

Feeling Good and Doing Well?

—Testing Efficacy of a Mental Health Promotive Intervention Program for Indian Youth

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Abstract

The need for moving beyond a narrow focus on diagnosis, treatment and rehabilitation is well recognized in the field of mental health literature. However, there is a dearth of interventions for mental health promotion tested for use in the developing nations. The present study aimed at examining the efficacy of a mental health promotive intervention program, “Feeling Good and Doing Well” for Indian college youth. One hundred and seventy one college youth in a metropolitan city registered for the intervention trial, in response to program announcements. Eighty five and eighty six participants were assigned to the intervention and waitlist groups respectively. These groups were comparable on almost all the study variables at baseline. The intervention program (with three core themes, namely application of strengths, goal pursuit and emotional regulation) was conducted in the form of eight interactive group sessions. The waitlisted group also underwent the intervention at the end of the waiting period. Multiple outcomes were examined including wellbeing (positive and negative affect, life satisfaction, positive states of mind and psychological well-being), psychological distress and ratings on self-efficacy. Significant gains on well-being and self-efficacy ratings as well as decline in psychological distress were noted one month following intervention and these gains remained stable at four month follow up. This is one of the first multi-component interventions with potential utility to serve as a universal mental health promotion program for Indian youth.

Keywords: mental health promotion, positive psychology intervention, well-being, well-being intervention

1. Introduction

In the field of mental health, the need for a paradigm shift from medical to a public health perspective has long been well recognized (US Department of Health & Human Services, 1999). This entails making services available to all segments of population, addressing factors that influence service utilization and providing a full range of services in the continuum from mental health promotion, illness prevention to early detection, treatment and rehabilitation. Effective components of such programs involve: interagency and interdisciplinary collaboration and involvement of stakeholders, continuum of services, ecological focus with attention to environments and settings (e.g., schools and colleges), empirically based interventions and systematic program evaluations (Nastasi, 2004).

1.1 Well-Being Interventions

The last two decades have witnessed an amassing of research data on changeable determinants of well being and these have provided a great impetus to development of programs to enhance well being, productivity and functioning. A few such changeable variables include personal goal strivings, engagement in meaningful activities (Lyubomirsky, Sheldon, & Schkade, 2005), application of strengths (Seligman, Steen, Park, & Peterson, 2005) and cultivation of positivity (Fredrickson, 2001). A scan of the positive psychology literature in the last one decade indicates that a wide variety of intervention programs have been examined. The intervention components in these programs vary from one study to another and often involve focus on a single strategy/technique. A few examples of such components include identifying and applying one's top strengths

(Seligman, Steen, Park, & Peterson, 2005), engaging in possible selves program for enhancing motivation (Hock, Deshler, & Schumaker, 2006), cognitive-behavioral, solution-focused life coaching (Green, Oades, & Grant, 2006) Cheerfulness training (Papousek & Schuler (2008) learning savoring (Hurley & Kwon, 2012), psycho education on hope and hope visualization (Feldman & Dreher, 2012), VIA strengths based intervention (Proyer, Ruch, & Buschor, 2013), best possible self-exercise (Peters, Flink, Boersma, & Linton, 2010; Layous, Nelson, & Lybomirsky, 2013), gratitude based exercise (Senf & Liao, 2013) etc. The durations of such intervention programs range from as brief as a single session program to those that last for one week to several weeks. Different kinds of outcomes have been examined in these studies such as decrease in depressive symptoms, enhancement of positive affect, life satisfaction, goal striving, academic performance, optimism and promotion of well being in general.

A meta-analytic study of positive psychology interventions was conducted by Sin and Lyubomirsky (2009) who scrutinized 51 intervention studies conducted between 1977 and 2008 to conclude that these interventions significantly enhance well-being and decrease depressive symptoms. Self-selection, format and durations of interventions etc. were identified as some of the moderators of outcomes.

Studies on Indian samples that examine the efficacy of promotive interventions are few in number and most of these involve some forms of yogic exercises or mediation (Mehrotra & Tripathi, 2011). One of the few Indian studies that utilized multiple components for enhancing youth well being was conducted by Choubisa (2011). He developed and tested the efficacy of a web based student well-being program which required participants to engage in self-directed, text-oriented, semi-automated, online skill-based tasks. The domains covered included time management, stress management, purpose in life, emotional intelligence and self-management. This intervention was tested through a randomized controlled trial and the findings highlighted the effectiveness & potential utility of the promotive program for college students.

1.2 Critique and Rationale for the Study

On the whole, the review of the available literature indicates that multiple leads have been provided regarding components /strategies that may help in enhancing well being of individuals in the general community. Well-being is recognized as involving both the “feeling good” (hedonic) as well as high functioning (eudemonic) aspects of well being (Keyes & Annas, 2009). However, in a bulk of the studies, the interventions used typically involve single therapeutic component and one to two outcomes that do not comprehensively capture both hedonic and eudemonic aspects of well being.

