

Applying positive psychology to alcohol-misusing adolescents: A group intervention

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Abstract: Adolescent alcohol misuse is associated with many adverse consequences for well-being (Viner & Taylor, 2007). Positive psychology has pledged to improve adolescent well-being, so what can the field contribute to the treatment of alcohol-misusing young people? This mixed methods study evaluates a pilot group application of positive psychology to alcohol-misusing adolescents, examining its effects on adolescent well-being and alcohol habits. The intervention consisted of eight workshops based on positive psychology models including happiness, strengths, optimism and gratitude. The participants were adolescents attending an alcohol and drug treatment service for young people. The experimental group (n = 10) participated in weekly workshops while a control group (n = 10) received no treatment. The results suggested that the group intervention led to an increase in adolescent well-being and decrease in alcohol consumption. In the quantitative study the results indicated significant increases in happiness, optimism and positive emotions and a significant decline in alcohol dependence. In the qualitative study the main themes were a rise in happiness and other positive emotions; the development of a future goal orientation; a decline in alcohol and drug use and an escalation of change amounting to transformation. The investigation concludes that a positive psychology group intervention can make an effective contribution to the treatment of alcohol-misusing adolescents with a recommendation to take the current pilot forward to a full study.

Key words: positive psychology; well-being; adolescents; alcohol-misuse; happiness; strengths; optimism; gratitude

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Introduction

Adolescence is a time in life that harbours many risks and dangers for well-being (Kleinert, 2007). Alcohol is a particular hazard for adolescents, contributing to 18.5% of death and disease amongst young people in developed nations (Toumbourou et al, 2007). Britain's teenagers are amongst the heaviest drinkers in Europe with a range of mental, social and physical problems caused by their drinking (Hibell et al, 2009). Adolescent 'binge drinking' (defined as the consumption of more than five units of alcohol on a single occasion) is associated with significant later adversity including mental health problems, alcohol dependency, lack of qualifications, criminal convictions, homelessness and social exclusion (Viner & Taylor, 2007). The current outlook for adolescent well-being in the UK is pessimistic. Young people born in the 1990s are the first generation whose health is predicted to be worse than that of their parents, reversing the long-term trend of ever-rising good health. Every marker of well-being, from mental health to obesity, is either negative or static (Patton & Viner, 2007).

The desire to drink is driven by four major motivational processes; conforming to norms, individuating identity, escaping distress and self-management and regulation (Toumbourou, 2005). Of these, conforming to norms is the most prevalent motivation with young people adhering to the patterns of substance use (which refers to both alcohol and drugs in this paper) amongst their peers. Positive psychology has yet to develop an intervention to address the well-being of alcohol-misusing adolescents, but given that individually-based reasons for young people to drink include to be happy, to change mood and deal with stress (Honest et al, 2000), the science is arguably well placed to demonstrate alternative routes to happiness, positive emotions and resilience, all constructs at the core of the subject.

Current interventions to tackle adolescent drinking range from the psychosocial to the educational, medical and legal. Prevention strategies to reduce demand for alcohol make up the bulk of approaches worldwide. Primary prevention aims to reduce risk and prevent new cases, secondary prevention seeks to limit harm in the early stages of a disorder and tertiary prevention treats the consequences of disorders (Toumbourou et al, 2007).

Psychosocial interventions aim to develop psychological and social

skills in young people so they are less likely to misuse alcohol and are frequently paired with educational interventions, which raise awareness of the dangers of alcohol misuse. The empirical basis for both is limited, to the extent that a Cochrane systematic review of over 200 studies called for an international register to be established and criteria agreed for rating interventions in terms of safety, efficacy and effectiveness (Foxcroft et al, 2003). A mere three interventions in the study were deemed effective over the long term (4+ years) and only one of these, the Strengthening Families Programme (Kumpfer et al, 1989) 'showed promise' as an effective intervention for the primary prevention of alcohol misuse.

Positive psychology and adolescent well-being

Adolescent well-being has been high on the agenda of positive psychology, responding to the shift in mental health which has seen depression become a disorder of the early teenage years rather than one that starts in middle age (Seligman, 1999). Martin Seligman, the co-founder of the field, has focused attention on 'positive prevention', arguing that building strengths such as optimism, future-mindedness and perseverance, acts as a buffer against mental illness and is more successful in the prevention of serious health problems than disease model approaches (Seligman, 2005).

Positive psychology's contribution to adolescent well-being so far has been both general and specific. It has had a general influence in paediatric psychology, which is starting to move away from an exclusive focus on children's deficits or pathology towards a more affirming and strength-building approach (Roberts et al, 2005). However the field's specific contribution has been in the development of interventions, designed to facilitate an aspect of well-being such as happiness or optimism.

