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REVIEW PAPER

The utility of measuring flourishing in substance and alcohol use disorders research: a systematic review

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Abstract

There has been an increasing research interest into positive psychology approaches for alcohol and substance use disorders. However, the specific focus on identifying the value of measuring flourishing, a key concept in positive psychology, in these disorders, as opposed to the traditional measurement of psychopathology, has not been reviewed. A systematic review was therefore undertaken to evaluate the literature on this measurement's value. 32 articles on the topic were identified of which 12 fulfilled the inclusion criteria. Despite some limitations in the quality of the evidence base, the results indicate that there is some evidence for a negative correlation between flourishing and rates of alcohol and substance use. It also suggests that flourishing should be considered as an essential part of a measure of complete mental health, as a useful measure for assessment within Substance Use Disorders (SUD) and valuable treatment goal in developing sustainable recovery.

Keywords: *Flourishing – substance use – alcohol use – positive psychology – wellbeing – complete mental health*

Abstrait

Il y a eu un intérêt croissant pour la recherche sur les approches de psychologie positive pour les troubles liés à l'alcool et aux substances. Cependant, l'accent mis sur l'identification de la valeur de mesure de l'épanouissement, un concept clé en psychologie positive, dans ces troubles, par opposition à la mesure traditionnelle de la psychopathologie, n'a pas été examiné. Une revue systématique a donc été entreprise pour évaluer la littérature sur la valeur de cette mesure. 32 articles sur le sujet ont été identifiés dont 12 remplissaient les critères d'inclusion. Malgré certaines limites dans la qualité de la base de données probantes, les résultats indiquent qu'il existe des preuves d'une corrélation négative entre l'épanouissement et les taux de consommation d'alcool et de substances. Il suggère également que l'épanouissement devrait être considéré comme un élément essentiel d'une mesure de la santé mentale complète, comme une mesure utile pour l'évaluation des troubles d'usage de substances et un objectif de traitement valable dans le développement d'une récupération durable.

Mots clés: *Floraison - usage de substances - consommation d'alcool - psychologie positive - bien-être - santé mentale complète*

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BACKGROUND, AIMS AND OBJECTIVES

The approach of positive psychology was developed in response to the observation that much of the existing research had been driven by a need to understand psychopathology, yet very little research has been done in what makes a 'good life' (Seligman & Csikszentmihalyi, 2000). This led to interest in studying how wellbeing could be increased, as an addition to the research focusing on understanding and developing approaches for those with psychopathology.

Flourishing, a concept developed by a number of authors (Diener et al., 2009; Keyes, 2002; Seligman, 2011), can be seen to embody this central theme of positive psychology (Schotanus-Dijkstra, Pieterse, et al., 2016). It has been defined as 'to live within an

optimal range of human functioning, one that connotes goodness, generativity, growth, and resilience.' (Fredrickson & Losada, 2005, p.678). The historical debate between philosophers concerning the pursuit of happiness and wellbeing has often centred around the relative importance of the levels of hedonic wellbeing (the desire for pleasure and happiness) or eudaimonic wellbeing (the cultivation of personal strengths and contribution to the greater good). It can be seen from the preceding definition that flourishing is identified as being more than simply 'hedonic happiness'. However, others have noted that although the concept of fulfilment is a central component in the development of 'the good life' (Seligman, 2011), flourishing is also considered to be more than just the presence of eudaimonic wellbeing. Therefore, it may be best defined as 'the combined presence of hedonic and eudaimonic wellbeing components' (Henderson & Knight, 2012, p. 196).

Keyes further argued for the importance of flourishing, suggesting that mental health did not occur simply in the absence of mental illness. He noted that almost half of adults receiving mental health services every year did so when there was no diagnosable disorder (2005), and that the two are not just opposite ends of a bipolar dimension, but separate and correlated, unipolar dimensions. He suggested that the mental illness dimension related to the presence or absence of symptoms of psychopathology, such as major depressive episodes, Substance Use Disorder (SUD), etc., and the mental health dimension related to the presence of flourishing or its absence (languishing). He further posited that 'complete mental health' should be considered to be a combination of both these dimensions (the absence of mental illness and the presence of flourishing)(Keyes, 2002).

Specific Use of the Term 'Flourishing'

Interest in flourishing has been increasing in many fields, however its development and explorations of its value are still in relatively early stages. As a result, it is unsurprising that there has been some variance in how it is being operationalised. Currently there are considered to be four conceptualisations of flourishing promoted by the work of Huppert, Keyes, Seligman and Diener (Hone, Jarden, Schofield, & Duncan, 2014). However, although these have some variance in focus and measurement, they are considered to share enough theoretical and conceptual similarities to be considered a single concept (Hone, Jarden, Schofield, & Duncan, 2014).

Despite this conceptual agreement, other researchers have sometimes used the term flourishing interchangeably with wellbeing, eudaimonia, and happiness (Huta & Waterman, 2014). As a result some research has often focused on the components of flourishing, the levels of hedonic wellbeing or eudaimonic wellbeing, and less on the investigation of the comprehensive state of flourishing (Schotanus-Dijkstra, Pieterse, et al., 2016). Others have noted issues of variability in the understanding of 'wellbeing' terms, and that hedonia and eudaimonia have sometimes been seen as asymmetrical terms, with hedonia defined as a way of feeling, whilst eudaimonia is considered as a way of behaving (Huta & Ryan, 2010). This has resulted in findings that are difficult to compare due to the various operationalisations of flourishing used (Hone et al., 2014).