There is a growing recognition that promotive & preventive initiatives have a higher chance of success if these take into consideration people’s own understandings and concern (Armstrong, Hill, & Secker, 2000). In several intervention programs that are reviewed above, the contents are grounded in theory and empirical research but their match with stakeholder needs and preferences of the target population in a given socio-cultural context have often not been examined. Some of the studies involve short term follow ups/lack a follow up and do not provide the researchers and practitioners sufficient guidelines for replications or for implementing such intervention on a large scale basis.

Young adulthood is a phase of vulnerabilities as well as opportunities as far as mental health is concerned. But there is a severe dearth of empirically grounded promotive interventions programs that have been developed or adapted for use with Indian college youth. There is a need for promotive programs that address malleable components having a bearing on enhancing well being, provide opportunities for experiential learning in an interactive format, are relevant to Indian youth and have potential for cost effective delivery through training of college teachers. A mental health promotive program was hence developed for Indian youth following an exploratory phase aimed at understanding lay meanings of mental health as well as mental health related felt needs, preferences and perspectives of college students and teachers who were considered the key stakeholders. The major findings of the exploratory phase of the study and the development of this intervention program entitled “Feeling Good & Doing Well” as well as its components have been described elsewhere (Mehrotra, Tripathi, & Elias, 2012; Mehrotra, Elias, Chowdhury, & Gupta, 2013). It is a 20 hour, 8 session program that is typically delivered in once a week, interactive workshop format and spread over 1.5 months. It consists of six core sessions that address three key themes, namely discovery and application of strengths, goal pursuit and motivation management emotion regulation (managing negative emotions and cultivating positive emotions). An orientation session at the beginning and a closure session are used in addition to the six core sessions. The paper aims at examining the efficacy of this mental health promotive intervention.

2. Method

2.1 Design and Sample Selection Criteria

The study involved a pre-post-follow up control group design. The inclusion criteria for sample recruitment were as follows: a) Students doing a full time undergraduate or postgraduate course in a college/university b) voluntary enrollment in the intervention program in response to program announcement. Students in the final year of undergraduate/post graduate course were excluded to ensure the availability of the participants till the follow up assessment.

2.2 Intervention Sites

Three college venues in a metropolitan city in Southern India were selected for the intervention program field trial. The selection of college venues was based on readiness to participate in the research trial, open-ness to the idea of having participants from other colleges, availability of required space and infrastructure for delivery, diversity in terms of location, nature of students-population and courses as well as their proximity to other colleges.

2.3 Recruitment of Participants

The publicity materials for the workshop series were distributed across colleges in the city. At all the venues, approximately 10 days' time was given for enrollment of students in the intervention trial following the announcements. The participants were given a choice to select the venue where they want to attend the workshop. After the lists of the voluntary participants were received, the participants were assigned to intervention group and waitlist group within each of the 3 venues. Written informed consent was obtained at the intake. The randomization was done by assigning the first two males and two females (2 pairs) from the list of registered participants to the intervention group. Then the next two pairs were assigned to waitlist group. The procedure continued till the sample lists were exhausted. This procedure was followed in each of the three workshop venues to ensure a fair gender distribution in intervention and waitlist groups. A few deviations from the assignment had to be permitted due to specific requests from participants who were finding it very difficult to join the group to which they were assigned for practical reasons such as exams, attending preplanned seminars etc.

2.4 Characteristics of the Sample

One hundred and seventy one college youth registered for the promotive intervention program trial across the three venues, within the deadline for registration following the announcements and opportunities for voluntary enrolment. Majority of the registered participants (85%) were in 17 to 20 years of age range whereas the rest (20-25 years of age) formed roughly 15% of the sample. A large proportion of the participants (91%) were in the first and second year of their undergraduate degree program following 12 years of education. Youth from both regular degree courses (e.g., arts, commerce) and professional courses (e.g., dental, physiotherapy, management) had a fair representation, with slightly more than half (57%) being from professional courses. Enrolment in the controlled trial was voluntary and it was observed that women students were more inclined to register than their men counterparts (the gender composition being 70% women and 30% men). Almost all the participants were single youth, staying with their family/relatives and almost two third were Hindu by religion. Eighty five and eighty six participants were assigned to the main intervention and the waitlist groups respectively using the above mentioned procedure.

2.5 Measures Used during the Intervention Phase

Socio-demographic data sheet: This was used to record basic details of the participants, like age, gender, marital status, current course, religion, living arrangement etc.

Psychological Well-being Scale (Mehrotra, Tripathi, & Banu, 2013): Psychological wellbeing, a marker of positive psychological functioning, was assessed with a 20 item scale suitable for Indian samples. This measure has evolved from a version of Ryff's measures used by Van Dierendonck, (2004) and it was tested through a large scale survey of Indian young adults within 20-35 years of age range. It has good internal consistency, factorial and concurrent validity.

Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985): This is a short 5 items subjective well-being instrument designed to measure global cognitive judgments of one's life. It is scored on 7 point rating scale. The internal consistency, reliability, and test retest reliability as well as construct validity data from various samples across nations, including India are available (Agrawal et al., 2011) and indicate adequate psychometric properties of this measure.