The best known of these interventions is the Penn Resilience Programme (PRP; Gillham et al, 1990), a group intervention whose primary purpose is to prevent depression in children and adolescents. At its core is an adaptation of Ellis' ABC model (Ellis, 1962), which encourages children to dispute negative beliefs associated with adverse events and generate alternative, more optimistic explanations. The PRP

has been widely evaluated; of the 13 studies included in a 2007 review, five reported improvement and prevention of depression symptoms with a further five reporting mixed results (Gillham et al, 2007a, 2007 b). The PRP has been applied to 'problem adolescents' and was found to be especially efficacious in preventing depression symptoms in young adolescents with elevated levels of behavioural problems (Cutuli et al, 2006).

A recent meta-analysis of positive psychology interventions (PPIs; Sin & Lyubomirsky, 2009) included two PPIs aimed at groups of children. Froh et al, (2008) tested the effects of a single intervention, gratitude, on school classes of early adolescents. The study found that gratitude induction was related to enhanced well-being, gratitude and reduced negative affect and noted a significant change in optimism and life satisfaction at the follow-up. In Italy researchers developed 'well-being therapy' (WBT; Fava et al, 1998), based on the multidimensional model of psychological well-being proposed by Ryff and Singer (1996), which consists of personal growth, self-acceptance, autonomy, purpose in life, positive relationships and environmental mastery. A pilot study applied WBT to early adolescents in a school setting with the aim of helping pupils recognise and experience positive emotions and compared it to a parallel CBT intervention. Both produced significant and comparable improvements in terms of an increase in psychological well-being and symptom reduction (Ruini et al, 2006). These PPIs demonstrate the feasibility of group programmes based on positive emotions for promoting optimal functioning in adolescents, drawing on Barbara Fredrickson's body of work on the broaden-and-build theory of positive emotions (Fredrickson, 1998, 2001; Frederickson and Joiner, 2002; Frederickson and Losada, 2005).

So far positive psychology has focused its interventions on general rather than specific adolescent populations. However in recognition of the extent and severity of teenage alcohol misuse, the present study sought to advance knowledge by piloting a group intervention with an aim of increasing adolescent well-being and decreasing alcohol dependence in a population of alcohol-misusing adolescents.

Method

Intervention

The researcher consulted with positive psychology practitioners and health professionals in the addictions field to develop a PPI targeting alcohol-misusing adolescents. The programme consisted of eight weekly sessions or 'zones' grounded in well-being research (Table 1) with groupwork and discussion.

Table 1
The Happiness Zones

Session	Zones	Principal Themes
Week 1	Feel Good Zone	Positive Emotions, Savouring
Week 2	Future Zone	Gratitude, Optimism
Week 3	Me Zone	Strengths
Week 4	Chill Zone	Relaxation, Meditation
Week 5	Change Zone	Change, Goal-setting
Week 6	Me to You Zone	Relationships
Week 7	Body Zone	Nutrition, Physical Activity
Week 8	Bounce back Zone	Resilience, Growth Mindset

Each session began with a gratitude exercise where participants appreciated the good things in their lives, followed by activities related to that week's themes. In keeping with the health model approach, the programme did not focus on the pathology of the sample in contrast to 'treatment as usual'. The exception came in the Change Zone, which addressed alcohol misuse in the context of being the starting point for change. This session incorporated coaching techniques to set goals to work towards in the second half of the programme, so from session five each participant had individual coaching at the end of each session in order to report back on goal progress and identify next steps.

Participants

The participants were a convenience sample attending an alcohol and drug treatment service for young people in Bath. All had issues of substance misuse and were in 'at risk' categories. Most of the participants were currently 'not in education, employment or training' (referred to in Britain as NEETs). The experimental group (n = 10) consisted of 7 girls and 3 boys with an age range of 14 to 20 (M = 17.5). The upper age limit of 20 allowed for the assessment of some participants as being emotionally and mentally under-developed for their age, due to their vulnerability and possible cognitive deficits arising from substance misuse. A control group (n = 10) was also recruited from the same treatment service and received no intervention.

Data collection

Semi-structured interviews exploring well-being, the experience of the programme and substance habits were recorded on completion of the intervention at T2, six weeks later (T3) and a final follow-up 12 weeks post-intervention (T4). For the purpose of triangulation, interviews were also recorded with staff at the treatment service, who facilitated or observed the intervention. The researcher kept a reflective diary throughout the process. In the quantitative study four reliable, validated scales were chosen for their ease of application. These were the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999), a measure of dispositional optimism, the Life Orientation Test-Revised (LOT-R; Scheier et al, 1994), the Positive and Negative Affect Schedule (PANAS; Watson et al, 1988) and the Short Alcohol Dependence Data (SADD; Raistrick et al, 1983).

