

An Investigation into Mindfulness, Self-Esteem & Wellbeing in Irish Adolescents

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Abstract

The purpose of the current research was to investigate underlying predictor variables (factors) above previously documented factors which individually or in combination contribute to adolescent wellbeing. More specifically, this research sought to investigate the presence of mindfulness as both a trait and a state in an Irish adolescent population.

Transition Year students from 2 schools took part in the study and completed a number of self-report measures of mindfulness and wellbeing. The variables measured included dispositional mindfulness, dimensions of mindfulness, self-efficacy, self-esteem, positive & negative affect, happiness and general health.

Correlation analysis highlighted the association between the predictor variables (mindfulness & self-efficacy) and criterion variables (self-esteem, positive/negative affect & subjective happiness). Multiple regression analyses were carried out which suggests that dispositional mindfulness and some dimensions/facets of mindfulness are significant predictive indicators of adolescent wellbeing. Hierarchical-mediation analysis also found that mindfulness was a significant predictor variable on self-esteem when overall affect was examined as a mediating variable.

Introduction

Adolescence is marked by significant physiological, cognitive and psychological development. Developmental cascade models and life course social field models suggest that adolescent's experience significant changes in their social roles, activities and capacities premised on demands from wider systems i.e. school, teachers, peer groups, family and society. An adolescent's appraisal of how they fair in comparison to others is understood to influence, competence, self-confidence, self-esteem and wellbeing (Eccles 1999; Kellman and Rebok 1992; Jalango, Edelsohn and Kellman 2001). However, in order for an appraisal to occur, one must have cognisance or awareness of the demands as they occur in the first instance.

The emotional wellbeing and mental health of children and adolescents is of fundamental importance because unmet wellbeing and mental health needs in these stages of development consistently points to emerging and more severe mental health difficulties in adulthood (McDougall 2011). The World Health Organisation (2007p5) defines adolescent mental health as;

“..the capacity to achieve and maintain optimal psychological functioning and wellbeing. It is directly related to level reached and competence achieved in psychological and social functioning”.

In January 2013, the Department of Education (DOE) launched a national policy document promoting the mental health and suicide prevention for young people in post primary education. The guidelines report that the most effective interventions in schools involve one or more of the following; a social competence approach, a whole-school approach, continuous implementation & review of interventions, promotion of positive wellbeing rather than ad hoc reaction and social support for young people (DOE, 2013).

Thus, the guidelines provide the generic parameters and framework for schools to achieve positive mental health.

While this is a positive step promoting adolescent wellbeing and mental health, the guidelines do not discuss or detail factors which underpin or predict wellbeing and mental health thus, appear to be more of a generic systems approach. Elucidating specific factors, processes or mechanisms which mediate or predict adolescent wellbeing is important for psychological research, but more so for adolescents and the settings/ systems within which they function and develop. Kinnunen, Laukkanen, Kiviniemi Kylma (2010) agree that there is a significant lack in understanding of factors which should be considered in order to promote the wellbeing and mental health of adolescents.

Irish adolescent wellbeing and mental health

There are two large scale studies that have examined wellbeing and psychological disorders in an Irish adolescent population. Martin, Carr, Burke, Carroll and Byrne (2006) reported that 19% of the adolescent population sample met the criteria for at least one psychological disorder. Sullivan, Arensan, Keeley, Corcoran and Perry (2004) reported that 27% of the adolescent population sample across Cork and Kerry experienced serious personal, emotional, behavioural or mental health problems.

While these studies provide information on the prevalence of mental health difficulties of young people in Ireland, there is a dearth of research which investigates underlying factors of wellbeing and mental health in adolescents.

Swords, Heary and Hennessey (2011) agree that there are many unanswered questions of factors which individually or in combination influence adolescent wellbeing and mental health.

Research to date has tended to focus on mental health problems rather than mental health needs of the general adolescent population which presents numerous research opportunities. All children and young people have mental health needs but not all have mental health problems, thus research which identifies factors underlying the wellbeing needs of young people holds the promise to prevent the development and/or exacerbation of mental health problems.

Dooley and Fitzgerald (2012) carried out a National Study of Youth Mental Health in Ireland. This study sought to address a gap in the research of wellbeing in Irish adolescents' by identifying risk and protective factors involved in the developmental trajectory. The research involved seventy two second level schools and over six thousands young people aged 12-19 took part. Dooley and Fitzgerald reported that the emergence of wellbeing and mental health difficulties was coupled with a significant decrease in self-esteem, optimism and positive coping strategies. They concluded that these factors should be monitored and supported by agencies working with adolescents.

Interestingly, the 4th year student cohort consistently reported lower levels of enjoyment in family life in comparison to all other school years. 4th year students also reported a higher frequency of "angry a lot" in comparison to the other school years as well as higher levels of self-reported depression, anxiety and avoidance coping strategies.

This trend may be explained and understood in terms of “normative adolescent development” and support numerous theories which are beyond the scope of this paper (e.g. Bowlby 1982, attachment and separation through the life cycle; Erickson 1959, identity and role confusion; Inhelder and Piaget 1958, formal operations and adolescent peer/social influences).

However, these findings also highlight that this cohort are a vulnerable group. In fact, the findings support previous evidence that late adolescence is associated with the emergence of more enduring mental health problems, thus identifying factors that may mediate this development trajectory is important. Black, Sussman, Johnson and Milam (2012) explain that all humans have an inherent capacity to attend to and to be aware of on-going experiences which impact upon them, which indicates that an individual’s attention to and awareness of experiences as they occur is a first step to protect the emergence of wellbeing difficulties. This may appear as common sense, however what does it mean “to be aware of” & “pay attention to ones experiences”? In essence, it would seem that both the individual and others i.e. peers, involved adults should be “mindful” of their experiences and how these may impact on their subjective reality, emotions and thoughts.

Mindfulness background & characteristics

Mindfulness practices originate from the Buddhist tradition, which explains that Sati (mindfulness) relieves suffering through knowing, shaping and liberating the mind, thus mindfulness is a way of “being” in the world (Hoffman 2010). Similarly, Kornfield (2008) states that the practice of living in the present cultivates wellbeing in the body, the mind and in relationships between individuals (cited in Siegel 2007). This is an important factor to consider as research consistently reports that social and peer relationships are a significant

determinant of wellbeing and coping. Indeed, “wellbeing in relationships” can be a predictor of wellbeing for most of the population regardless of age, thus mindfulness may be an underlying factor and predictor of overall wellbeing.

There are two opposing views with regard to the nature of mindfulness. Those who view mindfulness as an innate human capacity which occurs at varying levels i.e. a disposition or state that can develop over time (Kabat-Zinn 1994; Siegel 2010; Langer & Moloveanu 2000). Similarly, Shapiro, Oman, Thoresen, Plante and Flinders (2007) report on the presence of a mindful disposition regardless of any form of mindfulness training or meditation. However, there are others who view mindfulness as the emotional processing related to a personality type or cognitive style i.e. facets and trait characteristics (Hirst 2003; McCrae 1992; Carroll 1993). Sternberg (2000) discusses the views of mindfulness that appear across the literature and explains that the lack of consensus stems from the fact that mindfulness appears to coexist at the interface between personality and cognition (cited in Mason 2005) i.e. mindfulness is both a dispositional state and trait.

The different conceptualisation of mindfulness is apparent across the operational definitions which have been used across various studies. For example, Kabat-Zinn (1994p23) defines mindfulness as “paying attention in a particular way; on purpose in the present moment and non-judgementally”. Germer (2005) is in agreement and defines mindfulness as the acceptance and awareness of present experience. However utilising a more cognitive framework, Brown and Ryan (2003) define mindfulness as a quality of consciousness characterised by clarity and vividness of experiences which stands in contrast to a mindless less “awake” state of habitual functioning.

Similarly, Baer, Smith, Hopkins, Krietemeyer and Toney (2006) conceptualise mindfulness in terms of five behaviour oriented factors: observing/ attending to internal & external presented stimuli (Observe); non- judgementally describing and labelling phenomenon (Describe), allowing undivided attention to one thing at a time (Act with Awareness), allowing and accepting moments and events as they occur without judging them (Accept without Judgement) and acknowledging internal sensations and feelings without reacting (Non-Reactivity to inner experiences).

Despite no overall consensus on the nature or mechanisms of mindfulness, Santorelli (2004) reports that the availability of mindfulness based interventions in healthcare settings continues to grow worldwide which suggests agreement around the benefits of mindfulness practices. Additionally, there is agreement across that literature that both attention and awareness are two components which underlie the phenomenon (Shapiro et al 2006; Giluk 2009; Kabat-Zinn 2003; Langer 1997).

There are no current studies which have investigated mindfulness as both a trait and state in an adolescent population. This may be understood in part because of the opposing views from those who view mindfulness from their perspective school of thought/ paradigm. However, investigation and measurement of mindfulness from two different perspectives may provide a better understanding of the psychological phenomenon.