These terminological confusions create a need for clarity in a systematic review such as this, to ensure the precise parameters of the enquiry are consistent and well-identified. As a result, the focus of this article was to consider the use of the specific term 'flourishing'. This was employed to distinguish this concept of the combined presence of hedonic and eudaimonic wellbeing components, central to positive psychology, from less well-defined or more limited measures of wellbeing or its variants, in SUD. Although there is undeniable value in studies measuring other conceptualisations of wellbeing, papers that did not contain that specific term were, for the purpose of consistency in this review, not included.

Additionally, there has been some concern reported by service workers about the 'softer' positive psychology approaches potentially replacing approaches more suited to the psycho-pathological aspects of SUD (Krentzman & Barker, 2016). This review's precise focus on flourishing, rather than on more variable concepts of general wellbeing, was also chosen to provide a well-defined addition to the evidence base for the concept in SUD. It is hoped that this may assist in the bridging of the gap between these two important approaches.

The Importance of Flourishing in Current SUD Agendas

With 22% of those in contact with UK drug services exiting treatment in a managed way and the remaining 78% (NTA, 2017) either staying in the system or dropping out of treatment, there is some interest in new approaches to SUD. The UK government agenda for SUD has moved from a focus on harm management and a primarily disease-based view of addiction to one of building recovery capital (Cloud & Granfield, 2008) and encouraging the role of patient activation and self-management (Addicott et al., 2015) to enhance recovery, and as such it is now well-aligned with the concept of flourishing in enhancing complete mental health (Krentzman, 2013).

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Objective of Review

The objective of this systematic review therefore was to examine the utility and value of measuring flourishing in the SUD field by identifying all peer-reviewed published studies, including quantitative and qualitative studies and related reviews, into flourishing and SUD using two major electronic databases (Medline and PsycINFO). The following two questions were considered:

What is the evidence that the concept of flourishing is used in the SUD field?

What is the evidence that measuring flourishing in the SUD field has any value?

The findings from this review may potentially clarify directions for future research into flourishing in SUD, identify any gaps in the research and identify if there is a need for developing approaches in SUD which specifically promote flourishing.

METHODOLOGY

Two electronic reference databases (PubMed and Psychinfo) were chosen to capture a wide range of psychologically-based research and searched using full text keywords to increase the amount of results retrieved (Eady, Wilczynski, & Haynes, 2008; Montori, Wilczynski, Morgan, & Haynes, 2005; Robinson & Dickersin, 2002).

The search terms initially used were:

1) Flourish* (the use of wildcard symbol was used to capture data on 'flourishing' as well as 'flourish')

2) Substance

3) Alcohol

4) Addiction (although this term is currently rarely used in the field, it was included to identify relevant papers utilising this previously common term)

5) "Positive psychology"(as the first 4 terms produced few results a final more generic search term was added to avoid missing the inclusion of flourishing and SUD in other relevant papers)

The terms were used with two sets of Boolean operations of:

(1 AND 2) OR (1 AND 3) OR (1 AND 4)

and

(5 AND 2) OR (5 AND 3) OR (5 AND 4)

The criteria for inclusion in this review were set in order to capture a wide range of peer-reviewed published material in this relatively new research subject. Quantitative studies, including those with cross-sectional designs, qualitative studies, mixed methods studies and reviews published in peer-reviewed journals were included. Articles that were primarily commentaries in studies were included, but books, undergraduate thesis, grey literature, newspapers and magazine articles were excluded (McGinn, Taylor, McColgan, & McQuilkan, 2016; Sampson et al., 2009). No date limit was set on publication dates for inclusion.

Results were required to include relevant uses of the word flourishing, in the context of languishing/flourishing mental health and records that did not meet this criterion were excluded (e.g.; the demand for drugs is flourishing; addiction is flourishing). Results that did not use the term flourishing with relationship to SUD and or alcohol use issues were also excluded. Results, particularly some of those returned by search term 5, focusing generally on wellbeing, or solely eudaimonic or solely hedonic wellbeing rather than the comprehensive state of flourishing were excluded, for the reasons set out in the section on the specific use of the term 'flourishing'.

This review's report conforms to the recommendations from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement (PRSIMA) (Moher, Liberati, Tetzlaff, & Altman, 2009; see Figure 1).

RESULTS

Literature Search Results

The reference database searches of terms 1 to 4 initially provided a small set of results (Psycinfo = 23, Pubmed = 19). With the addition of term 5, subsequent searches yielded a further 89 results (Psycinfo = 76, Pubmed = 13). This produced a total of 131 (Psycinfo = 99, Pubmed = 32) (see Figure 1).