Data analysis

The interviews were transcribed verbatim and analysed by thematic analysis, a method for identifying, analysing and reporting repeated patterns of meaning (themes) within data (Braun & Clarke, 2006). Thematic analysis is not wedded to any pre-existing theoretical framework, which fits the pragmatic epistemological position of the study. The transcripts were read and themes identified at the semantic

level primarily by inductive analysis, using a 'bottom up' approach where the themes are strongly linked to the data itself (Patton, 1990). After initial coding of the transcripts by hand, the most prevalent codes in terms of frequency or importance were then inputted into NVivo2 software to collate data relevant to the potential themes. These were then defined and refined into sub-themes which were then grouped into four overarching themes.

In the quantitative study, data from the four measures were inputted into SPSS software and a series of tests carried out. Repeated measures between-participants ANOVAs were carried out across T1 & T2 with happiness, optimism, positive emotions and negative emotions as the dependent variable and time and group as independent variables. MANOVA tests were used for a simple effects analysis. One-way within-participants ANOVAs were carried out across T1, T2, T3 and T4 with follow-up paired t-tests to determine significance. In the case of the SADD, which did not fulfil the assumptions necessary for parametric testing, Wilcoxon and Mann Whitney U tests were carried out.

Results: Qualitative findings

Thematic analysis of the data yielded four distinct overarching themes as the main outcomes with 13 sub-themes. The criteria for the themes were according to their prevalence within the data and their importance to the evaluation of how the intervention impacted on adolescent well-being and alcohol habits.

Present happiness: 'Feeling better'

Eight out of 10 participants reported feeling happier and experiencing more positive emotions at T2. By T4 happiness was increasingly linked to things going well – achievements and improving circumstances. The positive emotions most frequently mentioned were feeling grateful, calm, positive, hopeful, optimistic, enthusiastic, confident and proud. Participants also reported being less stressed, depressed, angry, anxious and paranoid. A third of the group said that they felt more in control of their emotions.

Gratitude was arguably the most successful intervention. It was the

activity that made the biggest impact on happiness, the most widely-used technique post-intervention and one of the most frequently experienced positive emotions. The concept of appreciation for the good things in life was previously alien to the group, whose collective mindset was one of deprivation. Gratitude continued to be used as a way to improve mood without being dependent on others or resorting to stimulants.

The most popular session with the group was the Chill Zone on relaxation, which included a guided meditation. It dawned on the group that here was an alternative route to relaxation without needing recourse to drink or drugs. Many of the service staff highlighted this workshop as one of the most impactful, where they observed a marked contrast between the usually volatile participants and a noticeable calm after the session.

Relationships were named as one of the main sources of happiness for the group and many participants came to value the relationships more highly and noted an improvement in them. Participants felt better able to talk to their partners, some mentioned having fewer arguments with family and fewer episodes of violence. Gratitude acted as a social lubricant; as the participants expressed thanks to those who gave them support, their friends and family responded positively. One activity that had a big impact was where participants queried whether their peers might be 'frenemies' – friends behaving as an enemy by encouraging them to do risky things. It led to the participants querying the nature of their friendships and their own behaviour.

A rise in confidence was the most noticeable development at the final assessment. Some participants reported a return of confidence as a result of feeling better about themselves, others expressed new confidence about their capabilities. It was the session on strengths which probably had the most influence on this development. Most of the group had little sense of having natural talents and had been excluded from school or dropped out of education. For Danni, 16, discovering she had 'people skills' increased her confidence in her ability to achieve her ambition of becoming a youth worker. For Holly, 20, confidence returned as she realised that she still has capabilities despite her alcohol misuse. This led to her resurrecting long-lost ambitions and re-engaging with education. Identifying strengths helped the participants to a more positive view of themselves and to have the confidence that they could be themselves

rather than put on a front or play up to the tabloid label of 'feral youth'. Discovering their strengths generated confidence about their future, the subject of the second overarching theme.

Future goals: 'Getting Better'

... six months ago, all I was interested in was drinking and smoking weed. But now I'm interested in making a life for my kids. (Ashlee)

The development of a future goal orientation was one of the main outcomes of the study. Some participants had been loathe to contemplate the future because they anticipated something bad occurring. Others had given little thought to their future due to their immaturity and hedonistic behaviour. Goal-setting and optimism, the sub-themes, both facilitated the development of a future orientation.

The Change Zone was rated as one of the most useful sessions, in which the group were introduced to the coaching technique of 'life-planning', where they identified goals for various areas of life and then broke them down into smaller steps so that they could clarify the sequence of actions needed to achieve that goal. The goals were self-generated rather than being imposed in the form of a 'must do', which gave the participants a stronger motivation to work towards them. Furthermore they were broken down into a 'manageable size' which made them easier to tackle. It worked for 14-year old Geri, a persistent truant, who triumphed in her small goal of attending school every day, knowing that this was a step towards her bigger goal of training as a dancer. Goal-setting was related to a rise in motivation to 'sort' their lives out with frequent mention of having a 'plan'. From T2 to T4, the developments reported in the participants' lives were mostly connected to the goals they had set. Over half achieved goals which ranged from attending school to handing in assignments, bidding for accommodation and improving relationships. The participants showed signs of maturity by taking some responsibility for their lives, accompanied by an awareness of the dangers of apathy and pessimism. Goal-setting also facilitated the shift from pessimism to optimism about the future.