Positive states of Mind Scale: Developed by Adler, Horowitz, Garcia, and Moyer (1998), it is a six item measure that detects subtle changes in the ability to achieve and appreciate positive experiences over the past weeks. Respondents are asked to rate on a 4-point scale the degree to which they experience various positive states in the previous two weeks (e.g., focused attention, sharing, and responsible caretaking). In the present study, its internal consistency was noted to be good (cronbach alpha =0.79)

General Health Questionnaire (Goldberg & Hillier, 1979): It is a 28 items scale used to detect psychiatric disorder and psychological distress in the general population. The scale items tap whether the respondent has experienced a particular symptom or behavior recently. Each item is rated on a four -point scale. The GHQ has been standardized for use in the Indian setting (Sriram, Chandrashekar, Issac, & Shanmugham, 1989). In the present study, GHQ was used to assess the distress level of the subjects and a likert type scoring style was followed.

Positive and Negative Affect Schedule (Revised): It was originally developed by Watson, Clark and Tellegen (1988) to assess positive and negative affect. An expansion to include a wider range of affect items was suggested by Feldman Barrett and Russell in 1998. Incorporating these suggestions, a revised version was developed by Rao and Mehrotra (2006) in which the phrasings were modified for use in Indian samples. The revised version consists of 13 pleasant and 13 unpleasant affect items. The respondents were asked to rate their experience of affect in the 'past few weeks'. High scores reflect higher levels of corresponding affect on the respective subscales. The measure has sound psychometric properties (e.g., Rao & Mehrotra, 2006, Agrawal et al., 2011).

Additional items for self- efficacy ratings: Five single items were included for ratings of self-efficacy on a 0–10 scale. The respondents were asked to rate their self-confidence on the following items: (A) Maintaining your motivation to keep doing what you have to do, (B) Dealing with obstacles/barriers in achieving your goals, (C) Managing your anger well (when you experience anger), (D) Managing your feelings of sadness when you start feeling low, (E) Managing your anxiety well (when you experience anxiety). These themes were linked to the inputs planned during the intervention program.

2.6 Procedure

Baseline assessment was carried out and an orientation to the nature of workshop series was conducted for all the registered participants at each venue separately. For the main intervention group, the core workshop sessions began within one week of the orientation and the pre/baseline assessment session. The rest of the intervention program was carried out in seven sessions spread across one to one and half month period with an average frequency of two sessions every ten days. The overall feedback regarding the workshop sessions was obtained at the end of the closure session. The post assessment session was carried out about one month after completion of the intervention program. The waitlisted group was also reassessed on the baseline measures at the same point of time. Immediately after the reassessment, the intervention program was initiated for the waitlisted group. This same pattern was followed across the venues. One month following completion of intervention, the waitlisted group was administered post assessment, as was the case with the main intervention group. In addition, a follow up assessment was carried out for the intervention and waitlist group, four months after the completion of the intervention.

2.7 Analyses

Parametric and non-parametric tests were used after examining the normality of the score distributions through one-sample kolmogorov smirnov test. The main intervention and waitlisted groups were not expected to differ from each other at baseline (pre-intervention) assessment and these were compared at baseline using two tailed tests. The intervention program was expected to result in improvements on various outcome indices and hence these analyses involved one tailed tests of significance.

3. Results

3.1 Comparability of the Main Intervention and Waitlisted Groups at Baseline

Table 1a. Comparison between main intervention (MI) group and waitlist (WL) group at Baseline (pre-intervention) on study measures

Measure	Group	Mean	SD	't' /Mann Whitney 'U' Z *	p
	MI Group (n=85)				
	WL Group (n=86)				
Psychological wellbeing	MI Group	85.03	14.42	1.54	NS
	WL Group	88.33	1.52		
Life satisfaction	MI Group	20.56	5.97	0.77	NS
	WL Group	21.21	5.06		
Positive states of mind	MI Group	18.09	3.49	0.51	NS
	WL Group	17.84	2.97		
Negative affect	MI Group	30.13	10.51	0.18	NS
	WL Group	30.39	9.06		
Positive affect	MI Group	40.87	10.50	0.74	NS
	WL Group	39.73	9.72		
Psychological distress	MI Group	22.52	12.74	0.05*	NS
	WL Group	21.01	9.43		
Self-efficacy in:					
Maintaining motivation in goal pursuit	MI Group	6.91	1.96	1.56*	NS
	WL Group	6.49	1.86		
Dealing with obstacle in goal pursuit	MI Group	6.92	1.72	0.89*	NS
	WL Group	6.68	1.86		
Managing sadness	MI Group	5.66	2.52	0.96*	NS
	WL Group	5.22	2.52		
Managing anxiety	MI Group	6.08	1.99	1.62*	0.005
	WL Group	5.65	2.15		
Managing anger	MI Group	6.01	2.69	0.43*	NS
	WL Group	5.85	2.57		

NS= not significant at 0.05 level (two tailed test); * Mann-Whitney z values

Table 1b. Comparison between main intervention (MI) group and waitlist (WL) group at Baseline (pre-intervention) on socio-demographic variables