Baer (2010) reports that scores for most of the mindfulness questionnaires are significantly correlated which suggests that there is a merging agreement around the conceptions of mindfulness. Baer views the availability of questionnaires as an important

development towards understanding the phenomenon. More specifically, the reported correlation between mindfulness and subjective wellbeing in clinical populations, as well as the availability of validated questionnaires provides an opportunity for mindfulness to be investigated across different populations to compare/ contrast reported findings. What is clear is that more research is required to identify the components of mindfulness and establish whether mindfulness is a good predictive variable of wellbeing. The question now is what does mindfulness specifically have to do with wellbeing?

Mindfulness interventions with clinical populations

Predominant mindfulness based interventions include mindfulness based stress reduction (MBSR) mindfulness based cognitive therapy (MBCT) dialectic behaviour therapy (DBT) acceptance and commitment therapy (ACT). The focus of research to date has tended to investigate mindfulness based interventions in clinical populations to assist individuals' psychological response to a wide range of conditions. These include; cancer (e.g. Shennan, Payne and Fenlon, 2011 for a review of mindfulness based interventions in cancer care) stress (e.g. Fjorback, Arendt, Ornbol, Fink and Walach, 2011 for a European review of MBSR interventions) anxiety and depression (e.g. Hofman, Sawyer, Witt & Oh, 2010 provide a meta- analytic review of mindfulness based interventions for anxiety and depression).

Research of mindfulness based interventions consistently report evidence of its enhancing role on wellbeing and mental health while reducing a variety of psychopathological symptoms (e.g. Branstrom, Duncan & Moskowitz 2010; Baer, Smith, Hopkins, Krietemeyer and Toney 2006; Brown & Ryan 2003; Mandal, Arya and Pandey 2012).

However, the significant focus of the research to date has sought to account for the efficacy of the chosen paradigm i.e. MBSR, MBCT, ACT and DBT. Similarly, mindfulness based research is not without criticism. Confounding variables are often raised as a methodological weakness of the research. Chisea and Malinowski (2011) report that methodological issues include small sample of clinical populations, over use of wait list group as a comparison, the absence of longitudinal follow up, over reliance of self-report measures and frequent differences across studies with regard to the duration of mindfulness based interventions and the practices deployed during the intervention.

Grossman (2011) agrees that the over reliance of subjective explicit measures pre and post intervention may be more indicative of the demand expectations and participant selection bias of those who took part in the mindfulness based programme rather than a specific change that the intervention brought about. Davidson (2010) asserts the lack of alternative treatment for control groups and longitudinal follow up greatly inhibit the evidence of a causation relationship been identified. Baer (2011) argues that some subjects who participate in mindfulness based programmes show only minor or no improvement of symptoms, thus questions the validity of some mindfulness approaches. Furthermore, Greenberg and Harris (2011) report that while there is great interest and potential promise of mindfulness based interventions; the enthusiasm outweighs the evidence to endorse or choose them over another approach.

The collective issues of mindfulness based research point to the need for better methodological designs when deployed as a clinical intervention. Moreover, research to date has tended to focus on the mindfulness intervention within clinical populations which leave many unanswered questions of the psychological phenomenon that is mindfulness as innate

disposition or state which varies across the population. Blashki, Ciechomski and Hassad (2006) believe that individuals readily adopt and use mindfulness as way of being in the absence of instructed practice or training. This is consistent with views expressed by Kabat-Zinn and others, but more importantly highlights the opportunity to investigate the psychological phenomenon that is mindfulness in the general population.

Considering that the research consistently reports that mindfulness improves psychological wellbeing in clinical populations, there are some avenues that research with clinical populations has not addressed at this time. Is mindfulness a good predictor of wellbeing in a normative population?

Mindfulness & adolescents

Research of adolescent wellbeing and mental health in Ireland has not included measures of mindfulness as a psychological construct to date. Additionally, the predominant research to date has tended to focus on the prevalence of wellbeing and mental health difficulties across a population sample. Thus, there is a need for research which explores additional underlying, factors (predictive variables) of wellbeing and mental health (criterion variable).

Leary (2004) states that most mental health and wellbeing theories are premised on the understanding that, an accurate view and awareness of one's subjective experience i.e. reality, is an indicator of one's ability to psychologically adjust. This is an important point, because given that mindfulness is based on awareness and attention of experiences as they occur, those who are of a mindful disposition or possess a mindfulness style may have a

greater capacity to observe, acknowledge and correct unpleasant emotional states or feelings which they are experiencing, thus reduce the emergence of wellbeing or mental health issues.

Mindfulness in normative populations

As mentioned previously, the majority of research into mindfulness has been utilised within clinical populations in order to verify a mindfulness based approach to improve psychological symptoms or functioning. There is a dearth of research which has sought to investigate mindfulness as an innate capacity or whether it is a predictor variable of wellbeing or psychological constructs in a normative population.

Jones (2011) reports that when mindfulness based approaches are deployed in educational settings; sensory awareness, cognitive control, emotional regulation, acceptance of transient thoughts & feelings and regulation of attention are enhanced. In an Irish context, the Anada Programme supports the development of mindfulness based approaches in school settings. However, Siew and Khong (2009) discuss the rapid growth of mindfulness based approaches in the public domain. They agree that mindfulness is an innate human disposition, however they assert that mindfulness is not a technique which can be learned from textbooks or workshops. Siew and Khong conclude that those teaching mindfulness must be experienced, active mindfulness practitioners themselves.

Burke (2010) attempted a meta-analytic review of mindfulness based approaches with children and adolescents. More specifically, Burke sought to review MBSR and MBCT interventions used with clinical and normative populations.

An overall effect size could not be calculated due to the wide variability in methodology and data reporting issues across studies. However, Burke concludes that the lack of empirical evidence for the efficacy of mindfulness based approaches should not prevent continued research of the phenomenon.

Brown, West, Loverich & Biegel (2011) investigated mindfulness in a general and psychiatric adolescent population. They collected self-reported data from six hundred adolescents across eight public schools. The self-report inventories included dispositional mindfulness, positive and negative affect and substance use coping. Correlation analysis found that higher mindfulness scores were related to higher life satisfaction, happiness and positive affect. Similarly, Anthony, Marks, Sobanski and Hine (2010) collected self-report measures from three hundred high school students in Australia. They found that dispositional mindfulness attenuated the relationship between the life hassles, anxiety, stress and depression. Collectively, these findings provide evidence of the salutary effects of a mindful disposition with wellbeing factors i.e. perceived stress, anxiety and depression.

Greco, Baer, and Smith (2011) investigated mindfulness in children and adolescents. This research entailed four studies, three of which saw the development and validation of a ten item child and adolescent mindfulness measure (CAMM). The fourth study involved three hundred children and adolescents from two schools across Tennessee. Following completion of self-report measures, correlation analysis found that CAMM scores were correlated with perceived positive outcomes such as quality of life, social skills and academic competence. CAMM scores were also inversely correlated with child reported internalising symptoms, externalising behaviour problems and child reported somatic complaints. However, Greco et al, reported that the strength of the relationships were small to moderate.

Interestingly, the research by Greco et al, also entailed teacher report measures of social skills. There was a significant difference between teacher and child reports in the severity of externalising behaviour problems (-.37 for child self-report, -.22 for teacher reports). Although small, these differences may account in part for the reported inverse relationship and differences of perceived levels of mindfulness across individuals or point to differences in mindfulness as a disposition or cognitive style of processing. Brown and Ryan (2003) believe that self-regulation (behaviour regulation) is dependent upon an individuals awareness of emotions and feelings as well as a capacity to acknowledge such states for what they are rather than engaging in thought or cognitive processing; overanalysing subjective experiences. Thus, it would appear that mindfulness requires an objective observation and awareness of one's subjective experiences.

Brown and Ryan (2003) carried out a study of mindfulness and its influence on psychological wellbeing in an adult population. This study involved the development of the mindfulness attention awareness scale (MAAS), a quasi-experimental experimental design and correlation analysis. Participants completed explicit (self-report) measures of mindfulness, wellbeing and affect. In the quasi experimental condition, participants completed an implicit association test which was used to verify responses from the explicit self-report measures. They found that those who scored higher on mindfulness measures performed better in the quasi experimental task.

Rasmussen and Pidgeon (2011) investigated relationships between dispositional mindfulness, self-esteem and social anxiety. The study was a convenience sample of two hundred undergraduate students and used self-report measures.

The researchers used correlation (mediation) analysis and found that those with higher mindfulness had higher self-esteem and reduced social anxiety, thus again highlighting the relationship between mindfulness as a psychological factor underlying wellbeing.

