

Preliminary Experimental Evaluation of a Behavioral-Cognitive Method of Increasing Life Excitement

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Abstract

This randomized controlled trial with 113 adults evaluated the effects of a behavioral-cognitive method developed to increase life excitement. The intervention included encouraging participants to (1) do something new, (2) go somewhere new, (3) act spontaneously, (4) take on a new challenge, (5) learn something new, (6) interact with exciting individuals, (7) engage in romantically or sexually exciting behaviors, (8) read, watch, or listen to something suspenseful or stimulating, (9) take a (reasonable) risk, (10) engage in stimulating exercise or sport, (11) accomplish something new, (12) pursue their own interests, (13) talk with others about exciting experiences, (14) think about past exciting activities, or (15) plan future exciting activities. Participants reported level of excitement-aimed behavior, positive affect, and life satisfaction at pre-intervention and post-intervention. Experimental-group members also reported their outcome levels three months after the end of the intervention. At pre-intervention, excitement-aimed behavior was significantly associated with positive affect and life satisfaction. The intervention had significant between-groups effects on excitement-aimed behavior and positive affect. The experimental group maintained significant pre-post improvements on these variables through a three-month follow-up. The results provide initial support for a new method of increasing positive affect.

Keywords

Excitement, intervention, positive affect, and randomized controlled trial

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Excitement involves cognitive, emotional, behavioral, and physiological elements, including arousal (Cannon, 1952). These cognitive, emotional, behavioral, and physiological elements include (1) focusing attention on the source of the excitement, e.g., an exciting activity; (2) feeling excited and energetic; (3) acting with vigor; (4) having elevated arousal, including increased heart rate and blood sugar, and (5) having an overall positive subjective experience (Cannon, 1952). Individuals vary in how much excitement they want, how much excitement they experience in life, and what they find exciting (Apter, 1992). For instance, some individuals find rock climbing exciting, and some find it too scary to enjoy. Seeking excitement could be characterized as sensation seeking; however, sensation seeking usually is viewed as a personality trait that involves seeking sensations, even at substantial risk (Zuckerman, 1979). Seeking excitement need not be part of a trait, and it need not involve taking any risks.

Excitement can be viewed as part of positive affect. Factor analysis identified excitement as one of 10 relatively pure descriptors of positive affect that loaded high on positive emotions and low on negative emotions (Watson, Clark, & Tellegen, 1988). Hence, one might consider excitement a possible path to high positive affect, which in turn is associated with many positive characteristics and outcomes. For instance, positive affect leads to greater flexibility in thinking and openness to new ideas and experiences (Fitzpatrick & Stalikas, 2008b; Fredrickson, 2001). Individuals who experience more positive emotion enjoy more diverse and rewarding social lives and stronger immune systems and live longer (Kok et al., 2013; Lyubomirsky, King, & Diener, 2005). Positive emotions can facilitate adaptive changes and coping abilities (Fitzpatrick & Stalikas, 2008a; Folkman & Moskowitz, 2000; Fredrickson, 2001) that facilitate psychological well-being. Fredrickson's (2001) broaden and build theory posits that positive emotions tend to broaden awareness and to increase exploration in thinking and action.

Studies have shown that it is possible to increase level of positive affect. Meta-analyses of the effects of positive psychology interventions found that such interventions have significant effects on positive affect or the related construct of happiness (Bolier et al., 2013; Sin & Lyubomirsky, 2009). Many of these interventions involved expressing gratitude or counting blessings; however, those types of interventions may not suit all individuals.

There is also reason to believe that positive affect can be increased by maximizing life excitement. In experimental studies, Aron, Norman, Aron, McKenna, and Heyman (2000) found that asking couples to engage in novel, arousing joint activities led to increased relationship quality. These activities included completing unusual joint physical tasks while strapped to each other. One might interpret these challenging activities as excitement inducing. The intervention may have increased positive affect, but the study did not assess that construct.