Variable	Group		Frequency	Chi-Square	p
Gender	MI Group	Male	31	2.93	0.09
		Female	54		
	WL Group	Male	21		
		Female	65		
Marital Status	MI Group	Single	81	0.27	NS

Religion	WL Group	Married	3	2.33	NS
		Single	84		
	MI Group	Married	0		
		Hindu	50		
		Muslim	13		
		Christian	13		
		Others	9		
	WL Group	Hindu	56		
		Muslim	14		
		Christian	12		
		Others	4		

NS= not significant at 0.05 level (two tailed test)

The comparisons between the main intervention group and the waitlisted group at pre assessment (Table 1a and 1b) show that these groups were comparable on all the psychological measures (psychological wellbeing, life satisfaction, positive and negative affect, positive states of mind, psychological distress, confidence in motivation management, handling obstacles, managing sadness and anger) at intake except that the waitlisted participants rated themselves to be lower on self confidence in managing anxiety. The groups were also comparable in terms of marital status and religion. There was trend towards slightly higher proportion of men in the main intervention group as compared to waitlisted group. Moreover, the mean age of the main intervention group participants was higher than that of the waitlisted group (19.8 years vs. 19 years respectively, $t=2.82$, $p<0.05$). On the whole, Tables 1a and 1b indicate a fairly successful randomization outcomes with the two groups being similar to each other on almost all the parameters except the ratings on a single item measure of self confidence in managing anxiety being lower in the waitlisted group, slightly older participants in the main intervention group (a difference of less than one year) and a trend towards there being more men in the main intervention as compared to the waitlisted group.

3.2 Drop outs at Different Points

Nineteen percent of the registered participants (33 out of 171) dropped out after the orientation session. The drop out students were not significantly different from the stayers on almost all the psychological variables measured except that they reported slightly higher self confidence in managing anxiety (Mann Whitney U 'Z'=2.27, $p<0.05$). The drop outs were more often men than women (chi square=5.39, $p<0.01$). More participants dropped out from the waitlisted group (31.4%) than the main intervention group (11.8%). The maximum drop outs were noted in males in the waitlisted group as compared to the males in the main intervention group (66.7% vs. 9.7%). Among females, the drop outs were 13% from the main intervention group and 20% in the waitlisted group. Drop outs could also occur once the core intervention sessions began. All those who missed three or more of the six core sessions were considered intervention phase drop out. There were 24 individuals out of 138 (17.4 %) who were considered drop outs using this criterion; 13 belonged to the main intervention group and 11 were from the waitlisted group who underwent intervention after the waiting period.

3.3 Changes Following Intervention on Outcome Measures in the Main Intervention Group

Table 2. Within group analysis: Changes from baseline to post intervention in the main intervention group (N = 65)

Measure	Baseline assessment		Post-intervention assessment		Paired 't' / p Wilcoxon 'Z'*	
	Mean	Standard Deviation	Mean	Standard Deviation		
Psychological wellbeing	85.61	13.38	88.20	13.17	1.69	0.05
Life satisfaction	20.08	5.98	22.82	5.24	4.06	0.000
Positive states of mind	17.86	3.45	18.54	3.53	1.53	0.07
Negative affect	28.96	10.19	27.18	8.92	1.50	0.07
Positive affect	39.96	10.32	42.44	12.16	1.88	0.03
Psychological distress	21.22	12.40	19.61	12.26	1.31*	0.09
Self-efficacy in:						
Maintaining motivation in goal pursuit	6.97	1.98	7.6	1.43	2.36*	0.09
Dealing with obstacle in goal pursuit	7.06	1.65	7.36	1.53	1.31*	0.09
Managing sadness	5.64	2.60	6.46	2.15	2.33	0.001
Managing anxiety	6.04	2.05	6.86	1.63	2.91*	0.002
Managing anger	6.35	2.61	7.00	2.03	2.06*	0.02

*Wilcoxon 'Z' values; p values pertain to one tailed test of significance

From pre- assessment to post assessment, the main intervention group showed a significant increase in psychological well being and positive affect. There was a trend towards increase in positive state of mind and decrease in negative affect and psychological distress scores. The ratings also indicated significant increase in efficacy in managing sadness, anxiety and anger as well as a trend towards increased efficacy in managing motivation and dealing with obstacles in goal pursuit. (Table 2)

3.4 Comparisons between Main Intervention Group and Waitlisted Group Following Intervention/Waitlisted Period

Table 3a. Comparison between main intervention and waitlisted group following intervention/waitlisted period on well- being measures

Variable	Main Intervention group (N=62)		Waitlist group (N=59)		F	p
	Mean	Standard error	Mean	Standard error		
Psychological well-being ¹	89.62	1.25	91.18	1.28	1.92	NS
Positive state of mind ²	18.84	0.42	17.93	0.43	2.33	0.07