Despite variation in the operational definition of mindfulness and differences in the magnitude (effect sizes) of mindfulness based interventions, a consistent finding is of the correlation between mindfulness and wellbeing in clinical and normative populations. However, the emerging evidence of associations between mindfulness and psychological constructs (e.g. satisfaction with life, anxiety, stress, depression among others) requires additional research. Whether the general tendency to be mindful or possess a mindfulness cognitive style is a better predictor above other predictors is an important area worthy of investigation.

The aim of the current study is to investigate dispositional and facets/ dimensions of mindfulness in adolescents and determine whether mindfulness is significant predictor variable of wellbeing (criterion variable). More specifically, the following hypotheses are considered for the current research:

H1a: Mindfulness is a predictor variable of adolescent self-esteem.

H1b: Mindfulness is a predictor variable of adolescent happiness.

H1c: Mindfulness is a predictor variable of affect (positive & negative) in adolescents.

H1d: Is mindfulness a better predictor of wellbeing than other known measures i.e. self-efficacy.

H1e: Mindfulness is mediated via overall affect on self-esteem.

Methodology

Participants

An invitation letter was submitted to potential schools across Dublin and regional areas. The letter contained a brief background to the study, proposed questionnaires and an information pack for parents & potential participants (see appendix i). While many schools expressed an interest in the research, given the time constraints for completion of data collection, the first 2 schools which granted permission to approach the Transition Year student group were used in the data collection. A total of 53 participants from 2 schools took part in the data collection. 55% (n=29) were male and 45% (n=24) were female. In terms of the age cohort, 67% (n=36) were 16 years old and 33% (n=17) were 15 years old. Purposeful sampling of the Transition Year cohort was deployed for 2 reasons. State examinations are not required for this year so it was felt this population may be more available to participate in the research. Additionally, previous research by Dooley and Fitzgerald (2012) identified that this cohort within the adolescent population consistently reported lower levels of optimism and higher levels of self-reported depression, anxiety and avoidance coping strategies, thus investigating mindfulness in this population might further elucidate factors in this cohort.

Materials

A number of questionnaires were combined to make one complete questionnaire booklet (see appendix ii). The reason for this was to promote ease by which participants could complete the desired measures in one sitting rather than distribute an additional questionnaire each time one was complete. The individual questionnaires which made up the complete booklet are discussed below.

Positive and Negative Affect Scale (PANAS; Watson, Clark & Tellegen, 1988). The PANAS questionnaire is a subjective measure of wellbeing. The PANAS includes 20 adjectives, 10 positive and 10 negative. These are evaluated on a 5 point scale ranging from 1- “Very slightly or not at all” to 5- “Extremely” that indicates the extent to which respondents have experienced positive or negative affects over a defined period of time. Previous studies reported on the factor structure and utility of the PANAS with adolescents possessed good reliability (e.g.Crocker 1997; Brown, West, Loverich & Biegel 2011). Participants in the current study were asked to rate their feelings in the “the past week”. To score the items, the sum for positive and negative items is calculated with higher scores indicating increased positive affect and negative affect respectively. The Cronbach’s alpha for the current research were .85 (positive affect) and .83 (negative).

Mindful Attention Awareness Scale- Adolescents (MAAS-A; Brown & Ryan, 2003). The MAAS is a subjective measure of dispositional mindfulness. It includes 15 statements which refer to the absence of mindful attention in various circumstances. Responses range from 1- “almost always to 6- “almost never”. The following item “I drive places on automatic pilot and the wonder why I went there” was removed for the current study due its inappropriateness for younger adolescents. Brown West, Loverich and Biegel (2011) previously confirmed the utility of the MAAS with a European adolescent normative and psychiatric sample when they removed the same item. Brown et al, reported that the MAAS-A had a clear single factor structure as well as significant correlations with other indicators of wellbeing even after controlling for demographic characteristics. Additionally, Black, Sussman, Johnson & Milam (2011) report that the MAAS has the longest empirical track record as a valid measure of trait mindfulness.

Black et al, evaluated the psychometric properties of the MAAS in a Chinese adolescent sample (N=5,287) and concluded the measure is a valid measure of mindfulness in this adolescent population also.

Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965). The RSES is a widely used measure of global self-esteem. It consists of 10 statements that participant's rate from a four point likert scale. Responses range from "strongly disagree" to "strongly agree" and are scored 3,2,1,0 respectively. 5 of the items in the questionnaire are reversed scored. The sum of the 10 items can range from 0 to 30 with higher scores indicating increased self-esteem. Heatherton & Wyland (2003) report the RSES has adequate internal consistency as well as convergent and discriminate validity. Previous studies have also demonstrated that the RSES has a positive correlation with the MAAS questionnaire (Brown and Ryan, 2003; Rasmussen and Pidgeon 2010).

Happiness Questionnaire (Lyubomirsky & Lepper, 1997). Anecdotal evidence and everyday experience suggests that one of the most salient and important disposition's is happiness of wellbeing. (Lyubomirsky & Lepper 1999). Similarly, Diener (1984) agrees that subjective happiness is a key determinant and measurement of wellbeing within individuals. The subjective happiness assessment is a 4 item measure of global subjective happiness. A single composite score for global subjective happiness is computed by averaging responses to the four items. The possible range of scores on the scale item is 1 to 7 with higher scores reflecting greater happiness. In the current study, 3 of the 4 items were used. The Cronbach's alpha for the subjective happiness scale measured in the current study was .80 which indicates good consistency and validity.

General Health Questionnaire (GHQ-12; Goldberg, 1992). The GHQ is a 12 item measure which is the most extensively used screening instrument for common mental disorders (Lopez & Dresch 2008). The GHQ-12 is reported to be a uni-dimensional measure of psychological morbidity i.e. provides one overall dimension of health. Each item of the GHQ assesses severity of a problem over the past few weeks using a four-point scale; “less than usual” to “much more than usual” Responses are scored bi-modally i.e. 0,0,1,1 with some items reversed scored (items 2, 5, 6, 9, 10, 11). Scores can range from 0 to 12 with higher scores indicating a greater probability of a disorder. Schmitz, Kruse, Heckrath, Alberti & Tres (99) used the GHQ-12 across the general population presenting to Primary Care Centres (PCC) in Germany. They concluded that the GHQ was a valid instrument for the initial evaluation of distress symptoms.

Generalised Self-Efficacy Questionnaire (GSEFQ; Schwarzer & Jerusalem, 1995).

The GSEFQ is a 10 item measure which explicitly refers to personal agency i.e. the beliefs that ones’ actions are responsible for successful outcomes. The GSEFQ has been used widely in studies across different countries which vary greatly in cultural practices and wider societal psyche domains, yet the GSEFQ has repeatedly had a strong internal consistency that ranges from .76 to .90 (Scholz, Dona, Sub & Schwarzer 2002). Participant’s response ranges from 1- “Not at all true” to 4- “Exactly true”. The sum of the scores can range from 10 to 40 with higher scores indicating increased self-efficacy.

Five Factor Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer & Toney, 2006). The FFMQ is a 39 subscale item which measures five facets/ dimensions of mindfulness within individuals. The dimensions of mindfulness include observing, describing, acting with awareness, non-judgement of inner experiences and non- reactivity to inner experiences. The sum of each of the subscales is calculated for each facet. Some items are also reversed scored. The previous reported Cronbach alphas for the FFMQ ranged from .75 to .91 which demonstrates good internal consistency (Mandal, Arya and Pandey 2012). Baer, Smith, Hopkins, Krietemeyer & Toney (2006) reported that the FFMQ had significant correlations in predicted directions with a variety of other constructs in their study which included measures of psychological symptoms, neuroticism, though suppression and avoidance among others which points to the validity of the FFMQ.

For the current study, a number of items were removed from the FFMQ for 2 reasons. The total number of questions within the questionnaire booklet would have exceeded 110 if all 39 items were included. Additionally, a principal from one of the participating schools expressed reservations around the wording of some of the items within the FFMQ. For example, it was felt that the statement “when I take a shower or bath, I stay alert to the sensations of water on my body” may not be understood in the context of what was being measured with the adolescent cohort. A total of 15 items were removed from the original FFMQ (3 questions per facet measured). The cronbach’s alpha for the remaining 25 items used in the current questionnaire was .72 which demonstrates a good internal consistency.

Procedure

The primary researcher visited each school in the morning on an agreed day with the school principal's. The researcher was introduced to the student cohort by the guidance counsellor affiliated to the school. The researcher explained to the participants that the purpose of the study was to gather information of adolescent's awareness of their experiences. Signed consent and participant assent forms were collected from participants while those who did not wish to participate completed assigned class work.

Ethical considerations

The study was approved by the Dublin Business School (DBS) ethics committee. As the research entailed data collection and contact with children, informed parental/ guardian consent and participant assent was required as well as permission from the participating schools to allow the researcher to collect data on a specified day in the school. The informed consent and participant assent forms were included with the school information pack distributed to schools (see appendix i).