A filtering process was applied to exclude duplicates (n = 25), and the remaining records 106 were screened for eligibility. Applying the inclusion criteria resulted in 28 studies being identified as potentially eligible; on examination of these studies, a further 4 studies were identified as potentially valuable through reviewing their references, producing 32 potentially relevant studies for potential inclusion.

The researchers then reviewed each paper to ensure the relevance of the word 'flourishing' related to SUD or alcohol use issues and was in the appropriate context for this study. A few studies (Akhtar & Boniwell, 2010; Best et al., 2016) were considered for inclusion which on close examination showed some similarities to the concept of flourishing, but as the term itself was absent it was decided that

they did not meet the strict inclusion requirements for this review. 20 further papers were excluded at this stage.

The remaining 12 studies and reviews were assessed for quality using the NIH study quality assessment tools (2014); any areas identified by the tool as possible sources of bias were evaluated as to their potential effect on the results reported, and any rated as 'poor' were to be excluded at this point. Although all remaining papers passed this assessment (see Table 1) and generally scored well when assessed for clearly stated study objectives, clearly defined populations, high participation rates, use of valid measures,

Figure 1: PRISMA 2009 flow diagram for systematic review

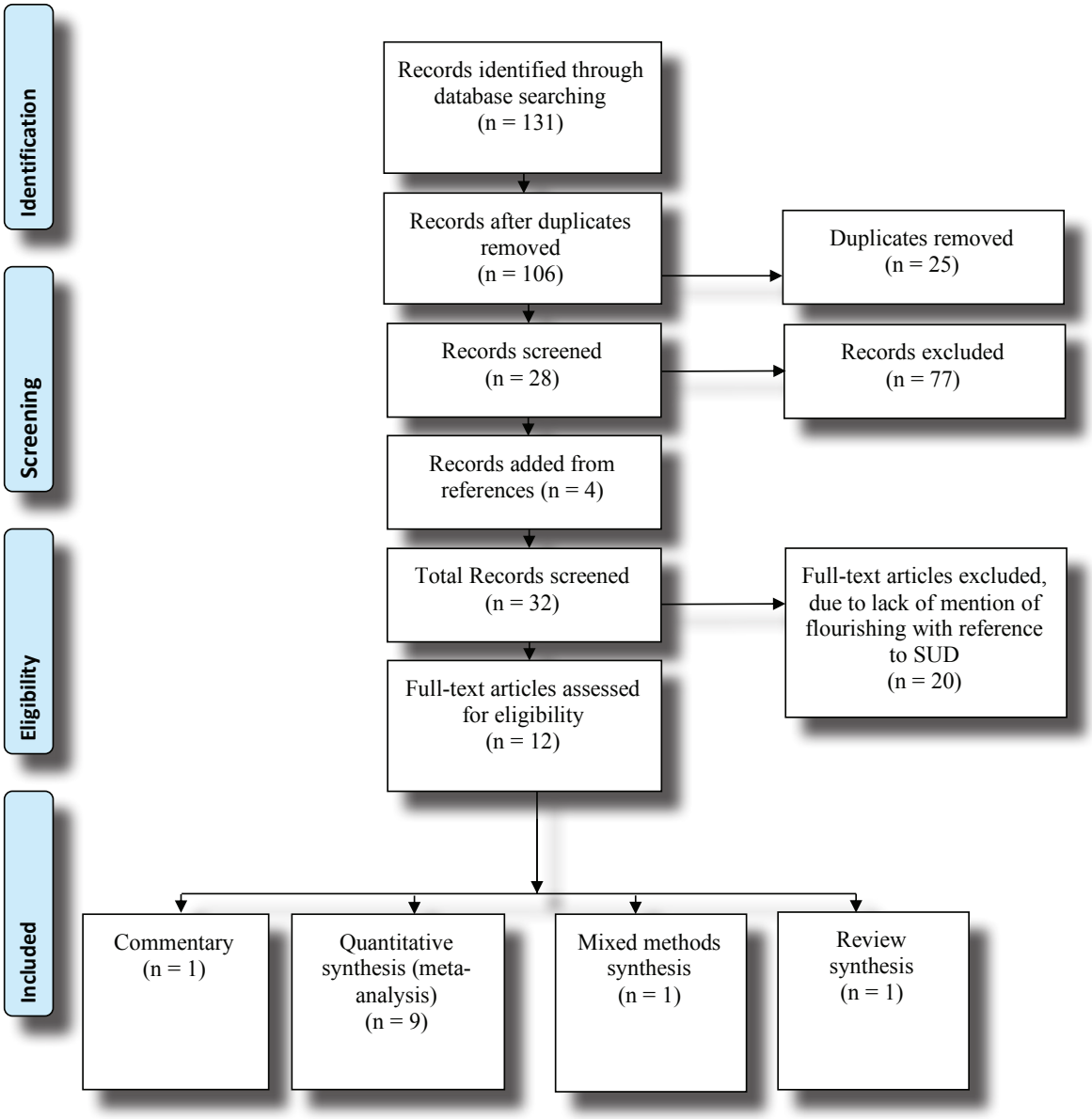

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Table 1: Details of reviewed studies