A recent study (Malouff, Mundy, Galea, & Bothma, 2015) investigated how couples maintain excitement in romantic relationships; the results led to the creation of a new model of maintaining excitement in relationships. The activities postulated by the model include being adventurous, passionate, playful, romantic, sexual, and spontaneous, on the foundation of good communication, shared activities, and autonomous functioning. Coulter and Malouff (2013) completed a randomized controlled trial in which they provided couples with ideas for engaging in exciting activities over a four-week period. The intervention involved suggesting joint activities that were

(1) adventurous, (2) passionate, (3) sexual, (4) exciting, (5) interesting, (6) playful, (7) romantic, or (8) spontaneous. The researchers gave examples of possibly exciting activities and provided links to books and web sites that gave additional ideas. For instance, the activities might include travel to a new place or engaging in some new recreational or sexual activity. The researchers asked the participants to choose at least one exciting activity per week for at least 90 minutes. Participants in the experimental group had significantly higher levels of relationship excitement, relationship satisfaction, and positive affect post-intervention than the control group. The positive benefits persisted for four months – from baseline to final assessment. The findings of the study of Malouff et al. suggest that a correspondingly lasting increase in life satisfaction may also be achievable.

It might be possible for interventions to increase excitement more broadly than within romantic relationships. Because excitement is a central part of positive affect, as judged by the high loading (.68) of excitement on the positive affect factor found in research on positive and negative affect (Watson et al., 1988), increasing excitement would logically increase positive affect.

As a first step in the direction of increasing positive affect through increasing life excitement, we developed a set of strategies that had potential for helping individuals increase life excitement. Prior work on excitement by Apter (1992), Aron et al. (2000), Cannon (1952), Coulter and Malouff (2013), and Malouff et al. (2015) suggested that two types of action might make life more exciting: (1) value-congruent activities that create arousal because they are novel, challenging, spontaneous, suspenseful, or biologically activating and (2) methods of extending the excitement, such as planning, thinking about, or talking about exciting activities. Because we expected participants to vary in their values and interests, we included various options from which individuals could choose (such as going somewhere new) and invited participants to choose options that suited them.

The main correlational hypotheses were that the greater the extent to which individuals engaged in excitement-aimed behaviors in their life prior to the intervention, the higher their level of excitement, positive affect, and life satisfaction would be. The main experimental hypotheses were that an intervention based on encouraging engagement in excitement-aimed behaviors would lead to higher levels of (1) excitement-aimed behavior, (2) positive affect, and (3) life satisfaction. An additional hypothesis was that the experimental group would maintain its increase in the variables over three months after the end of the intervention. We chose three months for the follow-up assessment as a substantial period of time to test for an enduring effect. We could have gone for a longer time period, but we anticipated increasing attrition as time passed.

Method

Power Analysis

A power analysis using Power and Precision (Borenstein, Rothstein, & Cohen, 2001) software evaluated the experimental part of the study. The analysis indicated that using ANCOVA, applying Cohen's medium effect size of $d = 0.50$, an alpha level of .05, an estimated correlation between measures from pre to post of .60, with a desired power level of .80, each condition would require approximately 46 participants to complete the post-intervention assessment.

We based the estimated effect size on Cohen's (1988) suggestion that it be used when, as here, there are no similar studies indicating a different effect size. We based the estimated .60

correlation between scale scores at pre and post on the prior findings that the positive affect scale we used had test-retest reliability over eight weeks of .68 or higher (Watson et al., 1988), and the life satisfaction measure had one-month test-retest reliability of .84 (Pavrot & Diener, 1993). A minimum of 114 participants to start would allow for a 20% attrition rate prior to final post-intervention assessment. To be conservative, we estimated a 20% attrition rate based on the 13% attrition in a study that evaluated an intervention intended to increase excitement in romantic relationships (Colter & Malouff, 2013) and on a typical attrition rate of about 20% for studies of positive psychology interventions included in a meta-analysis (Bolier et al., 2013).

Participants

A total of 113 individuals agreed to participate in the four-week online intervention. Participants included 84 females and 29 males of ages 18 to 66 years ($M = 40.47$, $SD = 13.69$). Seventy-six participants (67%) had at least a bachelor's degree. Ninety-eight participants (87%) lived in Australia, with 15 living in other countries.

Intervention

Experimental-condition participants received online *Exciting Activity Program Instructions* (reproduced in Appendix A), which included activities that create arousal and methods of extending the excitement. The instructions suggested participants (1) *do something new*, (2) *go somewhere new*, (3) *act spontaneously*, (4) *take on a new challenge*, (5) *learn something new*, (6) *interact with exciting individuals*, (7) *engage in romantically or sexually exciting behaviors*, (8) *read, watch, or listen to something suspenseful or stimulating*, (9) *take a (reasonable) risk*, (10) *engage in stimulating exercise or sport*, (11) *accomplish something new*, (12) *pursue their own interests*, (13) *talk with others about exciting experiences*, (14) *think about past exciting activities*, or (15) *plan future exciting activities*. For example, one suggested activity was this: "Do something you have never done before. What have you always wanted to do? Climb the Sydney Harbour Bridge, go on a cruise? Join a special-interest group online or in person?"