Life satisfaction ³	23.27	0.55	21.81	0.57	3.35	0.04
Positive affect ⁴	42.53	1.30	39.31	1.33	2.90	0.04
Negative affect ⁵	26.56	1.00	26.90	1.02	0.17	NS

Note 1. The means shown are adjusted for co-variables. Note 2. Covariates used: 1. Baseline psychological well-being, age and self-efficacy in managing anxiety 2 Baseline positive states of mind and psychological distress 3 Baseline life satisfaction, self-efficacy in managing anger and sadness 4 Baseline positive affect, self-efficacy in managing anxiety 5. Baseline negative affect. Note 3. The p- values pertain to one tailed test of significance

Table 3b. Comparison between intervention and waitlisted group following intervention/waitlisted period on self-efficacy and psychological distress

Variable	Main Intervention group (N=62)		Waitlist group (N=59)		Mann-Whitney 'U-Z'	p
	Mean	SD	Mean	SD		
Self-efficacy in:						
Managing Motivation	7.63	1.48	6.62	1.71	3.48	0.000
Managing Obstacles in goal pursuit	7.43	1.44	6.61	1.77	2.48	0.01
Managing Anger	7.03	2.02	6.02	2.54	2.14	0.02
Managing Sadness	6.60	2.07	5.75	2.62	1.84	0.03
Managing Anxiety	6.90	1.67	6.34	2.00	1.75	0.04
Psychological distress	18.77	12.00	20.99	11.81	1.25	0.10

Note: The p values pertain to one tailed test of significance

The comparisons between the main intervention group and the waitlisted group were carried out at the second point of assessment which coincided with completion of intervention in the main intervention group and end of waiting period for the initially waitlisted group. The former was expected to show significant changes following completion of the intervention program as compared to the latter group. As there were some differences between the two groups at baseline, an ANCOVA was used for the well-being outcome measures to control for baseline levels of the respective variables as well as for other baseline variables that had emerged as significant predictors of outcomes. The overall pattern of results show significant differences between the two groups on life satisfaction and positive affect even after controlling for baseline variables. On Positive states of mind, the intervention group has higher scores as compared to the waitlist group but this difference was only a trend towards significance. (Table 3a) In addition, the groups differed from each other in the expected direction on self efficacy ratings on managing motivation, managing obstacles in goal pursuit, managing anger, sadness and anxiety. On psychological distress too, the main intervention group fared better as compared to the waitlisted group but this difference was only a trend. (Table 3b)

3.5 Changes Following Promotive Intervention in the overall Sample across Time Points

Table 4. Changes following intervention in the overall group (Pre to post and follow up assessments) (N=103)

	Measures	Baseline		Post intervention		Follow up		F/Chi square*	p	Effect size (baseline- follow up)	Significant Post-hoc results
		(1) Mean	SD	(2) Mean	SD	(3) Mean	SD				
1	Psychological well-being	89.65	13.46	90.54	13.75	92.79	13.84	3.60	0.03	0.22	1<3
2	Positive state of mind	18.03	3.52	19.08	3.28	19.50	3.06	7.12	0.001	0.37	1<2 1<3
3	Life satisfaction	21.05	5.45	23.52	5.13	23.50	5.34	16.26	0.000	0.44	1<2 1<3
4	Positive affect	39.56	11.81	42.99	12.45	43.74	10.57	7.25	0.001	0.36	1<2 1<3
5	Negative affect	27.48	9.11	24.68	8.05	26.05	8.60	6.74	0.002	0.15	1>2
6	Psychological distress	20.07	12.09	16.38	11.54	16.85	11.92	20.90*	0.000	0.19**	1>2 1>3
	Self efficacy in:										
7	Managing Motivation	7.05	1.66	7.49	1.59	7.48	1.50	9.04*	0.011	0.16**	1<2 1<3
8	Managing Obstacles in goal pursuit	6.98	1.60	7.37	1.53	7.37	1.65	9.12*	0.010	0.15**	1<2 1<3
9	Managing Anger	6.20	2.53	7.17	1.81	7.49	1.68	30.11*	0.000	0.30**	1<2 1<3
10	Managing Sadness	5.80	2.64	6.88	2.03	7.16	1.83	34.74*	0.000	0.31**	1<2 1<3
11	Managing Anxiety	6.47	1.86	7.02	1.60	7.12	1.73	12.79*	0.002	0.22**	1<2 1<3

Note: * refers to Friedman statistic (chi square) for non- normal data; others values (F) are for Repeated measures analysis of variance. Effect sizes refer to Cohen's d, calculated using formulae appropriate for within group analyses except for the non- normally distributed variables wherein the effect sizes (denoted by **) are estimated in terms of r- values calculated based on Mann Whitney U.