Author/Year	Title	Quality	Country	Method	Control	measures	N	Results
Keyes, Corey L. M. 2005	Mental Illness and/or Mental Health? Investigating Axioms of the Complete State Model of Health	Good	USA	Quantutative-cross sectional	No	Composite International Diagnostic Interview Short Form. Ryff's (1989) scales of psychological well-being and Keyes's (1998) scales of social well-being. Positive affect symptoms	3032	Supports the hypothesis that measures of mental health (flourishing) and mental illness (including alcohol dependence) constitute separate correlated unipolar dimensions. Completely mentally healthy adults reported the least substance use
Keyes, Corey L. M. 2006	Mental health in adolescence: Is America's youth flourishing?	Good	USA	Quantutative-cross sectional	No	12 subjective well-being adapted from midus. Child De- pression Inventory. Global self-concept scale. Closeness to others	1234	Flourishing was the most prevalent diagnosis among youth ages 12-14; moderate mental health was the most prevalent diagnosis among youth ages 15-18. Alcohol use and marijuana use decreased and measures of psychosocial functioning increased as mental health increased.
Barber, L.K; Bagsby, P.G; Munz, D.C. 2010	Affect regulation strategies for promoting (or preventing) flourishing emotional health	Good	USA	Quantutative-cross sectional	No	Positivity ratio. Trait verison Measure of Affect Regulation Styles	380	Those languishing were more likely to use 'avoidance strategies' like alcohol use, amongst other strategies, to 'get out of a bad mood'
Low, Kathryn G. 2011	Flourishing, substance use, and engagement in students entering college: a preliminary study	Good	USA	Quantutative-cross sectional	no	Mental Health Continuum– Short Form (MHC-SF). Self reports	428	Alcohol consumption and binge drinking were not associated with measures of mental health. However, certain kinds of student engagement were associated with flourishing.
Kaisla; Härkänen, Tommi; Pankakoski, Maiju; Langinvainio, Heimo; Mattila, Antti S.; Saarelma, Osmo; Lönnqvist, Jouko; Mustonen, Pekka 2013	Confidence in the future, health-related behaviour and psychological distress: results from a web-based cross-sectional study of 101 257 Finns	Good	Finland	Quantutative-cross sectional	No	Happiness-Flourishing Scale. Self report	101257	Those with high confidence in future (flourishing) were less likely to be daily smokers and binge drinkers
Krentzman, Amy R. 2013	Review of the application of positive psychology to substance use, addiction, and recovery research	Good	Global	Review	NA	NA		Discusses the rising importance of flourishing in psychology, and especially positive psychology (PP) and SUD
Fink, John E. 2014	Flourishing: Exploring predictors of mental health within the college environment	Good	USA	Quantutative-cross sectional	No	National Study of Living-Learning Programs (NSLLP). Mental Health Continuum Short Form	1459	Significant negative effect on the mental health score of students reporting more emotional consequence of alcohol
Gilmour, Heather 2014	Positive mental health and mental illness	Good	Canada	Quantutative-cross sectional	No	Mental Health Continuum–Short Form. 2012 Canadian Community Health Survey–Mental Health (CCHS-MH) .World Mental Health—Composite International Diagnostic Interview 3.0	25,113	Estimates 72.5% of Canadians (19.8 million) were classified as having complete mental health; that is they were flourishing and did not meet the criteria for any of the six past 12-month mental or substance use disorders.
McGaffin, Breanna J.; Deane, Frank P.; Kelly, Peter J.; Ciarrochi, Joseph 2015	Flourishing, languishing and moderate mental health: Prevalence and change in mental health during recovery from drug and alcohol problems.	Good	Australia	Quantative-Longitudinal Study	No	Mental Health Continuum – Short Form ..Addiction Severity Index. Life Engagement Test (LET). Depression Anxiety Stress Scale (DASS). Desires for Alcohol Questionnaire (DAQ). ,Drug Taking Confidence Questionnaire (DTCQ)	794	Found significant interaction between continuous mental health (flourishing) and substance use status and reductions in cravings.
Schotanus-Dijkstra, Marijke; Ten Have, Margreet; Lamers, Sanne M. A.; de Graaf, Ron; Bohlmeijer, Ernst T. 2016	The longitudinal relationship between flourishing mental health and incident mood, anxiety and substance use disorders	Good	Netherlands	Quantutative-cross sectional	No	Mental Health Continuum–Short Form.(MHC-SF). Composite International Diagnostic Interview (CIDI) 3.0	4482	Flourishing reduced the risk of incident mood disorders by 28% and of anxiety disorders by 53%, but did not significantly predicted substance use disorders.
Keyes, Corey L. M. 2015	Flourishing after addiction: An invited commentary on the McGaffin et al.(2015) study	NA	USA	Commentary	NA		NA	Commentary on McGaffin
Krentzman, Amy R.; Barker, Stacey L. 2017	Counselors' Perspectives of Positive Psychology for the Treatment of Addiction: A Mixed Methods Pilot Study	Good	USA	Qualitative and quantitative	No	Topic questionnaire	9	Positive and pathology-based themes were attended in equal proportion

inclusion and exclusion rates, and good acknowledgment of study limitations, there were a few identified limitations.