The instructions provided links to online articles describing exciting activities, along with anecdotal examples, to model exciting behaviors and to provide vicarious reinforcement. The instructions encouraged participants to think about how they might incorporate some or all of the suggestions in their life over the coming four weeks. The instructions asked participants to complete two forms: an *exciting activities plan* (Appendix B) and an *excitement scorecard* (Appendix C). The purpose of these forms was to help participants plan, complete, and monitor their exciting actions. We asked participants to engage in the recommended activities for at least 90 minutes per week to prompt them to put what we considered a substantial amount of time into the intervention. While completing the four-week intervention, the experimental group received weekly emails prompting them to ask questions, if they had any, and to share their experiences with us via email.

Measures

Behaviors That Lead to Excitement. We created for the study a measure of behaviors and related cognitions that have potential to lead to excitement. The measure assesses the frequency of

13 self-reported behaviors and 2 self-reported cognitions that prior research findings (Apter, 1992; Aron et al. (2000), Cannon, 1952; Coulter & Malouff, 2013; Malouff et al., 2015) suggest have potential to lead to life excitement: *acted spontaneously, engaged in stimulating physical activities involving exercise or sports, had stimulating experiences with a romantic partner, pursued your own interests, visited new places, interacted with new individuals, read, watch, or listened to something suspenseful or stimulating, learned something new and interesting, taken on a challenge, taken a risk, spent time with interesting individuals, accomplished something new and interesting, thought about past or future exciting activities, spoken to others about exciting thoughts or activities.* The first 13 items pertain to activities we expected to be exciting. The final two items relate to cognitive-behavioral activities that might extend excitement. Response options range from 0 = *never* to 5 = *very often*, with higher scores indicating greater participant engagement with exciting behaviors and cognitions. We chose these response options to cover the range of possible frequencies, each indicated by a commonly used word such as “never.” The overall measure had a Cronbach’s alpha of .90 at pre-intervention ($N = 113$) and .90 at post-intervention ($N = 81$) in the current sample. The overall measure has content validity to the extent that it parallels the 15 behaviors and cognitions recommended in the intervention.

Positive Affect. The positive affect scale of the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) is a 10-item measure of the extent to which a person feels engaged, full of energy and enthusiastic (Watson et al., 1988). The scale includes items such as “excited” and “alert.” A number of different time frames have been used for the PANAS; in the current study participants indicated how they felt over the past month. Respondents rate positive mood indicators on a 5-point scale (1 = *very slightly or not at all*, 3 = *moderately*, 5 = *extremely*). We used all 10 items to assess positive affect. The widely used positive affect scale has shown good construct validity (Leue & Beauducel, 2011; Watson et al., 1988) and reliability, with Cronbach’s alpha = .89 (Crawford & Henry, 2004). In the current sample, Cronbach’s alpha was = .91 ($N = 113$) at pre-intervention and .92 at post ($N = 81$).

Satisfaction with Life. The Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) is a five-item scale designed to measure global judgments of satisfaction with one's life (Diener, Emmons, Larsen, & Griffin, 1985). Participants indicate their agreement on a 7-point scale (1= *strongly disagree*, 4 = *neither agree nor disagree*, 7 = *strongly agree*) to statements such as “*If I could live my life over, I would change almost nothing.*” Higher scores indicate greater life satisfaction. Prior research found an average Cronbach's alpha of .85 (Pavot & Diener, 1993). In the current sample, the Cronbach’s was .86 at both pre-intervention and post-intervention ($Ns = 113, 81$). The life satisfaction measure has good evidence of validity (Diener, Inglehart, & Tay, 2013).

Adherence Measure for Experimental Group. We asked experimental group to indicate the amount of time they invested in completing the excitement intervention. Participants were asked if they engaged in exciting thoughts or behavior on average per week over the prior two weeks for: 90 minutes or more, 60 minutes or more, 30 minutes or more, or less than 30 minutes. We assessed time spent on the activities because we asked participants to devote at least 90 minutes per week to them.