The waitlisted group was offered the same intervention program as the main intervention group after the waiting period and repeat baseline assessment; hence this provided the opportunity to use a larger dataset to examine intervention outcomes by combining appropriate data from both the groups. Table 4 depicts the changes in outcome variables across three points of time from baseline to post intervention assessment and follow up assessment for the overall combined sample of all the participants for whom three point data were available. This analysis includes changes observed in the main intervention group and the waitlisted group who underwent intervention program after the waiting period (combined data set). For this analysis, the baseline scores refer to the scores immediately prior to intervention for all the participants. In other words, these were the pre-assessment scores for the main intervention group and repeat- baseline assessment scores for participants

who were waitlisted (baseline scores obtained after waiting period and before initiation of intervention). When the overall difference across three time points were significant, post hoc testing was carried out using bonferroni correction. For the non-normally distributed variables Friedman statistics was used and in case of overall significant results, post hoc comparisons were carried out using Wilcoxon signed rank test for comparing two related means.

On all the outcome measures, there was a significant overall change in scores across the three time points (baseline to post assessment to follow up assessments). Further post hoc analyses showed that scores on life satisfaction, positive states of mind, positive affect, self efficacy in maintaining motivation in goal pursuit, dealing with obstacles in goal pursuit, managing sadness, managing anxiety and managing anger increased significantly from the baseline to post assessment following intervention and remained stable from post assessment to follow up assessment, except for confidence in managing anger on which there was a trend towards further increase. Also, there was significant decrease in negative affect and psychological distress from baseline to post assessment and these changes observed following intervention (at post assessment) continued to remain stable at follow-up. On psychological wellbeing, although the improvement in scores from baseline to post assessment or post assessment to follow up assessment were not large enough to be statistically significant, the difference from baseline to follow up assessment emerged as statistically significant.

4. Discussion

4.1 Registration and Drop Patterns: Observations

The initial patterns of registration indicate that amongst college going youth, young men were somewhat less likely than young women to show inclination to join a promotive program even though its content was designed taking in their perspectives that were elicited during the initial phases and despite an attempt to publicize the program in a youth friendly manner. It is possible that shorter duration of program with fewer numbers of sessions may be more appealing to some of the potential men participants. The maximum drop-out rate was noted in males who were assigned to the waitlist group. The drop outs after the initial registration and orientation session are likely to be a reflection of the fact that several students came in initially out of curiosity or peer pressure but some of them might not be mentally ready for the investment of efforts and commitment to continue in a program which required them to come regularly for the next 7 sessions. Those with higher self reported confidence in managing anxiety were more likely to drop out. Higher self rated confidence in managing anxiety may be linked with lower felt need for involvement in a promotive program that require investment of time across sessions, especially when commitment to the same also entails a waiting period. Proyer et al. (2013) in their five session strengths based positive psychological intervention trial reported a 30% drop out in their intervention group. In the present study a lesser percentage (22%) drop out after an orientation session and much lower dropout rate in those assigned to the intervention group (12%) was noted, suggesting that program announcements and the orientation session probably helped in setting the expectations right for many potential participants who registered and continued through the program especially when they were not assigned to the waitlist group. The drop-outs, especially in the waitlisted group, appear to be partly attributable to extraneous engagements after the waitlisted period as well as decline in interest and motivation during the waiting period. In real-life, non- research scenario, the drop outs are likely to be lower and more similar to the drop out figures in the main intervention group which did not have a waiting period (11-12%). When the drop outs from the intervention phase are considered (dropped out after 1 to 3 core intervention sessions), it is noted that the drop-out rate at this phase was eighteen percent. In most of these cases the reasons for drop out were reported to be extraneous (e.g., class-schedules clashing with the workshop schedules, accidents/ physical ailments).

4.2 Outcomes of the Intervention

4.2.1 Self Reports of Changes in Self-Efficacy

It was considered important to directly assess perceived changes following intervention as this helps in understanding the perceived utility and receptivity to a program that is meant to be ultimately used on a large scale in college communities. This assessment was in addition to changes on standard measures of well-being and psychological distress. The results suggest that the program was not only well received (based on feedback at closure sessions regarding real-life relevance, applicability) but there were also significant self-reported changes in efficacy at managing one's motivation to work on one's goals, managing obstacles in goal pursuit, managing anger, anxiety as well as sadness. Although these self reports are based on single item measures, these ratings were obtained one and four months following intervention program and less likely to have been influenced by social desirability effects that are most likely to operate immediately at the end of the intervention program. Along similar lines, in a study on strengths based intervention mentioned earlier, Proyer et al. (2013)

documented positive changes on single item ratings as a direct estimate of self reported gains by the participants.

Hurley and Kwon (2012) demonstrated that a group-based savoring intervention on college students involving a single session (backed by audiotape, home work assignments and log book use for a period of two weeks) resulted in significant change on depression and negative affect (but not positive affect) as compared to the controls. But the present study program as tested, did not place a consistently strong emphasis on home work assignments across sessions in a formalized manner partly due to field observations about significant time pressures in the youth sampled, and in order to minimize a sense of burden in the participants who had committed to invest significant proportion of their time during college hours for attending the sessions. Also, no email/telephonic contact were used to serve as reminders for practicing what was learnt in sessions. The use of these aids may enhance the actual application of learning in the real world context and thereby further amplify positive impact of this program.