On the day of data collection, participants provided signed consent and assent forms. Participants were advised they could withdraw from the research at any time. Following completion of the questionnaire booklet, an information sheet of available support services was provided to participating students (see appendix iii).

Data Analysis

Analysis was conducted using SPSS 18. Preliminary analyses were performed and assumptions of normality were satisfied for males and females as assessed by the Shapiro-Wilk's test ($p > .05$) for the following measures: self-esteem, dispositional mindfulness, observe, describe, act with awareness, non-judge & non-react facets of mindfulness, positive/negative affect, happiness and self-efficacy. However, Assumptions of normality were not satisfied for general health for either gender. Similarly, there were no significant associations between the measured predictor variables and general health as analysed by Kendall's tau: Dispositional mindfulness; ($\tau_b(53) = .093, P = .388$), Observe facet; ($\tau_b(52) = -.149, P = .182$), Describe facet; ($\tau_b(53) = .100, P = .363$), Act with awareness facet; ($\tau_b(53) = -.009, P = .934$), Non-Judge facet; ($\tau_b(53) = .110, P = .317$), Non-React facet; ($\tau_b(53) = -.128, P = .258$), Self-Efficacy; ($\tau_b(53) = -.113, P = .304$). The implications of these findings are discussed and evaluated in the discussion section of the thesis.

Results

As can be seen from table 1, there were a number of significant positive and negative correlations between the measured predictor and criterion variables.

Table 1: *Correlations between predictor and criterion variables*

Factors/ Predictors	Self-Esteem	Positive Affect	Negative Affect	Happiness
Dispositional Mindfulness	.520**	.538**	-.313*	.532**
Observe	-.006	.162	.158	-.167
Describe	.469**	.281**	-.091	.181
Act With Awareness	.301*	.458**	-.276*	.265
Non Judgement	.360**	.145	-.202	.375**
Non-React	.187	.149	-.050	-.011
Self-Efficacy	.551**	.449**	-.370**	.508**

P<.01**

P<.05*

As detailed in Table 1, the dispositional mindfulness measure (MAAS-A) was significantly correlated with the criterion variables self-esteem, positive affect and happiness at P<.001. The MAAS-A was also correlated with the negative affect variable at P<.05. Three of the five dimensions of mindfulness; Describe, Act with awareness & Non-Judgement of experiences were significantly correlated to a number of the criterion variables. The observed pattern of correlations between mindfulness and measures of wellbeing (criterion variables) suggests that higher levels of mindfulness are inversely positively and negatively associated with measures of wellbeing.

Brown & Ryan (2003) found that the MAAS scores were positively correlated with the PANAS measure (positive & negative affect) as well the Rosenberg self-esteem scale (RSES) variable measure. Mandal, Arya & Pandey (2012) found that two of the five dimensions of mindfulness; Non-React and Observe did not correlate with measures of positive /negative affect and symptom checklist of mental health and mental distress in the population. These findings are also mirrored in the current research which provide further support of the relationship between mindfulness and overall wellbeing.

Table 2 illustrates the means, standard deviations (SD), minimum and maximum scores for the measured items used in the study. The Cronbach's alpha (α) were completed is also reported for some of the measures.

Table 2: Means, SD, Min, Max and α

Measures	Mean	SD	Minimum	Maximum	α
Dispositional Mindfulness	4.3	.88	1	5	
Self-Efficacy	29.91	4.12	10	40	
Observe	14.69	3.52	5	25	.72
Describe	14.38	3.29	5	25	.72
Act With Awareness	17.04	2.40	5	25	.72
Non-Judge	18.11	2.67	5	25	.72
Non-React	10.96	2.42	5	20	.72
Self-Esteem	19.66	4.94	0	30	
Positive Affect	32.89	7.67	10	50	.83
Negative Affect	19.91	6.76	10	50	.83
Happiness	7.08	.927	3	21	.80
General Health	5.94	1.18	0	12	

The predominant analyses in this study were multiple regression linear models. Shapiro, Oman and Thoresen (2008) state such models are the increasing tool of choice for analyses because they allow for improved handling and validation of the data in conjunction with more flexible analyses of the data from multiple perspectives.

The following tables illustrate the results obtained from the multiple regression analyses. Each table is based on values at the final model for the criterion variables. The assumptions for using regression were checked and confirmed i.e. the criterion variable was always continuous; the Mahalanobis' distance values indicated that there were no substantial outliers; the residual scores were normally distributed and not related to the predicted values and tolerance values did not exceed 0.2 indicating that there was no multi-collinearity.

The individual criterion and predictor variables will first be presented with regard to the previously stated hypotheses. Additionally, the collective results will be further discussed in an overall evaluation of mindfulness as a predictor of adolescent wellbeing as deployed in this study.

Table 3: *Final regression model for self-esteem.*

Table 4: *Final regression model for happiness.*

Table 5: *Final regression model for positive affect.*

Table 6: *Final regression model for negative affect.*

Table 7: *Hierarchal/Mediation regression for mindfulness, affect & self-esteem.*

Table 3: Multiple regression analyses of criterion variable self-esteem (CV) with mindfulness & self-esteem (PV) (n=53).

Model 2	Unstandardized Coefficients		Standard Coefficients		
	B	Std. Error	Beta	T	Sig.
Self-Esteem (CV)					
(Constant)	-3.647	4.602	.524	-.792	.432
Dispositional Mindfulness	.209	.050	-.229	4.149	<.001
Observe Facet	-.329	.160	.487	-2.058	.046
Describe Facet	.568	.143	-.210	3.973	<.001
Act With Awareness Facet	-.310	.180	-.210	-1.724	.092
Non Judge Facet	.129	.148	-.097	.872	.388
Non React Facet	.203	.222	.100	.913	.366
Self-Efficacy	.289	.133	.241	2.173	.035

R squared =.613, Adjusted R squared =.550

H1a: Mindfulness is a predictor variable of self-esteem in adolescents.

A multiple regression was carried out to predict self-esteem from measures of mindfulness & self-efficacy. Collectively, the variable measures statistically and significantly predicted self-esteem $F(7, 43) = 9.730, P < .005, \text{adj. } R^2 = .550$ (see appendix iv).

The final regression model explained 55% of the variance in self-esteem scores. As the table shows, there were both positive and negative inverse relations with self-esteem. Dispositional mindfulness, the describe dimension of mindfulness and self-efficacy respectively accounted for the most variance in self-esteem. Dispositional mindfulness and the describe dimension were a stronger predictor of the wellbeing measure self-esteem above that self-efficacy. The implications of this result will be discussed further in the discussion section of the paper. However, the finding suggests that mindfulness as measured in this study is a significant underlying predictive factor of self-esteem.

Table 4: Multiple regression analyses of criterion variable, happiness (CV) with mindfulness and self-efficacy (PV) (n=53).

Model 3	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
Happiness (CV)					
(Constant)	1.115	3.743		.298	.767
Dispositional Mindfulness	.141	.041	.509	3.428	.001
Observe Facet	-.227	.130	-.228	-1.746	.088
Describe Facet	.133	.116	.165	1.144	.259
Act With Awareness Facet	-.149	.146	-.146	-1.018	.314
Non Judge Facet	.058	.120	.062	.479	.634
Non React Facet	.015	.181	.011	.086	.932
Self-Efficacy	.257	.108	.309	2.374	.022

R squared =.466, Adjusted R squared =.379

H1b: Mindfulness is a predictor variable of happiness in adolescents.

A multiple regression was carried out to predict happiness from measures of mindfulness & self-efficacy. Collectively, the variables statistically and significantly predicted overall subjective happiness $F(7, 43) = 5.355, P < .005, \text{adj. } R^2 = .379$ (see appendix v). However, as can be seen from the table, some of the variables were more significant than others. Similar to the previous findings in the study, there were positive and negative inverse relations between some of the measures and overall happiness.

The final regression model explained 38% of the variance in happiness scores. As the table shows, dispositional mindfulness, self-efficacy and the observe dimension of mindfulness respectively accounted for the most variance in happiness. Similar to the previous regression analysis, dispositional mindfulness was a stronger predictor of subjective happiness in the current study. The wider implications of the results will be discussed and evaluated in detail in the discussion section.

Table 5: *Multiple regression analyses of criterion variable, positive affect (CV) with mindfulness and self-efficacy (PV) (n=53).*

Model 6	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	-5.077	8.401		-.604	.546
Dispositional Mindfulness	.282	.092	.451	3.060	.004
Observe Facet	.057	.292	.025	.195	.846
Describe Facet	.186	.261	.102	.713	.480
Act With Awareness Facet	.352	.328	.153	1.074	.289
Non Judge Facet	-.379	.270	-.181	-1.403	.168
Non React Facet	.126	.405	.040	.311	.757
Self-Efficacy	.529	.243	.315	2.437	.019

R squared =.473, Adjusted R squared =.387

H1c: Mindfulness is a predictor variable of positive affect in adolescents

A multiple regression was carried out to predict positive affect from measures of mindfulness & self-efficacy. As can be seen from the table, dispositional mindfulness and self-efficacy variables respectively accounted for the most variance in positive affect in adolescents, $F(7, 43) = 5.517, P < .005, \text{adj. } R^2 = .387$ (see appendix vi). The final regression model explained 39% of the variance in positive affect scores.