Procedure

We obtained approval for the study from the University of New England (Australia) research ethics committee and proceeded to recruit participants via social media, a media release, community noticeboards, and a presentation to a community group in rural Australia. Interested individuals read online that the aim of the study was to test the effects of a new method of increasing life excitement. They also read that we would keep their participation and responses confidential. They then completed an online baseline questionnaire with demographic items and the scales described above. In most instances, the question format required them to answer one question before going on to another. We allowed participants to not answer a few unessential items, e.g., about their age, before going on.

Participants provided contact and demographic information and then completed the battery of measures: the behaviors that lead to excitement scale, the positive affect scale, and the life satisfaction scale. After potential participants completed baseline measures, we used a coin toss to randomly assign participants to the experimental condition or the waiting list control group. We informed members of the waitlist group they would begin the study in four weeks. In the hope of enhancing study completion, we offered participants in both the experimental group and the control group entry into a draw to win one of four \$100 gift certificates if they completed all assigned assessments.

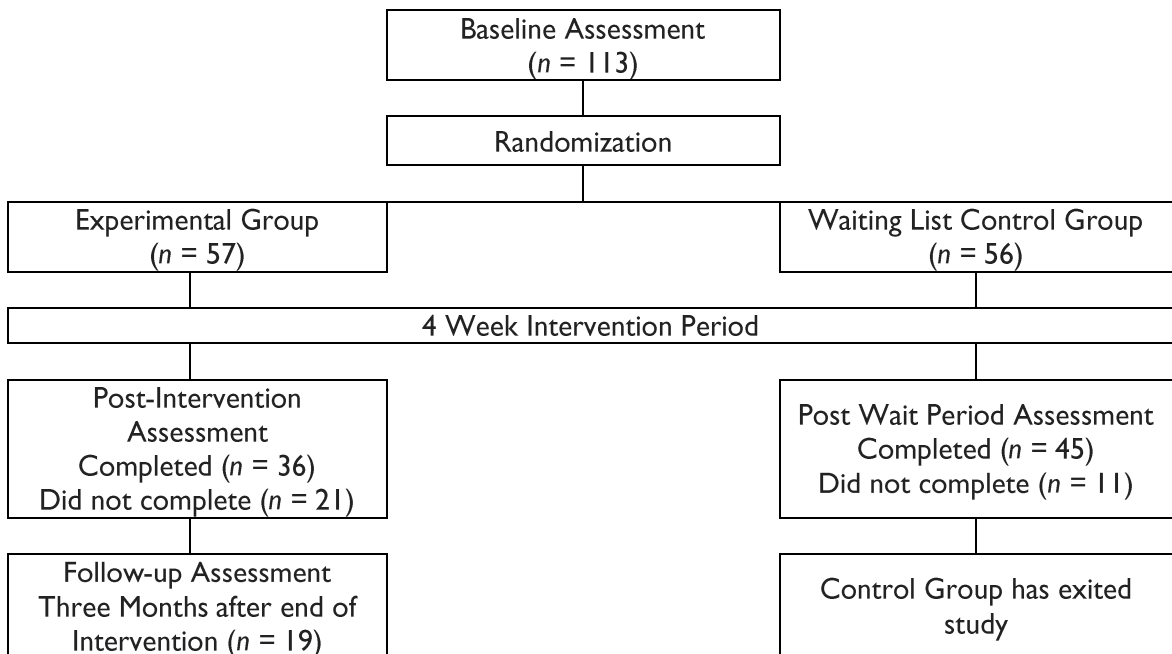


Figure 1. Participant flow through the study.

Participants completed the main study measures again four weeks later. During that assessment, members of the intervention group also completed the adherence questions. The adherence questions were forced response, but some participants who completed the main measures did not answer the subsequent adherence items. After control-group members completed the assessment,

we provided the intervention to them, and they left the study. Three months after the experimental group members completed the intervention, we asked them to complete the follow-up questionnaire with the main study measures one last time. Figure 1 shows participant flow through the study. Participants completed all measures online. Participants were not anonymous during the study.