I know I'm going to have a good future now whereas before I was about 50:50... I just noticed basically that I've got to get my act in gear on that and keep going to

college, and doing what I'm doing now in order to make a better life for my future and hopefully for when I have kids. (Ashlee)

Optimism as a technique was particularly popular amongst the boys such as 17-year-old Jamie, who quickly became competent at 'reframing', looking for the positive in a negative. He was threatened with eviction from the hostel he was living in, but still managed to see positives in no longer having to endure a hostel he didn't like and that being in a B&B instead would mean free breakfasts. Having reframed a difficult situation, Jamie had vanished by T3. Staff later found out that he was living with his mother so he had ended up with a positive outcome to his negative housing situation.

Drink and drugs down

Most of the group had been heavy users of both alcohol and drugs. Reasons given for their alcohol habits were drinking to block out depression, shy away from chores and escape the 'mess' of their lives. By T2 eight out of the 10 reported that they had cut down substantially on their alcohol consumption with three stating that they no longer drank. Further interrogation revealed that 'I stopped drinking' meant that they had ceased to be regular binge drinkers but would still allow themselves a drink on a 'special occasion'. For most of the group drinking went from being a full-time activity to an evening or weekend one. By T4 only one of the participants was still drinking heavily while the rest had cut down to occasional drinking. 'Weed' (cannabis) was the most common drug used with a purpose of relaxation. Like alcohol drugs went from being a full-time to a part-time activity. By T4 four of the group had stopped smoking cannabis altogether and all but one had cut down substantially on drug consumption.

As alcohol and drug consumption declined, there were consequences for the emotions, on activity levels and on the body. Around half of the group reported that they began to feel better as their substance use declined. The perception of alcohol and drugs shifted for many, from a belief that they brought on happiness to considering that they might act as a block to well-being. As drug use declined, the participants also noticed a reduction in paranoia and anxiety, with several mentioning that they had become less suspicious and more social. One girl stated that cutting out cannabis had stopped her mood swings.

The participants also became conscious of alcohol and drugs acting as obstacles to their goals. Danni, 16, cut down on cannabis when she realised it left her depressed, which got in the way of taking steps towards becoming a youth worker. Emma, 17, stopped misusing when she achieved her dream job working in children's theatre and realised that she couldn't afford to be hung-over in the role. Geri, 14, realised that she wouldn't achieve her goal of training as a dancer if she continued with alcohol and drug misuse, which led to her stopping.

A rise in activity was another consequence of the decline in consumption. One of the boys, who usually attended in a 'wasted' state, began to make changes in his life such as applying to college and expressed a desire to have more from life.

Increased activity was in turn related to greater happiness. Fliss, 19, cut down on cannabis and helped her alcoholic mother through a 'detox'. As a distraction activity they set about decorating their homes, which gave them a sense of achievement that increased their happiness. The decline in substance misuse was also apparent in the participants' physicality. At T3 there were signs of clearer skin, higher energy levels and greater physical fitness in several individuals, which reflected the presence of fewer toxins in the body.

The service manager reported that there was no longer the trail of crisis and chaos that accompanies heavy alcohol consumption and that it was now possible to 'close the book' on many of the group since their substance misuse was no longer a cause for concern. There were two exceptions to this, both of whom were in 'a state of denial' about their alcohol dependency according to their key-worker. Although their consumption remained high, the key-worker observed changes on a 'personal and emotional level' with each. One of these was 20-year-old Holly. At T2 her relationship had broken down which led to an increase in substance use. By T4 she was still a heavy drug user, but her alcohol consumption had reduced, partly as a consequence of feeling better.

I just feel happier, it's not really much to block out at the moment, I feel happier in myself, so I don't really need the alcohol as much.

In Holly's case the impact of the intervention was more on her emotional well-being and life choices rather than on her substance use.

Transformation

The rise in happiness, the development of a future goal orientation and the decline of alcohol and drug consumption contributed to the final overarching theme, that of transformation. One of the most remarkable outcomes of the study was the scale of change in the participants, both internally in their mindset and externally in their circumstances.

I've changed a lot for the better... I feel like a completely different person to be honest. (Ashlee)

It's been really a life-changing experience. (Fliss)

The service manager summed up the intervention as 'transformational', her co-manager noted 'significant changes in each participant' with 'far better engagement. There's a warmth, there's an openness that they didn't have before.' Many of the internal changes have already been documented, what was also remarkable were the external changes that occurred. Eight out of the 10 re-engaged with education, four gained new jobs and four were rehoused into more suitable accommodation. Emma, 17, was one of those who flourished. She had been one of the most disaffected and defensive, however at T3 the researcher encountered a changed individual. Life had gone from strength to strength - she had gained paid work, passed an exam and had an audition to go to drama school. What's more she had achieved her goal of having her own place to live. Her support worker had noticed that she had begun to engage more and it was this new attitude which won her new accommodation.