Table 6: *Multiple regression analyses of criterion variable, negative affect (CV) with mindfulness and self-efficacy (PV) (n=53).*

Model 6	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	41.510	8.852		4.689	.000
Dispositional Mindfulness	-.090	.097	-.165	-.924	.360
Observe Facet	.341	.397	.175	1.109	.273
Describe Facet	.084	.275	.053	.305	.762
Act With Awareness Facet	-.311	.345	-.156	-.900	.373
Non Judge Facet	.045	.284	.025	.157	.876
Non React Facet	-.318	.427	-.115	-.744	.461
Self-Efficacy	-.484	.256	-.297	-1.895	.065

R squared =.224, Adjusted R squared =.097

H1d: Mindfulness is a predictor variable of negative affect in adolescents

A multiple regression was carried out to predict negative affect from measures of mindfulness & self-efficacy. As can be seen from the table, none of the variables statistically significantly predicted negative affect, $F(3, 48) = 1.771, P > .005, \text{adj. } R^2 = .097$ (see appendix vii).

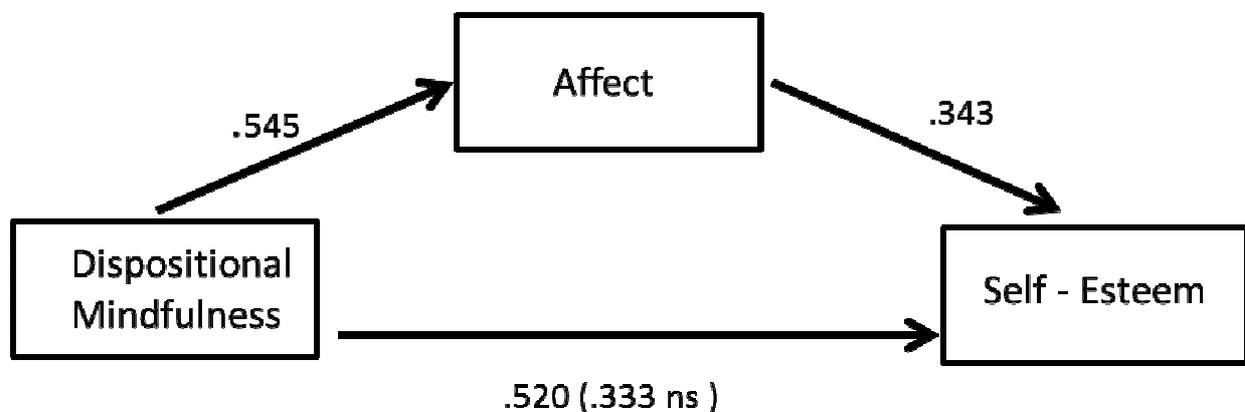
The final regression model accounted for 9.7% of the variance in negative affect. This was a surprising finding in the current study. However, as can be seen in the table that there were negative scores for dispositional mindfulness, self-efficacy and Non-React dimension of mindfulness within the model which point to the inverse relationship between these measures.

H1e: Mindfulness is mediated by affect on self-esteem.

A hierarchical regression was conducted to determine if participants overall affect mediated the prediction of self-esteem from dispositional mindfulness. $R^2 = .353$, $F(1, 50) = 13.167$, $P < .005$; adjusted $R^2 = .327$ which is a statistically significant result. However, affect only be accounted for .083 (8.3%) of the variance in self-esteem (see appendix viii for model summary).

Coolican, (2009) states that any mediator can be declared as significant when the indirect effect of the predictor variable (mindfulness) through the mediating variable (affect) on the criterion variable (self-esteem) is found to be statistically significant. The Sobel test statistic indicated that the indirect effect of mindfulness through overall affect was not significant ($a = .545$, $b = .343$, $sa = 4.26$, $sb = 4.06$, $P > .05$). This further suggests that mindfulness as measured by the MAAS-A in the current study is a strong predictor variable for adolescent self-esteem in its own right. Similarly, Mandal et al (2012) conducted mediation analysis between mindfulness, affect and mental distress and found that mindfulness was a strong predictor following mediation analysis.

Fig. 1 Mediation analysis = affect on mindfulness- self-esteem.



Discussion

As previously discussed, although there is no clear consensus or full understanding of the processes, components or mechanisms which underpin mindfulness, evidence suggests that it is both an innate dispositional tendency (e.g. Kabat-Zinn 1994; Shapiro et al, 2008) as well as a cognitive style (e.g. Hirst 2003; Sternberg 2000) which occurs at different levels within and across individuals. Additionally, there is a burgeoning interest in the use of mindfulness based interventions to treat a wide range of psychological problems and merging evidence consistently point to the efficacy of mindfulness based approaches in clinical populations (e.g. Robins, Keng, Ekblad & Brantley 2012; Blaski, Ciechomski & Hassed 2005).

The fact that mindfulness appears to exist between cognition and personality, occur at differing levels within individuals and can be enhanced through mindfulness practices/ approaches provided an opportunity to investigate mindfulness from various perspectives which has not been carried out in research to date. Mindfulness research has tended to focus on the benefits of a mindfulness approach in clinical populations thus has overlooked the opportunity to investigate the phenomenon in a general normative population. Furthermore, the fact that mindfulness is understood to improve psychological functioning, the question is whether mindfulness is a protective, enhancing and or a predictive factor of wellbeing in the general population?

As cited previously, adolescent wellbeing is important to the overall development of the individual and wider society. However, previous Irish studies of adolescent wellbeing and mental health have tended to report on the prevalence of disorders within the population.

This study makes an important contribution to understanding how dispositional mindfulness and different dimensions/ facets of mindfulness are a significant predictive variable on wellbeing in an Irish adolescent sample. This study first examined the associations between mindfulness and a number of variables which included self-esteem, positive & negative affect, happiness and general health. Similar to previous studies, there were significant correlations between mindfulness and wellbeing.

However, the current study used multiple regression analyses to examine whether mindfulness is a predictor of wellbeing and was unique in that it examined mindfulness in a normative adolescent population. There is very little research to date which has adopted this methodology, thus the findings from the current study are independent in their own right.

It is worthy at this juncture to evaluate the scores from the GHQ-12 which violated assumptions of normality. As previously cited, studies which utilised the GHQ-12 reported and discussed its utility as a one dimensional measure of overall health across various populations and countries. However, Hankins (2008) completed exploratory factor analysis from 3000 GHQ-12 responses indicated the GHQ-12 is not a one dimensional construct. Hankins concluded that there are positive and negative phrased items which introduce response bias and impact on the distribution scores. Padron, Galan, Durban, Gandarillas & Rodriguez-Artalejo (2012) also completed confirmatory factor analysis from over 4000 GHQ-12 questionnaires from adolescents and conclude that the GHQ-12 is multi-dimensional construct. This may in part, account for the significant variance and distribution of scores for the GHQ-12 in the current study and is viewed as a methodological weakness which future research should address.

While the GHQ scores could not be used for further analysis, assumptions of normality were ascertained for all other variables for both genders thus multiple regression analyses was carried out to investigate the stated hypotheses. The current study found that there were significant inverse positive relationships between dispositional mindfulness as measured by the MAAS-A with self-esteem, positive affect and happiness. This finding is consistent with a previous study by Brown et al, (2011) in an adolescent normative population who found that scores for the MAAS-A were significantly correlated with a variety of psychological wellbeing indicators, even after controlling for demographic characteristics.

There were some interesting results with regard to the dimensions of mindfulness as measured by the FFMQ. The “describe” dimension frequented accounted for the most variance between the five subscales of the FFMQ. This finding is in contrast to research by Branstrom et al, (2011) who found that all dimensions of mindfulness were correlated with measured psychological outcomes and perceived health in an adult normative population sample. More specifically, “Acting with awareness” and “Non reactivity” dimensions had the strongest associations with all the measured variables in their study. A possible explanation for this difference may be in the population used in the current study.

Branstrom et al measured mindfulness in an adult population, thus perhaps dimensions of mindfulness grow in accordance to one’s development over time. Another explanation for this difference may be in the fact that a number of questions were removed from the FFMQ in the current study as discussed in the methods section. While the

Cronbach's alpha for the questions used in the current research (.72) pointed to the utility of the measures, it is not known at this time whether the variances of the regression models would change if all questions were included. Moreover, as the current research is one of a few which investigated mindfulness across a normative adolescent cohort, there are no studies to draw comparisons or contrasts. However, the fact that it is one of a few is viewed as a significant strength which might promote additional research from others.