Results

Main Correlational Results

We checked plots of the hypothesized correlations for both linear and nonlinear associations and found only linear associations. All of the main correlational hypotheses were supported, with significant positive associations between level of excitement-aimed behavior and positive affect ($r = .73$) and life satisfaction ($r = .40$). Positive affect was associated at $r = .50$ with life satisfaction. All associations, with $N = 113$, were significant at $p < .001$.

To explore the results as fully as possible, we examined whether age was associated with the main variables at pre-intervention. The results, with $N = 113$, were that age was negatively associated with life satisfaction at $r = -.20$, $p = .03$, positive affect at $r = -.12$, $p = .22$, and level of exciting activities at $r = -.10$, $p = .29$. Due to the relatively low number of men in the study, we did not examine associations of the main variables with sex.

Descriptive Statistics for the Two Groups of Completers at Baseline

Table 1 provides descriptive data for each group at baseline. The groups were not significantly different on any variable at the start.

Table 1. Mean pre-intervention group scores for variables

Variable	Pre-Intervention M (SD)		F	p*
	Waiting list Control Group (n = 56) Mean (SD)	Experimental Group (n = 57) Mean (SD)		
Behaviors that Lead to Excitement	42.8 (9.2)	43.4 (10.8)	0.2	.64
Positive Affect	27.1 (7.3)	28.0 (8.2)	0.1	.76
Satisfaction with Life	20.1 (6.0)	20.8 (7.6)	0.3	.58
Age	39.8 (14.1)	41.2 (13.3)	0.3	.58
Women/men percentage	76%	79%		

Note. Chi square showed no significant difference between groups on sex split, $\chi^2(1) = 2.44$, $p = .12$.

*For difference between the groups.

Comparison of Participants Who Completed the Post-Intervention Assessment and Those Who Did Not

Separate ANOVAs for the experimental group and waitlist compared those participants who completed the post-intervention assessment with those who did not. There was only one significant difference: The 45 members of the waitlist group who completed the post-intervention assessment had significantly higher life satisfaction scores at pre-intervention ($M = 20.96$, $SD = 5.81$) than the

11 in that condition who did not complete the post assessment ($M = 16.73$, $SD = 5.68$), $F(1,54) = 4.72$, $p = .03$.

Adherence Levels for Experimental Group

At post-intervention, 29 of the participants in the experimental group indicated how much time on average they participated in exciting thoughts or activities over the prior two weeks. Seven other members of the group did not respond to the question about participation level. Twelve (41%) indicated 90 minutes or more (as recommended in the intervention instructions); 9 (31%) indicated 60 minutes or more; 7 (24%) indicated 30 minutes or more; 1 (3%) indicated less than 30 minutes.

Main Experimental Results

We tested the assumptions of the planned between-groups ANCOVAs by checking normality of the variables at pre and post, homogeneity of variance, and the linearity of correlations with the covariate (the baseline score for the variable). For the analyses involving use of exciting methods, all assumptions were met. The analyses for positive affect and life satisfaction failed to meet the assumptions of normality and homogeneity of variance. For those analyses, we therefore switched to change scores. Those also failed to meet the assumption of normality, so we used the nonparametric Mann-Whitney U Test, which has none of the above assumptions, to compare the two groups. Because the two groups had different shapes to their distributions of change scores, we used the U test of distributions, as recommended by Laerd Statistics (2013).

Table 2 shows the means for key measures for each condition at pre and post. To test the hypothesis that an online behavioral-cognitive intervention would produce a higher level of recommended excitement-relevant behaviors at post-intervention compared to a waiting list control group, we used analysis of covariance (ANCOVA). Tabachnick and Fidell (2013) recommended ANCOVA over other statistical methods when data are collected on two occasions from two groups. The ANCOVA indicated that, after accounting for pre-intervention scores of exciting behaviors, there was a significant intervention effect, $F(1,78) = 16.41$, $p < .001$, Cohen's $d = 0.52$. Cohen (1988) considered a d of 0.50 to be a medium effect size.

Table 2. Mean pre- and post-intervention scores for completers in experimental group and control group

Variable	Experimental Group ($n = 36$)		Control Group ($n = 45$)	
	Pre M (SD)	Post M (SD)	Pre M (SD)	Post M (SD)
Behaviors that lead to excitement	41.8 (11.0)	51.9 (9.7)*	42.8 (9.1)	45.4 (10.2)
Positive affect	26.9 (8.4)	33.2 (8.8)*	27.4 (7.7)	28.9 (7.9)
Life satisfaction	20.1 (8.2)	22.7 (6.1)	21.0 (5.8)	23.3 (6.1)

Note. *Pre-post changes statistically significant at $p < .05$.