The biggest change, inevitably, was for pregnant Cassie. This was a girl, whom her key-worker described as incredibly negative, 'almost afraid to think of what good can happen... for fear of what bad might happen.' Cassie held to her resolution to stay sober during her pregnancy and changed her mind about returning to alcohol as she had planned once she became a mother. This was a sign of her caring more about her future.

I think the future's good for me whereas before I thought oh no, nothing's going to turn out alright but I changed.

Two months after the study Cassie, the participant who had lacked faith in her future, gave birth to a baby girl and named her... Faith.

Results: Quantitative findings

Subjective happiness

Table 2
Mean subjective happiness responses as a function of time

	Experimental		Control	
	Mean	SD	Mean	SD
T1	3.80 (n=10)	.81	3.88 (n=10)	.64
T2	4.52 (n=10)	.70	3.55 (n=9)	.62
T3	4.63 (n=9)	.60		
T4	4.31 (n=9)	.62		

The data were analysed with a 2x2 split-plot ANOVA with condition (experimental v control) and Time (Time 1 v Time 2) as factors. The main effect for time was $F(1,17) = 1.28, p = .274$. The main effect for group was $F(1,17) = 2.63, p = .123$. Neither of these effects were significant. There was however a significant interaction of group varying as a function of time ($F(1,17) = 9.38, p = .007$) therefore it is possible to reject the null hypothesis that this could have arisen due to sampling error.

A simple effects analysis was carried out on the interaction data, with the criterion value for significance set to .0125 to control the familywise error rate. This revealed a significant difference between groups at T2 ($F(1,17) = 9.26, p = .007$) and within the experimental group from T1 to T2 ($F(1, 17) = 10.05, p = .006$). No other comparisons achieved significance.

A one-way ANOVA compared the experimental group at T1, T2, T3 and T4 and showed a significant difference in the means ($F(3, 24) = 4.409, p = .013$). Paired t-tests revealed a significant difference between T1 ($M = 3.80$) and T2 ($M = 4.52$), $t(9) = 3.7, p = .005$ two-tailed. No other comparisons achieved significance.

The results would appear to indicate that whilst happiness increased across time in the experimental group, no such beneficial effect was observed in the control group, whose happiness declined slightly.

Optimism

Table 3
Mean optimism responses as a function of time

	Experimental		Control	
	Mean	SD	Mean	SD
T1	16.25 (n=10)	4.09	16.88 (n=10)	4.01
T2	20.40 (n=10)	4.88	13.00 (n=9)	4.82
T3	22.11 (n= 9)	3.91		
T4	20.61 (n= 9)	4.16		

The data were analysed with a 2x2 split-plot ANOVA with condition (experimental v control) and Time (Time1 v Time 2) as factors. The main effect for time did not achieve significance ($F(1,17) = .022, p = .883$), neither did the main effect for group ($F(1,17) = 3.308, p = .087$). However a significant interaction was found for group varying as a function of time ($F(1, 17) = 21.076, p = <.01$). A simple effects analysis on the interaction data revealed a significant difference in optimism between T1 and T2 in both the experimental group ($F(1,17) = 11.86, p = .003$) and control group ($F(1,17) = 9.37, p = .007$). There was also a significant effect within the experimental group from T1 to T2 ($F(1,17) = 11.01, p = .004$).

A one-way ANOVA compared the experimental group means at T1, T2, T3 and T4 and showed a significant difference ($F(3,24) = 6.416, p = .002$). Paired t-tests revealed a significant difference between T1 ($M = 16.25, SD = 4.09$) and T2 ($M = 20.40, SD = 4.88$), $t(9) = 5.56, p = <.001$ two-tailed and also between T1 ($M = 16.61, SD = 4.17$) and T3 ($M = 22.11, SD = 3.92$), $t(8) = 4.225, p = .003$ two-tailed. No other comparisons achieved significance. The results would appear to indicate that whilst optimism increased across time in the experimental group, no such beneficial effect was observed in the control group, whose optimism declined.

Positive and negative emotions

Table 4
Mean positive and negative emotion responses as a function of time

	Experimental		Control	
	Mean	SD	Mean	SD
Positive emotions				
T1	22.10 (n=10)	6.92	28.78 (n=10)	9.93
T2	29.80 (n=10)	7.97	23.44 (n=9)	9.70
T3	29.44 (n= 9)	5.98		
T4	31.44 (n= 9)	5.79		
Negative emotions				
T1	23.80 (n=10)	7.41	24.55 (n=10)	9.84
T2	18.40 (n=10)	8.63	23.55 (n=9)	11.72
T3	17.44 (n= 9)	2.88		
T4	17.56 (n= 9)	5.58		

In the experimental group mean positive emotions rose while mean negative emotions declined across the study. There were two extreme scores for negative emotions (at T4 in the experimental group and T2 in the control group) and these were trimmed to the next highest value in order to run the parametric analysis.