4.2.2 Psychological Outcomes of Intervention on Measures of Well-Being and Psychological Distress

This is one of the few studies on a positive psychology intervention that has utilized multiple measures of psychological outcomes spanning life satisfaction, positive and negative affect (subjective well being) as well as distress and psychological well-being (eudemonic well-being) in addition to self- efficacy ratings. Across analyses, the pattern of results indicated a frequently occurring trend. There were significant positive changes on multiple outcome measures one month following intervention and these changes were retained four months following intervention. The changes in psychological well being tended to manifest much more clearly and consistently at follow-up rather than at post assessment suggesting the possibility of a sleeper effect. This refers to the phenomenon wherein changes take time to manifest following interventions. This seems understandable as psychological well being is a broad trait-like measure unlike positive or negative-affect. It is probable that the learning and experiences of the intervention program had to be sufficiently assimilated before these could impact psychological well-being scores. Gains made in terms of decline in negative affect were less stable. Negative affect scores decreased from pre-assessment to post assessment but rose again at four month follow up. It may be attributable to dispositional factors such as neuroticism and/or to the experience of negative life events during the follow-up period. In a supplementary analysis slightly more than half (fifty four percent) of the participants' follow-up assessment forms revealed that they had experienced one to three significant life events during the follow up period and more than two third of these events were rated as negative in nature. In contrast to changes in negative affect, changes in positive affect remained stable over follow up. This suggests the possibility that negative affect may be more reactive/ susceptible to the influence of negative life events as compared to the gains made on positive affect following the intervention. This hypothesis needs examination in further research. Despite the lack of stability of changes on negative affect, psychological distress scores declined significantly at post assessment and this decline was maintained at follow-up. Life satisfaction scores too showed positive changes following intervention and these changes remained stable at follow-up. A similar pattern was observed on positive states of mind scale scores. The pattern of positive changes emerged much more strongly and consistently in the combined analysis using a larger sample size. The sample was a relatively well functioning general sample rather than the one selected based on sub clinical/high distress. Hence the demonstration of significant changes on various psychological parameters (despite small to medium effect sizes) has the potential for high practical significance when such interventions may be carried out for large groups in the community.

In contrast to the above, the waitlisted group showed positive changes on only two single item measures of self efficacy in managing anxiety and anger from baseline assessment to repeat assessment, i.e., during the waiting period. The non- significant rise in psychological well being in the waitlisted group indicates the possibility that some changes perhaps had begun to occur following the orientation session itself, though these were not large enough to emerge as statistically significant. The pattern of changes on psychological well being over time and the variables that may mediate/moderate the same requires a closer examination in further studies. Although the waitlisted group was not hypothesized to show significant changes; some positive changes were seen from baseline to repeat assessment as mentioned above. In retrospect we are forced to wonder about the potential impact of the orientation session that was attended by both the main intervention and the waitlisted participants at the beginning of the waiting period. The review of literature does suggest that single session interventions can demonstrate short term effects. The orientation session contained a few key ideas on well being and the role of intentional activities in influencing happiness in one's life; it also contained opportunities for the participants to reflect on their own selves, their desires and goals as well as to become aware of the potential role of taking responsibility and making small changes in one's life. Although the basic aim of this session as envisaged was to arouse interest and curiosity about the program and minimize drop-outs from both the intervention and waitlisted groups, we speculate that its positive impact on well motivated participants may have been underestimated at the

outset. This also seems plausible in view of feedbacks from some participants which suggested that the at least a part of the session content was found to be quite inspiring and some of it was recollected /reported in feedback forms much later during the workshop series. This speculation requires to be put to test in view of the reports in the literature regarding potential benefits of single session interventions though these benefits do not tend to last for as long as one month (Feldman & Dreher, 2012)

4.3 Potential Mechanisms of Change

This is one of the few multi component empirically tested program on mental health promotion for college youth in India. Several factors that may underlie the positive outcomes seen in this study are briefly highlighted below.

4.3.1 Specific Target Components

The overall program 'Feeling Good & Doing Well' comprised of several components that have been tested in other studies and are likely to be the active ingredients of the program. These include a focus on discovering and applying signature strengths as well as unrealized strengths, a balanced use of strategies to handle strengths and weaknesses in oneself, realizing the importance of owing one's goals and learning ways of sustaining motivation and enjoying goal pursuit, developing a personalized goal plan, learning the best possible self exercise, an imagery based relaxation exercise as well as learning strategies to dampen negative emotions and enhance positivity. A single component best possible self intervention (writing about best possible self) comprising of four sessions was found to be useful in a study conducted by Layous et al. (2013) in terms of outcomes such as sense of flow, relatedness and positive affect. Neely, Schallert, Mohammed, Roberts, and Chen, (2009) reported that across their studies, factors such as goal management, need for and availability of support were important predictors of well-being and that self-compassion accounted for a significant amount of additional variance in well-being. In the present study, this component of self compassion was touched upon at several junctures and specifically focused upon in the exercise about writing a mail to oneself as a good-wise friend. The importance of gratitude and appreciative inquiry in life in addition to application of strengths were emphasized upon in the present study as a means of enhancing positivity in life. It is known that engagement in strengths congruent activities can enhance positive experiences in individuals' work life (Harzer & Ruch, 2012) and this message was dominant in the core sessions on emotion regulation. In an earlier study, gratitude and strength based intervention of one-week duration with significant practice and email prompts, have been found to show positive changes on happiness and depression levels at post assessment and at one month follow-up (Senf & Liao, 2013).