These limitations included some evidence of sampling bias and/or non-representative samples (although such limitations were noted by the researchers in those studies). Most studies were cross-sectional or single-time point measures which diluted or limited their ability to identify the strength of the findings or suggest causal relationships. Also, often there was no justification for sample size. This produced a final collection of 12 studies.

REVIEW OF THE STUDIES

Study Design and Methodology

Of the 12 remaining results, 9 were quantitative studies, 1 was mixed methods, 1 was a commentary and 1 was a review. All of the quantitative studies, with the exception of 1 empirical longitudinal study (McGaffin, Deane, Kelly, & Ciarrochi, 2015), were cross-sectional. None of the studies involved control groups or randomisation, favouring factor analyses, exploring utility of concept, the value of flourishing as a predictive tool of future health and associations between flourishing and a variety of outcomes.

The studies were undertaken in a number of countries; a review which assessed literature from multiple regions, 6 studies in USA, 1 in Canada, 1 in Netherlands, 1 in Finland and 1 in Australia (the commentary paper included in the review was written in the USA but commented on this Australian study). The earliest study had been undertaken in 2005, highlighting how recent a development this is in the field. The sample size for the mixed method study was 9, for the other studies it ranged from 380 to 101,257 (M = 15,353 Mdn = 1459). Eight of the studies focused on adults; in the four other studies, one focused solely on adolescents, 12-18 years (Keyes, 2006), one ranged from 15 years upwards (Gilmour, 2014), one was of undergraduates who ranged from 17-23 years (Barber, Bagsby, & Munz, 2010) and one, of students enrolled in the first 2 years of college, did not report age ranges (Fink, 2014).

All studies, but two (Barber et al., 2010; Low, 2011), identified gender distribution in the samples, with a range reported from 44.4% to 30% female. Race distribution in the samples was not widely reported, but when it was showed 78% to 88.9% reporting as 'white' or from non-underrepresented minorities.

It is of note that none of the quantitative studies reported here were set in a specific drug or alcohol service environment, with the Salvation Army study being the closest to that environment (McGaffin et al., 2015) and the mixed methods study being set in a drug service but involving an evaluation of counsellors experiences of working with SUD rather than those of the service users (Krentzman & Barker, 2016). Other studied environments include remote ones, such as population database studies, a community developed in response to a TV reality programme and college campuses.

Classification of Studies

The reviewed studies fall into three main categories; (1) those exploring the validity of the construct that flourishing is separate from mental health in relationship to SUD and is relevant to SUD; (2) those exploring the value of measuring flourishing in those with SUD; and (3) those exploring service staff's perspective on the use of flourishing.

THE CONCEPTUALISATION OF FLOURISHING IN SUD

A key USA-based study (Keyes, 2005) addresses the question of whether mental illness and mental health are separate, correlated unipolar dimensions or two ends of the same dimension. This study (N = 3032) used a multistage sampling design selecting, with equal probability, households by their telephone numbers as part of the Midlife in the United States (MIDUS) survey. The phone interview of adults (25-74 age range) was followed by a self-completion of a booklet and the Composite International Diagnostic Interview Short Form was used to assess for (1) major depressive episode, (2) generalized anxiety disorder, (3) panic disorder and (4) alcohol dependence (during the past 12 months). A range of measures were used to assess mental health and flourishing; one set used a categorical diagnostic basis, developed from Keyes' work (2002), another a continuous assessment, including Ryff's scales of psychological wellbeing (1989) and Keyes' scales of social wellbeing (1998).

A series of models were tested and it was found that the hypothesis that: measures of mental health (i.e. emotional, psychological, and social wellbeing) and mental illness (i.e. major depressive episode, generalized anxiety disorder, panic disorder and alcohol dependence) constitute separate but correlated unipolar dimensions, was the most tenable model. This was supported by confirmatory factor analyses with the adjusted goodness-of-fit index being .97, the critical N twice as large as the recommended cutpoint of 200, and the correlation between the latent factor of mental illness and mental health being –.53. The study identified that

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mental illness and health were separate dimensions, and that there was a negative correlation between the presence of flourishing and the risk of any of the four mental illnesses. It should be noted that there were several potential limitations with this study; including the relatively narrow measurement of only four mental disorders, the presence of self-report scales and that the research was carried out only in the USA and so may not be representative of other geographical regions.

A Canadian study (Gilmour, 2014) used a cross-sectional sample from the 2012 Canadian Community Health Survey – Mental Health (CCHS-MH). It evaluated complete mental health, in participants over 15 years old, using two measures. The first, the World Mental Health - Composite International Diagnostic Interview 3.0, identified the prevalence of six mental illnesses: depression, bipolar disorder, generalized anxiety disorder, alcohol abuse or dependence, cannabis abuse or dependence and other drug abuse or dependence. The second used the Mental Health Continuum – Short Form (MHC-SF), to measure mental health (flourishing to languishing). The study reports that the majority were flourishing, 76.9%, with 21.6% moderate and 1.5% languishing, but during the same period 10.1% of the sample experienced at least one of the six mental illnesses, including substance use issues, although an inverse relationship between mental disorder and mental health was apparent. The authors note that the results support Keyes' two continua model, whereby mental health and mental illness are related, but distinct, phenomena. The strength of the study provided by the large sample (25,000) was potentially limited by a number of factors, including self-reporting, the exclusion of those institutionalised and the limited number of mental illness included in CCHS-MH. However, these two studies add to the evidence that flourishing should be considered as an essential part of a measure of complete mental health and suggest it as a useful measure to use within SUD.