Interestingly, Baer (2011) discusses the various mindfulness measures and reports that the FFMQ is the result of factor analysis from a number of available mindfulness questionnaires. However, the fact that the FFMQ or other measures purport to measure a dimension or construct of mindfulness does not mean that this is what is being measured. More specifically, many mindfulness questionnaires are based on a conceptualisation of the construct from clinical interventions such as DBT, MBCT or MBSR, thus some measures may only capture mindfulness from the perspective of treatments in clinical practice.

Similarly, Grossman (2011) warns that the current self-report measures of mindfulness may serve to distort and trivialise the actual meaning of mindfulness. This is an important point to consider in context of the current reported findings because it raises the possibility that the measures deployed may not have specifically measured mindfulness. Thus while the results are significant, it highlights the need for continued research in order for a wider consensus of a definition and operationalization of mindfulness as a construct. However, the current study used two mindfulness questionnaires within the one design and found some convergence across both measures with the criterion variables which points to a level of agreement around the psychological phenomenon.

Additionally, the findings of the current study also suggest that some dimensions of mindfulness as measured by the FFMQ have mild to moderate associations with psychological indicators of wellbeing. While this is in line with previous research findings, an important finding in the current study is in the variation between the MAAS-A and FFMQ scores with the criterion variables. Brown et al, (2011) highlight that the MAAS-A is an indirect assessment approach of mindfulness, thus may be a more accurate at measuring mindfulness across groups who are unfamiliar or untrained in mindfulness concepts, as the MAAS-A statements understood to be generic enough to be understood yet sufficiently valid to determine one's dispositional tendency.

The current study investigated whether mindfulness is a good predictor of wellbeing above or beyond other recognised factors. The current findings suggest that mindfulness is a stronger predictor of wellbeing in comparison to the variance that self-efficacy exerted in the regression analyses. However, it is important to acknowledge that the results obtained are only applicable to the current research sample. Future research may wish to use the same measures and analyses of this study with a larger adolescent population to further verify or challenge the current findings. Additionally, future research may wish to deploy other recognised predictor variable measures to further evaluate the significance of mindfulness as a predictive variable beyond others.

Based on the previous reported findings of significant correlations between mindfulness and wellbeing measures in both clinical and normative populations, the current study sought to go beyond correlation analysis. Collectively mindfulness was a significant predictive variable of wellbeing measures in adolescents. Grossman and Van Dam (2011) stress that the absence of a particular measured quality does not always imply the presence of

its opposite. This is an important point to consider because the absence of mindfulness should not imply increased risk of wellbeing and mental health difficulties. This research does not conclude or infer that those who are of a lower mindful disposition or score less on dimensions of mindfulness are more likely to experience wellbeing or mental health problems. The specific purpose of the current research was to investigate mindfulness and excluded other measures which may also be an enhancing or predictive factor.

An additional finding from the current study was that mindfulness remained a significant predictor variable on self-esteem even after allowing for mediation with overall affect which provide further evidences of mindfulness as a significant predictive variable to wellbeing.

Notwithstanding the findings from the research which provide significant support for the cited hypotheses as previously discussed, there are a number of specific methodology weaknesses. The population sample and size (n=53 transition year students from 2 schools) does not allow for the results to be discussed or considered as representative of the general adolescent population. Additionally, the primary researcher was present for the group administration of the questionnaires thus response demands may have impacted on participant's responses. However, in an attempt to prevent demand characteristics, the stated aim during the introduction to the participants was "to gather information of adolescents experiences" which encapsulated the purpose of study without revealing words or terminology which may have impacted on the participants chosen responses.

A further methodology weakness is the reliance on subjective self-report measures. Future studies may consider incorporating experimental or quasi-experimental designs to further account for the results. Brown and Ryan (2003) included a quasi-experimental condition in their research which saw the development of the MAAS questionnaire. They used an implicit association test to investigate whether respondents who scored higher on the mindfulness measure would perform better on the task which they did. However, while future research should consider and investigate quasi-experimental conditions, one possible “natural” experimental condition would be for respondents to participate in a public speaking exercise. Public speaking is widely accepted as inducing highly aroused, emotional states across individuals. Thus, future research which could utilise such a condition in conjunction with self-report measures might provide more validity to the observed results.

In conclusion, while acknowledging the weaknesses of the current study, a number of opportunities have been presented for future research. It is important to highlight that the current study makes a significant contribution in its own right. Firstly, there are very few studies internationally which have investigated mindfulness from both a dispositional and dimension perspective. Furthermore, there are no studies in Ireland which have investigated mindfulness in an adolescent population. Additionally, given the significant results from the current study with regard to mindfulness as a predictive variable of wellbeing, it is clear that further research is required. A final strength of the current study is in the chosen regression analysis deployed. Regression analysis has gone past the step of correlation analysis which many studies of mindfulness to date have used in order to account for the role of mindfulness in the current study. This may encourage further regression analysis research which over time may lead to causation results been established.

References

Anthony, G. D. Marks, D. J. Sobanski, D. & Hine, W. (2010) Does Dispositional Rumination and/or Mindfulness Moderate the Relationship between life Hassles and Psychological Dysfunction in Adolescents. *Australian & New Zealand Journal of psychiatry*, 44. 831-838.

Baer, A. R. (2011). Measuring Mindfulness. *Contemporary Buddhism*, 12(1). 241-261.

Baer, A. R. Smith, T. G. Hopkins, J. Krietemeyer, J. & Toney, L. (2006). Using Self-Report Assessment Methods to Explore Facets of Mindfulness. *Assessment*, 13(1): 27-45.

Black, S. D. Sussman, S. Johnson, A. C. & Milam, J. (2011). Psychometric Assessment of the Mindful Attention Awareness Scale (MAAS) Among Chinese Adolescents. *Assessment*, 19(1): 42-52.

Blashki, G. Ciechomski, L. & Hased, C. (2006) Mindfulness-based Psychotherapies: A Review of Conceptual Foundations, Empirical Evidence and Practical Considerations. *The Royal Australian & New Zealand College of Psychiatrists*, 12(2): 31-41.

Branstrom, R. Duncan, G. L. Moskowitz, T. J. (2010). The Association between Mindfulness, Psychological Wellbeing and Perceived Health in a Swedish Population-Based Sample. *British Journal of Health Psychology*, 16. 300-316.

Brown, W. K. Ryan, M. R. Creswell, D. J. (2007). Mindfulness: theoretical Foundations and Evidence for its Salutary Effects. *Psychological Inquiry*, 18(4). 1023-1033.

Brown, W. K. West, M. A. Loverich, M. T. and Biegel, M. G. (2011). Assessing Adolescent Mindfulness: Validation of an Adapted Mindful Attention Awareness Scale in Adolescent Normative and Psychiatric Populations. *Psychological Assessment*, 2: 1-11.

Burke, C. C. (2010). Mindfulness-Based Approaches with Children & Adolescents: A Preliminary Review of Current Research in an Emergent Field. *Journal of Child & Family Studies*, 19. 133-144.

Carmody, J. Baer, A. R. Lykins, E. Olendzki, N. (2009). An Empirical Study of the Mechanisms of Mindfulness in a Mindfulness Based Stress Reduction Program. *Journal of Clinical Psychology*, 65(6). 613-626.

Chiesa, A. Malinowski, P. (2011) Mindfulness-Based Approaches: are They All the Same? *Journal of Clinical Psychology*, 67(4). 404-424.

Crain, W. (2011). *Theories of Development: Concepts & Applications (6th ed)*. London: Pearson.

Christopher, S. M. & Brennan, D. G. (2010). Incremental Validity of Components of Mindfulness in the Prediction of Satisfaction with Life and Depression. *Current Psychology*, 29: 10-23.

Creswell, J. D. Way, B. M. Eisenberger, N. I. & Lieberman, M. D. (2007). Neural Correlates of Dispositional Mindfulness during Affect Labeling, *Psychosomatic Medicine*, 60. 560-565

Crocker, O.R.E. (1997) A Confirmatory Factor Analysis of the Positive Affect Negative Affect Schedule with a Youth Sport Sample. *Journal of Sport and Exercise Psychology*, 19. 1-17.

Davidson, J. R. (2010). Empirical Explorations of Mindfulness: Conceptual and Methodological Conundrums. *Emotion*, 10(1). 8-11.

Department of Education (2013). Well-Being in Post Primary Schools: Guidelines for Mental Health Promotion and Suicide Prevention Retrieved January 31 2013 from

http://www.education.ie/en/Publications/EducationReports/Well_Being_PP_Schools_Guidelines.pdf.

Dooley, B. Fitzgerald, A. (2012). My World Survey: national Study of Youth Mental Health in Ireland. Retrieved January 31 2013 from

<http://www.headstrong.ie/sites/default/files/My%20World%20Survey%2012%20Online.pdf>.