In previous studies, strengths based programs have been shown to result in gains in life satisfaction as well as positive affect and self esteem in adolescent samples (Proctor, Maltby, & Linley, 2011). Proyer et al. (2013) reported enhanced satisfaction with life in adult samples about one month following strength based intervention comprising of five sessions, as compared to the waitlisted controls. The positive effects of the program were hypothesized to be related partly to the enhanced self awareness and opportunities to experience enhanced motivation to actively work on their goals. Self regulation as a possible mechanism of impact in positive interventions was discussed by the authors. Similar mechanisms are likely to have been operative in the present study as suggested by positive changes in self efficacy ratings following intervention program.

4.3.2 Non-Specific Components including Contextual Factors

Across sessions, the participants were provided opportunities and were urged to 'reflect' on their life goals, and articulate their philosophy of happiness in life while also remaining aware of the realities of life. The program used several elements such as small video clips, inspiring images and music as a means of keeping the participants engaged in the sessions and maintaining their motivation to work on self development. The role of such non-specific factors cannot be negated in influencing outcomes primarily through enhancement of motivation for self- responsibility-taking and self regulation. Active distraction from mundane routines and hassles plus the opportunities for interactions with peers on highly self-relevant issues, in an intellectually stimulating environment might have enhanced the positive psychological outcomes in the present study. The program participation also provided opportunities to the participants to meet new students from other colleges/courses, make a few new friends, share experiences and discuss common issues across sessions over time. The affective bonding amongst group members, personal disclosures and the psychological environment of the group-in-action could have also contributed to the positive impact. The perceived value of interaction-opportunities was frequently mentioned in the feedback too. In addition, the sessions seemed to provide a safe setting and space wherein the students could pause from their hectic schedules, reflect upon and articulate their common difficulties and could perhaps see the researcher as a person validating their struggles and issues. All these factors might have acted as non-specific ingredients of the program that could have influenced the psychological outcomes in addition to the specific factors.

4.4 Limitations, Strengths and Conclusion

4.4.1 Limitations and Directions for Further Research

Like in any prolonged field trial & action research, the fact that it was a field study situated in the context of college environments made it difficult to exercise control over various factors unlike a strictly experimental, lab-based research. As the program was spread over multiple spaced-out sessions, there were variations in attendance of the participants sometimes due to personal reasons and at other times due to college events such as functions/exams or assignment deadlines. This meant that not all the participants attended all the sessions and the program impact seen is hence likely to be an underestimate of the potential impact of full participation. Follow up assessments could not be carried out beyond four months after the intervention due to the compact study design and overall timeline for completing the project. Stability of beneficial outcomes of this program may be examined using studies that are longitudinal in nature. The program has been tested in urban college going students and its applications in other contexts (e.g., rural settings or with working youth) would require appropriate modification in the content. Future researchers can work towards suitable modifications of the program to adapt it to the developmental needs of working youth /midlife adults etc. More research is needed to address questions such as: who is attracted most to this program, to begin with? Who is likely to continue in the program? Who is likely to benefit the most? Research is also needed to understand the factors that mediate and moderate the outcomes of this promotive program. Different kinds of outcomes (e.g., academic/work performance) in addition to psychological outcomes may be examined in future research.

4.4.2 Strengths

Cultural applicability is described as an important issue in the dissemination of evidence-based interventions (World Health Organization, 2004). Moreover, without demonstration of returns on investment in mental health promotion and illness prevention programs, it is difficult to influence policy (Canadian Institute for Health Information, 2011). The present study is one step in the direction of developing a culturally appropriate promotive program and demonstrating its impact on Indian students' mental health. The only other multi-component positive psychological intervention program for Indian college youth that we could come across is by Choubisa (2011) who developed and tested the efficacy of a web based student well-being enhancement program mentioned earlier. While this program can have easy accessibility and absence of trainer-cost due to its internet based nature, the promotive program developed in the present study provides opportunities for interactions among group members, group work and experiential learning in small teams.

This is one of the first studies from India that has attempted a controlled trial of a mental health promotive intervention program for college going Indian youth by involving participants from multiple colleges, courses and settings. To the best of knowledge this is the only promotive intervention program currently available in India that utilizes multiple positive psychological components in an experiential group format to comprehensively cover malleable factors associated with well being and thus serve the purpose of a universal mental health promotion program for urban Indian colleges.

4.4.3 Conclusion

The present study demonstrates that voluntary participation in a mental health promotive intervention program called "Feeling Good and Doing Well" can result in significant enhancement on indices of subjective well-being as well as psychological well-being, in addition to reduction in psychological distress and increased sense of self-efficacy in emotional regulation and goal pursuit in Indian college youth.

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