Positive emotions

The main effect for time did not achieve significance ($F(1,17) = .325$, $p = .576$), neither did the main effect for group ($F(1,17) = .002$, $p = .963$). However a significant interaction was found for group varying as a function of time ($F(1,17) = 9.854$, $p = .006$) and therefore it is possible to reject the null hypothesis that this could have arisen due to sampling error.

A simple effects analysis was carried out on the interaction data, which showed that the two groups differed significantly at T2 with a marginally significant effect ($F(1,17) = 7.26$, $p = .015$). No other comparisons achieved significance.

A one-way ANOVA showed a significant difference in the experimental group means ($F(3, 24) = 4.363$, $p = .014$). Paired t-tests

revealed a marginal significant difference between T1 (M = 22.33) and T3 (M = 29.44), $t(8) = 3.159$, $p = .013$ two-tailed. No other comparisons achieved significance.

Negative emotions

Neither of the main effects nor the interaction were significant. The effect for time was $F(1,17) = 1.47$, $p = .242$. The effect for group was $F(1, 17) = .835$, $p = .374$. The interaction of time and group was $F(1,17) = .282$, $p = .602$. A related t-test showed that mean negative emotions declined in the experimental group across time from 23.44 (SD = 7.76) at T1 to 16.33 (SD = 2.74) at T4 but this was not a significant result.

Alcohol dependence

Table 5
Mean alcohol responses as a function of time

	Experimental				Control			
	Mean	SD	median	range	Mean	SD	median	range
T1	20.78 (n=10)	9.52	24.00	37.00	22.67 (n=10)	13.28	25.00	47.00
T2	12.78 (n=10)	10.27	13.00	42.00	19.67 (n=9)	11.29	17.00	33.00
T3	12.56 (n=9)	9.98	15.00	31.00				
T4	10.89 (n= 9)	10.93	7.00	36.00				

Alcohol dependence had dropped to half of its T1 level in the experimental group by T2, from a median of 24.00 (range = 37.00) to a median of 13.00 (range = 42.00) and by T4 it had fallen to a third of its original level at a median of 7.00 (range = 36.00). In the control group the median was 25.00 at T1 (range = 47.00) and at T2 with one dropout this declined marginally to a median of 17.00 (range = 33.00).

Due to the presence of extreme scores, which ranged from heavy drinkers to teetotallers, the SADD data did not fit the assumptions for parametric testing. A Wilcoxon signed-rank test showed that the experimental group's SADD scores had more than halved by T4 (M = 10.90, SD = 10.94) compared to T1 (M = 23.00, SD = 11.40) and that this was a statistically significant result ($Z = -2.55$, exact $p = .004$ one-tailed). There was one other marginally significant result from T1 (M = 23.00, SD = 11.40) to T3 (M = 12.56, SD = 9.99), $Z = -2.371$, exact $p = .008$ one-tailed. No other comparison achieved significance.

A Mann-Whitney U test was used to compare the experimental and control group at T1 and T2. This showed that $U = 31.5$; exact $p = .284$ two-tailed and therefore it is not possible to reject the null hypothesis that the difference in conditions could have occurred by chance.

Discussion

Both qualitative and quantitative findings suggest that the intervention was related to a significant increase in well-being and a significant decline in alcohol consumption.

The experience of a group intervention played a role in the rise in positive emotions. Friendships formed and the group were mutually supportive. There were indications of participants becoming more sociable in general and this may be explained by the increase in happiness, as depression tends to cause people to withdraw whereas happiness facilitates its opposite.

Well-being

The rise in happiness and other positive emotions seen in the qualitative themes was supported by the quantitative findings with a significant increase in happiness at T2 in the experimental group and a significant effect between groups. There was also a significant increase in optimism in the experimental group at T2 and a significant effect between groups, implying that the development of future goal orientation was supported by a strong optimistic belief that things will work out.

Mean positive emotions in the experimental group rose by approximately a third during the study (from $M = 22.10$ at T1 to $M = 31.44$ at T4) whereas negative emotions shrank by a quarter (from $M = 23.80$ at T1 to $M = 17.55$ at T4), indicating that the ratio of positive to negative emotions doubled from approximately 1:1 to 2:1. The broaden-and-build theory of positive emotions suggests that people go into upwards spirals of development when their ratio of positive to negative emotions bypasses the tipping point of 2.9 to 1, which divides flourishing from languishing (Fredrickson & Losada, 2005). It is possible that this theory was fuelling the theme of transformation, which spawned multiple successes ranging from gaining new jobs

and accommodation, to passing exams and completing educational assignments. This also concurs with meta-analysis findings that happiness is both the cause and consequence of success (Lyubomirsky et al., 2005). This suggests a potential for using positive emotions as a vehicle to facilitate optimal functioning in adolescents and builds on the findings of Ruini et al, (2006) and Froh et al, (2008). Further research is necessary to establish the relationship between positive emotions and optimal functioning in this population.