A second hypothesis predicted that after the intervention, positive affect would be higher in the experimental group than a waiting list control group. The results supported this hypothesis in that, after accounting for the level of positive affect pre-intervention, the experimental group had significantly higher levels of positive affect at post-intervention than the control group. The Mann-Whitney U Test with change scores showed a significant difference between groups, $U = 452$, $p = .001$.

The final between-groups research hypothesis predicted that after the intervention satisfaction with life would be higher for the experimental group than for the waiting list control. This hypothesis was not supported, as there was no significant effect on change in life satisfaction, Mann-Whitney $U = 686, p = .24$.

Long-term Follow-up Results

To evaluate the long-term effects of the intervention on the experimental group, we compared scores at baseline and four months later. The measure of exciting behaviours met the assumptions, including normal distribution of data, for a within-groups t test. Using one-tailed paired-samples t -tests, with $n = 19$, for the main outcome variables, we found that, on average, experimental group participants who completed the follow-up assessment had a significantly higher use of the recommended methods at follow-up than at baseline, with a baseline mean score on the exciting behavior measure of 43.2 ($SD = 11.4$) and a follow-up mean score of 50.3 (12.2), $t = 3.14, p = .003$.

The other measures did not have normal distributions, so we used the nonparametric Wilcoxin signed rank test to evaluate maintenance of changes. With regard to positive affect scores, the 19 experimental group participants had a mean baseline score of 27.1 ($SD = 9.6$) and a mean follow-up score of 31.0 ($SD = 8.9$), standardized signed rank test = 2.05, $p = .04$. On life satisfaction, the 19 participants had a mean baseline of 20.1 ($SD = 9.2$) and significantly higher mean follow-up score of 23.3, ($SD = 8.7$), standardized signed rank test = 2.92, $p = .003$.

Table 3. Corrected item-total correlations for the measure of behaviors that lead to excitement

Item	Correlation with scale without the item
Acted spontaneously	.62
Engaged in stimulating physical activities involving exercise or sports	.34
Thought about past or future exciting activities	.44
Engaged in new activities	.74
Spoke to others about exciting thoughts or activities	.68
Had stimulating experiences with a romantic partner	.37
Pursued your own interests	.62
Visited new places	.67
Interacted with new individuals	.58
Read, watched, or listened to something suspenseful or stimulating	.48
Learned something new and interesting	.65
Taken on a challenge	.68
Taken a risk	.51
Spent time with interesting individuals	.59
Accomplished something new and interesting	.74

Ancillary Results Regarding the Measure of Exciting Behaviors

Because the measure of exciting activities is relatively new, we examined the association between each item and the overall scale score, corrected for the absence of the item. Table 3 shows the results, which indicated that responses to the individual items were moderately associated with the corrected scale score.

Discussion

The study evaluated the association between excitement-aimed behavior and (1) positive affect and (2) life satisfaction. The associations were significant, as hypothesized, providing initial correlational support for the behaviors targeted for excitement increases in the intervention. The study also tested whether prompting adults to engage in specific types of excitement-aimed activities would lead to increased levels of those activities, increased positive affect, and increased life satisfaction. The between-groups results of the randomized controlled trial indicated that the online intervention succeeded in increasing excitement-aimed behaviors and positive affect. The participants in the experimental group showed significantly higher levels of excitement-aimed behavior and positive affect at three months after the end of the four-week intervention than at baseline. This result indicates that the intervention may have effects that last for at least four months.

Importantly, the present results add a new excitement-aimed method of increasing positive affect to methods such as expressing gratitude and counting benefits that researchers previously found to increase positive affect (Sin & Lyubomirsky, 2009). The online delivery makes the intervention low-cost and easily accessible. The results also indicate that excitement plays a causal role in positive affect. The findings add to prior experimental research that found that a somewhat similar online intervention for couples improved positive affect, as well as relationship satisfaction (Coulter & Malouff, 2013). Finally, the results provide additional psychometric support for the measure of exciting activities in its high internal consistency, the significant associations with measures of positive affect and life satisfaction, and the sensitivity to change shown by the between-groups analysis.