Krentzman's in-depth review of positive psychology, and its applications, in the SUD field (2013), discusses the rising importance of flourishing in psychology, and especially in positive psychology. It also raises interesting perspectives on how similar that focus is to that of the recovery movement in SUD, which promotes wellbeing to sustain recovery. It also notes the differences in origins (experiential and grassroots activism in the recovery movement vs. academic in the positive psychology approach), focus (pressing for societal and larger system change in the recovery movement vs. individual change in positive psychology) and how surprisingly little cross pollination there has been between these two domains. That review found similar findings of this review's search, that there was a considerable evidence base concerning positivity in SUD but little explicitly referencing positive psychology (or in this review's case, flourishing). It also identified that a number of positive psychology interventions or themes had been evaluated within the SUD context, including strengths, flow, hope and transcendence, but the key term, for this review, flourishing, was not explicitly mentioned. It could be argued that the term flourishing is a meta theme that occurs as a result of developing those subthemes (strengths, hope, etc.) and thus these studies help support the concept of flourishing as an important focus for SUD, but it can be noted that a specific scale for measuring flourishing was not used as a measure in these studies.

THE VALUE OF MEASURING FLOURISHING IN THOSE WITH SUD

These studies have been categorised according to their environmental setting.

Database Studies

A number of studies have utilised existing databases to examine the associations between flourishing and mental health, including SUD.

Adolescent study A USA-based study (Keyes, 2006) evaluated the prevalence of conduct problems amongst adolescents (N = 1234) including the use of alcohol, marijuana and inhalants. Data was provided by the Child Development Supplement (CDS) of the Panel Study of Income Dynamics (PSID), an ongoing survey begun in 1968 in the USA. The 12 subjective wellbeing measures (adapted from the MIDUS survey), Child Depression Inventory (Kovacs, 2004), global self-concept scale (Marsh, 1990) and a questionnaire about relationships with others, were administered between 2003-2005 to youths between the ages of 12 and 18. The study found an inverse linear relation between mental health (flourishing) and conduct problems; as mental health increased, measures of psychosocial functioning increased and the prevalence of conduct problems including alcohol use, cigarette smoking, and use of marijuana decreased. The study also supports Keyes' earlier work on adults (2005), that posits that mental health and mental illness are separate dimensions, as although estimates of mental disorders in youth imply that 80% of youths are free of mental illness, only 40% of the adolescent population are in good mental health (flourishing). Although there are potential limitations of this

study, including the self-reporting of substance use and symptoms, and the absence of corroboration by expert clinical judgments of the mental health diagnoses, it suggests that encouraging flourishing is a valuable goal in the prevention of substance and alcohol mis-use.

Netherlands study This recent study (Schotanus-Dijkstra, ten Have, Lamers, de Graaf, & Bohlmeijer, 2016) evaluated data from 4482 participants in the Netherlands Mental Health Survey and Incidence Study-2. Mental health (flourishing) was assessed using the Mental Health Continuum – Short Form (MHC-SF) (Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011) and DSM-IV mood, anxiety and substance use disorders were measured using Composite International Diagnostic Interview (CIDI) 3.0 (Kessler & Üstün, 2004) over a 3 year period. This study is significant as being the first to examine the longitudinal relationship between mental wellbeing and substance use disorders. It reported that the 3 year incidence of each mental disorder category was significantly lower for flourishers than for non-flourishers ($p < .05$) with flourishing reducing the risk of mood disorders by 28% and anxiety disorders by 53%, but that flourishing did not significantly predict reduced incidence of substance use disorders ($p = .077$). These flourishing/SUD findings support the work of Low (2011) but are at variance with the other studies reported here. On further evaluation of this finding, by removing the influence of positive life events and social support from regression models, the authors noted an improved prediction of reduced incidence of SUD in those flourishing. They suggest that the inter-correlations between social support, positive life events and mental wellbeing explain these findings and could be important avenues for further research. The strength of the study's sampling method and longitudinal design were potentially limited by self-reporting, use of categories for mental disorders, incomplete recall and attrition levels due to the timescales required by a longitudinal study.

Novel Studies

The Finnish Happiness-Flourishing Study was a large web based cross-sectional study of 101,257 (Joutsenniemi et al., 2013) run in collaboration with the National Institute for Health and Welfare, a TV production company and medical publishing company. The study was designed to promote positive health in Finland and to evaluate confidence in the future, health-related behaviour and psychological distress. Participants used the Happiness-Flourishing Scale (Joutsenniemi, 2014) to identify their sources of happiness, and an online survey was used to assess confidence in the future, which is a dimension of optimism, a key element of flourishing (Peterson & Chang, 2003), smoking, alcohol consumption and binge drinking, along with other factors. The findings were that participants with high confidence in the future were less likely to be binge drinkers (men 0.57; 0.52 to 0.63; women 0.54; 0.50 to 0.57) than those with low confidence in the future. The study benefitted from a large sample but issues of self-selection of participants and self-reporting may need to be taken into account when considering the results.

