhance the potency of the LKM.

Collectively this pilot trial found encouraging and promising findings for the impact of Convergence on improving motivation and commitment to be self-compassionate, with participants finding it an enjoyable and useful intervention. To our knowledge this is the first study that has examined the combination of the LKM with a musical score. The next step is to now examine the intervention in more rigorous conditions, such as a randomised controlled trial, with a larger more heterogeneous sample, which also considers examining the dosage effect of the intervention.

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Table 2

The Content Description of the Convergence Program

Section	Activities	Musical Pieces
1. Introduction	15-minute presentation: Defining compassion and self-compassion, elaborating on the relationship between compassion and well-being, describing the evolutionary science and neuroscience of compassion, and identifying the link between compassion and music.	
2. Creating an affectionate space	20-minute meditation: Affectionate breathing, seated, eyes closed, hand on heart, and breathing with affection. 10-minute inquiry.	Improvised Supportive Pulse <i>Kindness Raga</i> (Three Movements)
3. Loving-kindness towards others	20-minute meditation: Loving-kindness for others, “may you be safe, may you be peaceful, may you be healthy, may you live with ease”, directed towards loved one, family members and friends, and all living beings, practiced as part of mindful walking. 10-minute inquiry.	Improvised Supportive Pulse <i>Meditation II Framework</i> (Five Movements)
4. Loving-kindness with self-compassion	20-minute meditation: Loving-kindness with self-compassion, breathing, inclining towards the self, “may I be safe, may I be peaceful, may I be healthy, may I live with ease”, finding other phrases “that might be just what you need to hear right now in your life”. 10-minute inquiry	Improvised Supportive Pulse <i>Breathing Underwater</i> <i>Don't Be Frightened</i>

5. Conclusion 10-minute discussion: What did you like about, or learn from the session, what surprised you?

5-minute activity: In pairs, what will you do to be more compassionate towards other and self?