The results did not show a significant between-groups effect for life satisfaction immediately at the end of the intervention. It could be that life satisfaction is not affected by an increase in exciting activities. However, the follow-up assessment of the experimental group showed significantly higher life satisfaction scores than at baseline, so it is also possible that the intervention had a delayed effect on life satisfaction. That could occur as life satisfaction may be more trait-like than positive affect and therefore take longer to change. Waiting list completers had significantly higher life satisfaction at pre-intervention than waiting list noncompleters. It is possible that this difference played a role in the lack of significant between-groups differences, but the completers in both the experimental group and the waiting list group started the study with similar mean scores on life satisfaction. It is possible that the life satisfaction difference between completers and noncompleters was a chance finding, with no effect on outcome.

The study method had strengths in its experimental nature, which allows for causal conclusions, and in the use of positive-affect and life-satisfaction measures that have good evidence of

reliability and validity. But the study also had several limitations. First, only 41% of intervention participants who completed the study devoted the requested 90 minutes per week to the recommended activities. However, perfect adherence is not likely in an online intervention (Beatty & Binnion, 2016). Second, the study had a higher than expected level of drop-out, with 37% of participants lost prior to the post-intervention assessment and even more lost prior to the three-month follow-up assessment. The low adherence rate and the high attrition might be due to (1) the online nature of the study, (2) the time demands of the intervention, (3) specific aspects of the intervention, or (4) to some other factor. Third, the study examined a sample of individuals most of whom live in Australian. It is possible that the results would not generalize to much different cultures. Fourth, the study included mostly women; it is possible the results would not generalize to men. Fifth, the individuals who entered this life-excitement study might be more interested in making changes than most individuals. The intervention might not benefit individuals with different personality or other characteristics. For instance, some individuals might be unwilling to engage in new activities; other individuals might have insufficient money to complete some of the recommended activities, such as traveling to new places. Sixth, the study had no attention-placebo control condition. Hence, the positive effects of the intervention could be due to placebo effects. Seventh, the measure of exciting cognitions and behaviors has somewhat subjective response options that do not precisely indicate frequency. A more precise measure might be more valid. In light of the limitations of the research method, one might best view the study as a pilot investigation.

The results suggest that further research is warranted on the effects of the behavioral-cognitive intervention used in the present study. Studies with samples in different cultures and studies of dysphoric and other clinical populations would help evaluate the generalizability of the results. Studies testing part of the intervention, e.g., the behavioral part, could help identify the most important aspects of the intervention. Further, studies that examine individual levels of adherence and specific types of exciting activities completed by members of an intervention group could help researchers identify the mechanisms of change. Finally, studies could compare the effects of the intervention with the effects other methods previously found to increase positive affect.

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Appendix A

Exciting activity program instructions

Our prior research findings have suggested 15 ways individuals can increase excitement. Please read these ideas and think about how you might incorporate some or all of them in your life over the coming days and weeks.

Activities to Increase Life Excitement

1. **Do something new.** Do something you have never done before. What have you always wanted to do? Climb the Sydney Harbour Bridge, go on a cruise? Join a special-interest group on line or in person. Now's the time to make it happen.
2. **Go somewhere new.** Go somewhere new this weekend. Choose a new location for your next holiday. Experience a different culture.
3. **Act spontaneously.** Say 'yes' to unexpected invitations. Travel a different route to work. Eat in a restaurant with an unfamiliar cuisine. Ask out someone you have admired from afar.
4. **Take on a new challenge:** Want a degree in something? Go get it. Is there something that scares you? Feelings of excitement and fear share many similarities. If you fear public speaking, join Toastmasters and start rethinking your fear as excitement – how exciting it would be to communicate and share your ideas with others. Studies suggest that thinking differently about the things that scare us, such as flying or heights, can change the way we feel about them.
5. **Learn something new.** Take dance lessons or tennis lessons. Take a class in something about which you know nothing. Cartooning? Making cheese?
6. **Interact with exciting individuals.** These individuals might be well known to you. Or you might have to look for them. Excitement spreads from person to person.
7. **Interact with new individuals.** Join a special-interest group on line or in person. Try online dating. Talk with others waiting in your line at a store. Say something to a person you encounter who seems very different from you.
8. **Generate romantic/sexual excitement:** Experiment with a new sexual position, sexual aid (toy) or lubricant. Act different, try to please your partner during foreplay instead of during intercourse. Identify and think about your sexual fantasies. Buy books, magazines or DVDs with sexual stories that spark your interest. Purchase sexy lingerie.
9. **Read, watch, or listen to something suspenseful or stimulating:** Watch or read the latest thriller. See a live band or concert. Let your imagination roam, immerse yourself in another reality.