College Studies

Three studies considered the correlation of flourishing with mental health including substance use. Fink's study of 1,459 undergraduates from two year groups considered the predictive effect of various factors, including the emotional consequence of alcohol use, on mental health (measured with MHC-SF). The study noted that there was a significant ($p < .01$) negative effect on the mental health score of students in one year group who reported more emotional consequence of alcohol. However this association was not found in the other year's sample. The study noted that as a tool the MHC may not fully recognise the complexity of an individual's mental health state. It also suggested that the finding that emotional consequences of alcohol use negatively predict students' mental health should encourage college administrators to consider alcohol-free programmes.

Low's study (2011) of 428 first year students also used self-reports and MHC-SF to measure flourishing and substance use; the study found 63.9% of students reported consuming alcohol, of these, average consumption was 3.3 ounces (SD = 5.8) of alcohol per week, with an average of 2.0 (SD = 2.6) drinks per sitting. 14.2% of students reporting binge drinking defined as 5 or more drinks at a sitting for men or 4 or more drinks for women. 8.7% reported smoking marijuana on a weekly basis. There were no significant differences in alcohol consumption or marijuana use based on mental health category and a two-way chi-square analysis of binge drinking by flourishing status was not significant, indicating that bingeing and flourishing were not associated in this sample. Similarly, the correlation between binge drinking and the MHC-SF was nonsignificant ($r = .032$, $p = .52$). These finding are at odds with the majority of other studies reported here, with the exception of Schotanus (2016), and the study's author considers whether in a student sample alcohol consumption is so common that it isn't considered to be a marker of mental health for that cohort, a factor which may be consolidated via the use of self-reporting measures.

The final study of 380 students, reported here, by Barber (2010)

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collected responses via an online survey and measured a positivity ratio (Fredrickson & Losada, 2005) of 19 different emotions and a trait-version of Measure of Affect Regulation Styles (Larsen & Prizmic, 2016) to evaluate 32 affect regulation strategies. The analysis used both discriminant function analysis (DFA) and analysis of variance (ANOVA) to examine affectivity group membership in relation to the affect regulation strategies. Results indicated two statistically significant canonical discriminant functions. The first accounted for 62.4% of the variance in affectivity distinguishing between languishing and non-languishing affective health, and the second accounted for 21.2% of the variance in affectivity group membership, and distinguished between individuals with flourishing vs. moderate affective health. The study concluded that those languishing were more likely to use 'avoidance strategies' like alcohol use, amongst other strategies, to 'get out of a bad mood' than those flourishing, who were more likely to try and understand a situation or focus on what was good in life, etc.

Salvation Army Study

The Australian study (McGaffin et al., 2015) studied 'Flourishing after addiction' in 794 participants who attended a residential substance use programme, and followed them up collecting data at 3 and 6 months post-discharge. Compared to the general population (Keyes, 2005) they had higher rates of languishing at entry to treatment, but higher rates of flourishing at all other time points compared to community normative data. A Friedman two-way ANOVA was used to investigate differences in diagnoses over time. The results indicated that there was a statistical difference in the categorical mental health continuum scores at each assessment χ^2 (2, N = 111) = 24.33, p < .001 and pairwise comparisons with the Wilcoxon Signed Rank test and a Bonferroni adjusted α of 0.017 indicated that there were significant differences between baseline (Mean Rank = 1.71) and 3 month follow-up (Mean Rank = 2.18), p < .001, and baseline and 12 month follow-up (Mean Rank = 2.12), p < .001. There was no significant difference between the 3 and 12 month follow-up mental health diagnoses (p = .38). A mixed-design ANOVA was used to investigate complete mental health and substance use (abstinent or using) at 3 month follow-up. The authors found a significant interaction between continuous mental health and substance use F(2, 218) = 4.92, p < .01, partial η^2 = 0.04, with mental health rating higher, and craving lower, amongst those abstinent compared to those using. The study was subject to high attrition rates in the 3 and 6 month follow-up common in this client population, and does not have a control group, but despite these limitations the study provides a valuable insight into mental health, flourishing and recovery. The authors report that in spite of the evidence of the comorbidity of substance use and mental illness, that this is the first study to investigate the prevalence of mental health in substance misuse. The commentary article (Keyes, 2015) relates these findings to Keyes', and others', work. It adds some further complexity to the field by positing that flourishing might be related to risk-taking behaviours that favour alcohol use in certain age groups, as mentioned by Low (2011), but protect against developing misuse in later years, suggesting that the role of flourishing in alcohol use might vary with stage of life or age.