It was evident from the qualitative interviews that gratitude had the strongest effect of all the interventions, confirming its reputation as a 'meta-strategy for achieving happiness' (Lyubomirsky, 2007, p.88). This study supports other findings that counting blessings is associated with enhanced optimism, life satisfaction and decreased negative affect (eg. Froh et al., 2008). Gratitude was especially popular with the female participants, concurring with other findings that women seem more likely to express gratitude than men and derive more benefit from it (Kashdan et al., 2009). The popularity of gratitude was such that this study recommends that it should be a cornerstone of future PPI programmes aimed at disaffected youth, who tend towards a mindset of deprivation.

The nature of the happiness experienced by the group varied. Initially it was based more on feeling good, evidenced by the rise in positive emotions, which corresponds to the notion of hedonic well-being, characterized by frequent positive affect and low levels of negative affect (Waterman, 1993). In the latter stages, there were also signs of a different form of happiness, based more on things going well and expressed through the rise of confidence. This is related more to eudaimonic well-being or realising one's potential (Ryan & Deci, 2001).

The shift from hedonic to eudaimonic forms of well-being paralleled another transition, that of time perspective. The dominant time perspective shifted from present-hedonistic, characteristic of children but with a risk of unfortunate consequences such as addictions and academic failure (Boniwell & Zimbardo, 2004), to a future time perspective (Zimbardo & Boyd, 1999). This was most evident in the case of Ashlee, whose horizons shifted from the next drink to wanting to build a future for her as yet unborn children. People with a future time perspective tend to be more successful in life and have an eye on the probable outcomes of present actions (Boniwell & Zimbardo,

2004). Seligman (1999) describes future-mindedness as a strength and argues that a teenager who is future-minded is not at risk of substance abuse. A future time perspective would seem therefore to be a capacity worth cultivating in adolescents and may have a secondary benefit in developing awareness of the impact of present drinking habits on future achievement.

Identifying their strengths had a positive influence on the participants, most of whom had been excluded from mainstream education. Failure to thrive in the classroom raises the risk of disaffection, learned helplessness (Seligman, 1975) and substance abuse. Discovering their natural talents boosted self-efficacy (Bandura, 1977), helped clarify the participants' choice of future direction and stimulated taking steps towards that future. Eight out of the 10 re-engaged with education in the wake of the intervention. This shows how individual strengths can be harnessed to serve a purpose and concurs with Cox's (2006) work with youths with behavioural problems, in which she identified benefits from using the strengths of adolescents in the service of treatment goals. Oman et al. (2004) report on a branch of social work which uses a model of assets that includes the internal resources of strengths but also external sources such as positive family communication. Their work with adolescents linked with alcohol and drug abuse showed that young people who were able to draw upon assets and aspirations for the future were linked to a lower prevalence of youth alcohol and drug abuse.

According to Rath (2007) when people have an opportunity to focus on strengths daily, they are six times more likely to be engaged in their jobs. A strengths approach could be the means of helping excluded young people to engage with the workplace. Policymakers addressing the growing number of NEETs should consider the strengths approach as a means of helping excluded young people to identify work in which they can excel. Further research is required to quantify the benefits of using the strengths approach with disaffected adolescents.

Alcohol misuse

The intervention adhered to its positive focus of building well-being rather than reducing drinking. This indirect approach worked well as alcohol dependence halved from T1 to T2 and by T4 it was down to a third of its original level (from a median of 24 at T1 to 13 at T2 and

7 at T4 respectively). An inferential test - the Wilcoxon matched pairs test - confirmed that alcohol dependence had more than halved by T4 (M = 10.898, SD = 10.936) compared to T1 (M = 23.00, SD = 11.40) and this was a significant result (Z = -2.55, exact p = .004 one-tailed). The large standard deviations reflect the diversity within this small group which ranged from teetotallers to a heavy drinker. As drinking declined, there was a noticeable improvement in physical well-being, which was visible in the young people's appearance but also manifested in the rise of activity.

This finding begs the question of how an intervention, that largely 'parked' the drinking problems of its participants, still managed to achieve a substantial decline in alcohol dependence? The researcher observed two factors. Firstly as the young people began to feel happier, they expressed less need to drink in order to escape difficulty. Secondly, as they developed a future goal orientation, they began to see that their alcohol habits were a hindrance to the realisation of their ambitions. This suggests the potential for using a positive focus to reduce negative behaviours such as substance misuse, and also confirms the potential for using positive psychology in the secondary prevention of adolescent alcohol misuse for young people with established patterns of misuse. Additionally this raises the possibility of taking positive psychology from the prevention arena into a treatment capacity. As this was a preliminary study further research is required to test the precedents observed here.