10. **Take a risk.** You don't have to risk life and limb. Take a social risk – reach out to someone you used to know or would like to get to know. Try something that has an element of danger (but be careful). Try indoor rock climbing or ice skating.
11. **Engage in physically stimulating exercise or sports.** When you get your heart rate up, you move a step toward feeling excited. So go for a run or a brisk bushwalk. Play a sport with your children. Row a boat.
12. **Accomplish something new.** Even the most mundane task can become exciting if there is a possibility of accomplishing something. What would you like to accomplish this week?
13. **Pursue your own interests.** Do something that suits your interests or values. Play a certain game? Attend a specific religious service? Help someone in need?
14. **Talk with others about exiting experiences.** Talk about your exciting experiences and ask others to tell you about theirs. Do the same things excite you? What do they find exciting? Can you inspire others to have more excitement in their lives? Do they inspire you? Perhaps you would like to include others in your plans.
15. **Think about past exciting activities or plan future exciting activities.** Think of highly exciting times in your life. Re-experience those. Then think about how you can recreate that level of excitement.

Examples: Linda adds excitement to her life by dancing. She says, “When I’m dancing to live music I feel happy and free.” Adam did something new and went tandem skydiving, attached to an experienced skydiver. He reports, “When I went skydiving I felt overwhelmed by emotions: happiness and excitement. I also felt relief when we landed.” Allison changed anxiety to excitement. She says, “I’m challenging myself to think differently about flying, turning my anxious feelings into a sense of excitement for the adventure to come.”

What to do. Write out your excitement plan, using the ‘exciting activities plan’ attached. What will you do to add excitement to your life? When? Place the plan, or part of it, in a conspicuous place, for example on the fridge, where you can see it.

Use the excitement scorecard (attached): Stick it somewhere you look every day, like your refrigerator, and keep a record of what you’ve done to increase excitement.

Use reminders: Use reminder apps, phone alarms, or post-it notes to remind you it’s time to plan for exciting experiences or to act.

See additional sources of information: You may find it useful to take a look at various websites. Try googling exciting activities in your local area e.g. trampolining, horse-riding, dance classes, speed dating, or search for travel destinations.

Here are links to articles that may help you with ideas:

Make workouts exciting

http://www.huffingtonpost.com/ben-greenfield/workout-tips_b_1449209.html

Make your work exciting

http://www.huffingtonpost.com/2013/07/03/bored-at-work-make-job-exciting_n_3541977.html

Change anxiety to excitement

<http://greatist.com/happiness/get-excited-to-reduce-anxiety-010214>

Make travel exciting

http://www.huffingtonpost.com/matt-gibson/finding-serendipity-how-t_b_748305.html

Opposites attract and generate heat

http://www.huffingtonpost.com/linda-bloom-lcsw-and-charlie-bloom-msw/the-real-reason-that-oppo_b_5654937.html

There are many activities you have not tried

http://www.huffingtonpost.com/laura-grier/your-top-five-favorite-activities-youve-never-heard-of_b_6797774.html

36 questions that lead to excitement and intimacy

http://www.nytimes.com/2015/01/11/fashion/no-37-big-wedding-or-small.html?_r=0

Get started: Start increasing your excitement today. Have fun!

Appendix C

Excitement score card

Print this out and pop it on the fridge to keep a tally of all the exciting things you think about, talk about, and do.

Action	Week 1	Week 2	Week 3	Week 4	Total
I have acted spontaneously.					
I have engaged in stimulation physical activities involving exercise or sports.					
I have thought about past or future exciting behaviours.					
I have engaged in new activities.					
I have spoken to others about exciting thoughts or activities.					
I have had stimulating experiences with a romantic partner.					
I have pursued my own interests.					
I have visited new places.					
I have interacted with new individuals.					
I have read, watched, or listened to something suspenseful or stimulating.					
I have learned something new and interesting.					
I have taken on a challenge.					
I have taken a risk.					
I have spent time with exciting individuals.					
I have accomplished something new and interesting.					