SERVICE STAFF'S PERSPECTIVE ON THE VALUE OF FLOURISHING

This mixed methods study (Krentzman & Barker, 2016) evaluated the extent of use of positive psychology interventions and concepts, including flourishing, within standard drug use counselling approaches and compared the perceived value of positive psychology approaches to pathology-based ones. The quantitative section utilised a questionnaire of topics from both positive psychology and pathology-based approaches to identify how many times the themes were addressed directly with clients in the previous week. The qualitative section provided participants with quotations from positive psychology research on interventions and concepts prior to conducting face to face interviews. The quantitative data were analysed and showed that 45% to 64% (mean 52%, SD 7%) of topics discussed with clients were positively-based, suggesting approximately even usage of pathology and positive psychology-based themes. No significance was seen in a Pearson's correlation (r = -.56, p = .115) between this variable and counsellors' years of practice experience, however the size of the r value suggested more research with a larger sample might show clearer correlation. It was also noted that this correlation showed a negative relationship, with the use of positive themes being more associated with those who had been practicing for a shorter time, suggesting that as years of practice increase, time spent on positive themes decreases. A difference was also noted between counsellors in residential or outpatients settings, with the former being more likely to use positive topics (means of .60 vs. .48, respectively, t(7) = 5.73, p < .01).

The qualitative interview data was transcribed and validated independently, then co-developed, by the two authors, who identified four themes; (1) treatment should go beyond initiating abstinence and help clients develop a good life in recovery; (2) counsellors are already using variations of these interventions; (3) positive interventions would be useful because of their potential for countering negative thinking and negative mood; and (4) reservations for using positive psychology interventions.

The study concludes that positive approaches are already widely used in SUD, although an awareness of their specific place as positive psychology interventions was not common, and that these ideas were seen to have value and could be adopted to an even greater extent. There was also some caution expressed that these approaches would not be suitable as a complete replacement for pathology-based approaches as normal, whilst counsellors noted that the approach fitted well with their desire, noted in Krentzman's earlier paper (2013), for a more recovery-based agenda that extended beyond the goal of simply reducing usage.

DISCUSSION

This systematic review set out to identify the prevalence and utility of measuring flourishing in the substance use field. Although it is acknowledged that there is some variation in the operationalisation of flourishing, it was felt that there was enough shared conceptualisation amongst the models to provide confidence in usage of the term in the papers reviewed. It can also be noted that the review is limited to some extent by the purposeful specificity of the use of the term 'flourishing'. This specificity provides a clarity that is valuable for developing the evidence base for this term. However, it also has the effect of excluding studies measuring other conceptualisations of wellbeing, that could potentially add to a wider understanding of how these concepts may have value in SUD.

There are a number of clear conclusions that can be drawn from this review; firstly, there is sparse research into mental health (flourishing), as defined by Keyes as being more than the absence of mental illness (2002), and substance use, with only 12 papers relevantly addressing both those two concepts meeting the inclusion criteria. Secondly, with the earliest paper being published in 2005 (Keyes) this is a relatively novel conceptual approach within the evidence base, although the studies reported here already represent research into flourishing in three languages and eight countries. Thirdly, the existing evidence base is in its early stages of development with all but one of the studies being correlational, or looking for the associations between substance use and flourishing, and the only study (McGaffin et al., 2015) with participants from a specific clinical population of those with substance use, was a non-randomised, uncontrolled study.

The lack of randomised and controlled studies in this developing field limits the quality of the current evidence base and the ability to comment on cause and effect relationships between the development of flourishing through interventions and changes in substance or alcohol use. There are a number of further design limitations with the studies presented here; there are questions from the assessment of quality of the studies as to how the studies were calculated for power; the small sample of the mixed methods study, and researcher influence inherent in qualitative studies' interviewing, coding and theme selections; the selective nature of some of these samples such as 'students in one of the top 25 liberal arts colleges' (Low, 2011); and issues common to cross-sectional studies, although many reported here are of quite large samples, concerning how representative they are of the general population (Lindell & Whitney, 2001). However, in spite of these limitations, the overall quality of the studies can be assessed to be good as measured by the NIH assessment tools (2014), and the majority of the studies in the review suggest a correlation between mental health, flourishing and recovery from substance and alcohol use.

CONCLUSION

In conclusion, this review found that the research to date points to a sparse but developing field of interest in flourishing and SUD, from researchers and drugs counsellors which might provide some additional solutions for creating sustainable recovery for those with those with SUD. It also identifies a gap in that research, and that further studies, ideally using randomised controlled studies, within clinical populations of those using substances, and within different age groups, are needed to understand the value of flourishing in SUD further. This review goes some way to determine that it might be useful to measure flourishing more routinely in the field of substance use as a guide to the complete mental health, development of recovery capital (Cloud & Granfield, 2008) and patient activation and self-management (Addicott et al., 2015). These concepts of increased self-management and self-sustaining recovery are becoming increasingly important as a core part of the design of current and future drug and health services. Although some argue this may be

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partly due to funding and budgetary constraints (Blenheim CDP, 2016; Buck, 2015), the increase in flourishing achieved by an individual recovering a sense of self-efficacy and empowerment within the journey towards recovery, might, from the evidence reviewed here, also be an important factor in sustaining that recovery. Finally, this review concludes that new approaches that explicitly focus on developing flourishing within individuals with SUD appear to be welcomed by treatment professionals and might contribute to sustainable recovery and provide a valuable addition to the treatment options in the field, and recommends that further development of, and research into, such approaches might be of value. ■

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