The intervention

This trial application of positive psychology had strengths and weaknesses. Operating as a group enabled the possibility of peer support, an important factor when considering how much drinking is due to peer pressure. It also facilitated an improvement in social well-being with one participant acknowledging that it was taking part in a group intervention that gave her the confidence to be in other social situations. A group intervention has advantages in terms of cost compared to more expensive one-to-one interventions.

For the participants it was a case of learning through doing – the activities worked well but they were resistant to any form of teaching, possibly because it reminded them of the unfavoured classroom

scenario. Varying the themes each week maintained interest in the sessions but at two hours in duration, the participants began to lose concentration as the desire for a nicotine fix rose. Future roll-out of the intervention would benefit from having a longer run, say of 12 and keeping the sessions to an hour apiece.

The researcher, as co-facilitator of the intervention, was fortunate to engage the 'hardest group to reach' but acknowledges that the positive results could have an element of 'teacher effects'. While this is not necessarily a disadvantage, consideration should be paid to the likelihood of future facilitators being therapists who may have only worked in the disease model and for whom a positive intervention such as this could represent a paradigm shift in practice.

Operating within the health model was an effective practice, even allowing for the scale of alcohol problems, which positioned the participants firmly within the disease model spectrum of treatment services. Coaching, the form of mentoring which serves as the tool of the health model, worked well with adolescents. The basic coaching question of 'what do you want?' pointed the participants towards articulating ambitions for their lives, in contrast to the therapy question of 'what is the problem?' which maintains the individual within the disease model. Many of the goals set during the intervention were achieved and the fact that they were self-generated rather than imposed goals, may have given the young people an intrinsic motivation (Ryan & Deci, 2000) to achieve them. Youth coaching is still in its infancy in the UK, but having established that coaching was an effective process for this client group, the study strongly recommends that coaching become part of the repertoire of interventions with young people.

Limitations

Due to the preliminary nature of this study and convenient sample involved, there are a number of limitations to consider. The sample's small size and gender imbalance restricts the external validity of the results. It was noticeable that well-being fell slightly amongst the control group and there was a statistically significant decline in their optimism between T1 and T2. The small size of the group may have led to an undue influence of one or two members, but another explanation may

be resentment felt by the control group, who received no intervention and filled in questionnaires without reward although they were assured that they would be eligible for a later intervention.

As a general observation much of positive psychology research relies on self-report measures. Disaffected adolescents lead chaotic lives which may influence their reliability as study participants. They also tend to dislike questionnaires as they have to fill in forms in order to access services and benefits. It may be necessary to supplement self-report measures when studying this population. Triangulation was useful in this respect to assess change from multiple perspectives. Other objective measures could include blood and breathalyser tests to assess alcohol levels and maybe external measures such as attendance records. Neither is likely to be popular but they would mitigate against the reliance on self-report measures.

It is possible that some of the changes observed in the participants could have been the result of maturation effects, as adolescence is a period of rapid change. However the scale of change, which some rated as transformational, implies that the intervention had a greater effect than normal maturation processes. Equally there is the question of the 'Hawthorne effect' (Landsberger, 1955) whereby the participants improve because they are the centre of attention (and certainly the control group may have experienced its opposite). T4 was a late addition to the study in order to assess longer-term effects and this showed that the effects of the intervention were still in evidence, five months after baseline.

As with any intervention, the question arises of how to sustain the effects over the long term. This is especially important in a population who return to the influence of their environments. In this respect the friendships that developed amongst the group may help through peer support. It is also possible that having entered an upwards spiral and re-engaged with education and life generally, the group will have more of a chance of transcending their circumstances. The programme would benefit from having post-intervention coaching sessions or group reunions to maintain the effects long-term.

Conclusion

This mixed methods study was a preliminary investigation into applying positive psychology to alcohol-misusing adolescents in a 'real world context'. Both qualitative and quantitative results indicated that the intervention was associated with a significant increase in adolescent well-being and a significant decrease in alcohol consumption. The effects were still in evidence three months after completion of the intervention. As well as demonstrating the value of applying positive psychology to alcohol-misusing adolescents, the study extends the reach of positive psychology programmes beyond primary prevention into secondary prevention for people who already have symptoms of a disorder. It shows the potential of positive psychology as treatment for populations who have moved beyond risk into the reality of health, social and educational problems. Traditionally prevention research has been pathology-oriented, focusing on the reduction of risk factors within the individual. The present study demonstrates the value of working within the health model for established clients of the disease model. Given the benefits observed to hedonic, eudaimonic, social and physical well-being, the final recommendation of this investigation is to take the current pilot forward to a full study.

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