Fjorback, O. L. Arendt, M. Ornbol, E. Fink, P. & Walach, H. (2011) Mindfulness-Based Stress Reduction and Mindfulness-Based Cognitive Therapy- A Systematic Review of randomised Controlled Trials. *Acta Psychiatrica Scandinavica*, 124. 102-119.

Giluk, T. L. (2009). Mindfulness, Big Five Personality and Affect: A Meta-Analysis. *Personality & Individual Differences*, 47(8). 805-808.

Grecco, A. L. Baer, A. R. Smith, T. G. (2011). Assessing Mindfulness in Children and Adolescents: Development and Validation of the Child and Adolescent Mindfulness Measure (CAMM). *Psychological Assessment*, 23(4). 1034-1040.

Grossman, P. (2011) Defining Mindfulness by How Poorly I Think I Pay Attention During Everyday Awareness and Other Intractable Problems for Psychology's Reinvention of Mindfulness: comment on Brown et al, (2011). *Psychological Assessment*, 23(4). 1034-1040.

Grossman, P. Van-Dam, T. N. (2011). Mindfulness, by any other name: Trails and Tribulations of Sati in Western Psychology and Science. *Contemporary Buddhism*, 12. 219-239.

Hankins, M. (2008). The Factor Structure of the Twelve Item General Health Questionnaire (GHQ-12): The Result of Negative Phrasing? *Clinical Practice in Epidemol Mental Health*, 4(10): 1461-1466.

Hirst, I. S. (2003). Perspectives of Mindfulness. *Journal of Psychiatric and Mental Health Nursing*, 10. 45-48.

Hoffman, C. (2010). Does Mindfulness increase Wellbeing? *Journal of Holistic Healthcare*, 7(1). 45-48.

Hoffman, G. S. Sawyer, T. A. Witt, A. A. & Oh, D. (2010). The Effect of Mindfulness-Based Therapy on Anxiety and Depression: A Meta-Analytic Review. *Journal of Consulting Clinical Psychology*. 78(2). 169-183.

Hofling, V. Moosbrugger, H. Schermelleh-Engel, K. & Heidenreich, T. (2011). Mindfulness or Mindlessness? A modified Version of the Mindful Attention and Awareness Scale (MAAS). *European Journal of Psychological Assessment*, 27(1): 59-64.

Jones, D. (2011) Mindfulness in Schools. *Psychologist*, 24(10). 736-739.

Kinnumen, P. Laukkanen, E. Kiviniemi, V. & Kylma, J. (2010). Associations between the Coping-Self in Adolescence and Mental Health in Early Adulthood. *Journal of Child & Adolescent Psychiatry & Nursin*, 23(2). 129-139.

Kostanski, M. Hassed, C. (2008). Mindfulness as a Concept and a Process. *Australian Psychologist*, 43(1). 15-21.

Langer, J. E. Moldoveanu, M. (2000). Mindfulness Research and the Future. *The Society for the Psychological Study of Social Issues*, 56(1). 129-139.

Lyubomirsky, S. Lepper, S. H. (1999). A Measure of Subjective Happiness: Preliminary Reliability and Construct Validation. *Social Indicators Research*, 46: 137-155.

Mandal, P. S. Arya, K. Y. & Pandey, R. (2012). Mental Health and Mindfulness: Mediation Role of Positive and Negative Affect. *Journal of Projective Psychology & Mental Health*, 19. 150-159.

Martin, M. Carr, A. Burke, L. Carroll, L. & Byrne, S. (2006). The Clonmel project: mental Health Service Needs of Children and Adolescents in the South East of Ireland.

Mason, M. (2005). *Taking Sides: Clashing Views on Controversial Issues in Cognitive Science*. USA: McGraw Hill.

McDougall, T. (2011). Mental Health Problems in Childhood and Adolescence. *Nursing Standard*, 26(14). 48-56.

Ramussen, K. M. Pidgeon, M. A. (2011). The Direct and Indirect Benefits of Dispositional Mindfulness on Self-Esteem & Social Anxiety. *Anxiety, Stress & Coping*, 24(2). 227-233.

Robins, J. C. Keng, S. Ekblad, G. A. & Brantley, G. J. (2011). Effects of Mindfulness Based Stress Reduction on Emotional Experience and Expression: A Randomised Controlled Trial. *Journal of Clinical Psychology*, 68(1): 117-131.

Schmitz, N. Kruse, J. Heckrath, C. Alberti, L & Tress, W. (1999). Diagnosing Mental Disorders in Primary Care: The General Health Questionnaire (GHQ) and the Symptom Checklist (SCL-90-R) as Screening Instruments. *Soc. Psychiatry Psychiatr Epidemiol*, 34: 360-366.

Schulz, U. Dona, B. G. Sud, S. & Schwarzer, R. (2002). Is General Self-Efficacy a Universal Construct? *European Journal of Psychological Assessment*, 18(3): 242-251.

Shapiro, L. S. Carlson, E. L. Astin, A. J. & Freedman, B. (2006). Mechanisms of Mindfulness. *Journal of Clinical Psychology*, 62(3). 373-386.

Shapiro, L. S. Oman, D. Thoresen, E. C. Plante, T. & flinders, T. (2008). Cultivating Mindfulness: Effects on Wellbeing. *Journal of Clinical Psychology*, 64(7). 840-862.

Swords, L. Heary, C. & Ellis, E. (2010). Factors Associated with Acceptance of Peers With Mental Health Problems in Childhood and Adolescence. *Journal of Child Psychology & Psychiatry*, 52(9): 933-941.

Appendix i



My name is David Stokes and I am conducting research in the DBS, Department of Psychology that explores individual's awareness of experiences and feelings. This research is being conducted as part completion of a Higher Diploma and will be submitted to the Department of Psychology examinations board.

I would like to invite your child to take part in this study. Participation involves completion of an anonymous survey and a brief computer exercise. Participation is completely voluntary, so you are not obliged to take part. Participation is anonymous and confidential. The responses can-not be attributed to any one participant.

The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer.

It is important that you understand that by completing and submitting the consent form that you are consenting to your child to participate in the study. It is best practice when working with children that the child also provide consent if capable. Each transition year student is also required to sign an assent form, in conjunction with a parent/ guardian consent form to agree to participate in the proposed research.

Should you require any further information about the research, please contact:

or 1084215@mydbs.ie

My supervisor is Dr. Chris Gibbons who can be contacted through the DBS, Department of Psychology on 01 4177500

Thank you for taking the time to read this information.

INFORMATION SHEET FOR PARENTS

Research Topic: An investigation of adolescent's awareness of experiences and wellbeing.

Researcher: David Stokes

Supervisor: Dr. Chris Gibbons

Dear Parent/ Guardian

Background and Purpose: In my research, I am investigating adolescent's attention and awareness of their feelings. Usually psychologists do this by providing a self-report questionnaire which adolescents complete by ticking a box. However, I am interested in conducting further investigation by using a more creative method for adolescents to tell us about themselves. In addition to questionnaires, the participants will complete a computer exercise that will measure the responses to presented information. I am doing this research as part completion of a Higher Diploma in Psychology at DBS.

What happens if my child takes part? I will be visiting your child's school during class time, at a time arranged with the principal. Participating students will be asked to complete standardised questionnaires and they will also be asked to complete a short computer exercise. This exercise will take between 15-30 minutes for each participant. Those who do take part will complete the questionnaires in a specified class and complete an individual computer exercise. If you do not wish for your child to take part, they will attend their daily class as normal. Participation is anonymous and confidential. The responses can-not be attributed to any one participant. While anonymity and confidentiality will be provided for each participant, It is important to note that your child can withdraw from the research at any time.

What will happen to the results of the study? The information from the questionnaires and computer exercise will be gathered and analysed. The information from the questionnaires might tell researchers:

- Factors that impact on adolescents in day to day experiences/ events and feelings.

The results may be published in academic journals and presented at academic conferences. However at no point will any children be identifiable.

How will my child's information be protected? All of the participant's answers will remain confidential. Each participant will be given an ID number. This will be used for any information relating to the study. The information which links names and numbers will be stored separately in a secure location in DBS until the research is completed. Once the study is complete, your child's name will be removed and all the data will be destroyed after 10 years.

Voluntary Participation: It is up to you and your child to decide whether your child is going to take part or not. Participation is completely voluntary. Your child is free to withdraw at any time. I will remind the children of this when I meet them.

The consent form! There is a consent form attached to this information sheet. Every child participating on the day must have a consent form which you have signed. Please note that research practice guidelines do not allow me to make any exceptions, and verbal permission cannot replace the signed consent form. It is important to remember to return the signed form to school as without it your child will not be allowed to take part. In keeping with best practice guidelines, there is also a consent form for your child to compete on the day of the research. However, those wishing to participate MUST have a parental/ guardian consent form signed on the day to participate in the study.

Further Information: This research is being conducted to assist researchers with finding out about adolescent's experiences and feelings. We very much hope that you will agree to let your child take part in the research. If you require any assistance or have any questions about the research study, please feel free to contact me.

Thank you very much for supporting this research study. Please keep this information for your records.

PARTICIPANT ASSENT FORM

Title of Study: An investigation of adolescent’s well-being and awareness of experiences.

Researcher: David Stokes,

Supervisor: Dr. Chris Gibbons

I confirm that I have read and understood the Information Leaflet for the above research study and have received a satisfactory explanation of the nature, purpose and duration of the study.

I have had time to consider whether I wish to take part in this study. I have discussed the study with my parent/ guardian. Any questions have been answered satisfactorily.

I understand that my participation is voluntary and that I have a choice as to whether I participate. I understand that I am free to withdraw at any time if I choose to do so.

I understand that the information collected may be presented and/or published in academic journals and at conferences, but that participant will be identified from the information.

I agree to take part in the above study.

Name of Participant (in block letters)

Date

Signature

Appendix ii



Please read the following instructions before you begin to answer the enclosed questions.

- Try to answer each question that is asked.
- Fill in the space where indicated with your ID number. **DO NOT WRITE YOUR NAME**
- Please read the description where there is one, before you begin to answer questions.
- Take your time to read each question carefully and choose your response.
- Remember there are no right or wrong answers.

Thank you for taking part in the study.

I.D Number _____

Gender: Male Female

Age: _____

This is a list of statements dealing with your general feelings about yourself. Please circle the response. For example:

If you **strongly agree**, circle **SA**

If you **agree**, circle **A**

If you **disagree**, circle **D**

If you **strongly disagree**, circle **SD**

- | | | | | |
|---|----|---|---|----|
| 1. On the whole, I am satisfied with myself. | SA | A | D | SD |
| 2. At times, I think I am no good at all. | SA | A | D | SD |
| 3. I feel I have a number of good qualities. | SA | A | D | SD |
| 4. I am able to do things as well as other people. | SA | A | D | SD |
| 5. I feel I do not have much to be proud of. | SA | A | D | SD |
| 6. I certainly feel useless at times. | SA | A | D | SD |
| 7. I feel that I'm a person of worth, at least on an equal plane with others. | SA | A | D | SD |
| 8. I wish I could have more respect for myself. | SA | A | D | SD |
| 9. All in all, I am inclined to feel that I am a failure. | SA | A | D | SD |
| 10. I take a positive attitude towards myself. | SA | A | D | SD |

For the following question's, we would like to know how your health has been in general, *over the last few weeks*. Please circle the answer which you think most applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past. Please pay attention to your response

HAVE YOU RECENTLY:

1	been able to concentrate on whatever you're doing?	Better than usual	Same as usual	Less than usual	Much less than usual
2	lost much sleep over worry?	Not at all	No more than usual	Rather <i>more</i> than usual	Much more than usual
3	felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
4	felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable
5	felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
6	felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
7	been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
8	been able to face up to your problems?	More so than usual	Same as usual	Less able than usual	Much less able than usual
9	been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
10	been losing confidence in yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
11	been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
12	been feeling reasonably happy, all things considered?	More so than usual	About same as usual	Less so than usual	Much less than usual

PLEASE MOVE ONTO THE NEXT SET OF QUESTIONS.

Here are some statements about YOUR everyday experience. Using the scale 1, 2, 3,4,5,6, please CIRCLE how frequently or infrequently you currently have each experience.

Answer the question according to *what really reflects your experience*, rather than what you think your experience should be. Please respond to each statement separately.

1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

1) I could be experiencing some emotion and not be conscious of it until sometime later.

1 2 3 4 5 6

2) I break or spill things because of carelessness, not paying attention, or thinking of something else.

1 2 3 4 5 6

3) I find it difficult to stay focussed on what's happening in the present.

1 2 3 4 5 6

4) I tend to walk quickly to get to where I'm going without paying attention to what I experience along the way.

1 2 3 4 5 6

5) I tend not to notice feelings of physical tension or discomfort until they really grab my attention.

1 2 3 4 5 6

6) I forget a person's name almost as soon as I've been told it for the first time.

1 2 3 4 5 6

7) It seems I am "running on automatic", without much awareness of what I'm doing.

1 2 3 4 5 6

8) I rush through activities without being really attentive to them.

1 2 3 4 5 6

9) I get so focussed on the goal I want to achieve that I lose touch with what I'm doing right now to get there.

1 2 3 4 5 6

10) I do jobs or task automatically, without being aware of what I'm doing.

1 2 3 4 5 6

11) I find myself listening to someone with one ear, doing something else at the same time.

1 2 3 4 5 6

12) I find myself preoccupied with the future or the past.

1 2 3 4 5 6

13) I find myself doing things without paying attention.

1 2 3 4 5 6

14) I snack without being aware that I'm eating

1 2 3 4 5 6

NOW GO TO THE NEXT SET OF QUESTIONS.

For this section, read each sentence and select an answer for each statement which indicates how much the statement applies to you.

1 Not At All True	2 Hardly True	3 Moderately True	4 Exactly True	
I can always manage to solve difficult problems if I try hard enough.	1	2	3	4
If someone opposes me, I can find means and ways to get what I want.	1	2	3	4
It is easy for me to stick to my aims and accomplish my goals.	1	2	3	4
I am confident that I can deal efficiently with unexpected events.	1	2	3	4
Thanks to my resourcefulness, I know how to handle unforeseen situations.	1	2	3	4
I can solve most problems if I invest the necessary effort.	1	2	3	4
I can remain calm when facing difficulties because I can rely on my coping abilities.	1	2	3	4
When I am confronted with a problem, I can usually find several solutions.	1	2	3	4
If I am in trouble, I can usually think of a solution.	1	2	3	4
I can usually handle whatever comes my way.	1	2	3	4

The following words describe different feelings and emotions. For each word, indicate to what extent you have felt this way over the last week. **For example: Sad: 3**

1 Not at All	2 A Little	3 Moderately	4 Quite a Bit	5 Extremely
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Interested		Irritable	
Distressed		Alert	
Excited		Ashamed	
Upset		Inspired	
Strong		Nervous	
Guilty		Determined	
Scared		Attentive	
Hostile		Jittery	
Enthusiastic		Active	
Proud		Afraid	

WELL DONE. ONLY ONE MORE SECTION TO COMPLETE.....

Rate each of the following statements using the scale provided. Write the number in the blank that best describes your own opinion of what is generally true for you

1 Never True	2 Rarely True	3 Sometimes True	4 Often True	5 Very Often or Always True
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1. When I'm walking, I deliberately notice the sensations of my body moving. _____
2. I'm good at finding words to describe my feelings _____
3. I criticise myself for having irrational or inappropriate thoughts. _____
4. When I do things, my mind wanders off and I'm easily distracted. _____
5. I don't pay attention to what I'm doing because I'm daydreaming, worrying or otherwise distracted.

6. I watch my feelings without getting lost in them. _____
7. I tell myself I shouldn't be feeling the way I'm feeling. _____
8. I believe some of my thoughts are abnormal or bad and I shouldn't think that way. _____
9. I pay attention to sensations, such as the wind in my hair or the sun on my face. _____
10. I have trouble thinking of the right words to express how I feel about things. _____
11. I find it difficult to stay focussed on what's happening in the present. _____
12. I pay attention to sounds, such clocks ticking, birds chirping or cars passing. _____
13. In difficult situations, I can pause without immediately reacting. _____
14. I notice the smells and aromas of things. _____
15. Even when I'm feeling terribly upset, I can find a way to put it into words. _____
16. I rush through activities without being really attentive to them. _____

You are now finished. Thank you for taking the time to answer the questions



Below is a list of support services which are available to you should you feel you need some assistance

Primary Support:

Teen Line: 1800 833 6384 (A national Free-phone helpline for adolescents)

Secondary Support:

www.headsup.ie (A 24 hour text support service. Text the word “Headsup” to 50424. A list of topics will be sent to you. Choose a topic and you will be instantly sent a list of confidential helpline numbers)

www.spunout.ie (An Irish youth forum service)

www.headstrong.ie (A support service for Irish youth mental health)

Appendix iv

Mindfulness and Self-Efficacy as predictor variables of self-esteem (criterion variable).

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	758.276	7	108.325	9.730	.000 ^a
Residual	478.704	43	11.133		
Total	1236.980	50			

Appendix v

Mindfulness and Self-Efficacy as predictor variables of happiness (criterion variable).

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	276.051	7	39.436	5.355	.000 ^a
Residual	316.694	43	7.365		
Total	592.745	50			

Appendix vi

Mindfulness and Self-Efficacy as a predictor variables of positive affect (criterion variable)

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	143.688	7	204.813	5.517	.000 ^a
Residual	1596.312	43	37.124		
Total	2020.000	50			

Appendix vii

Mindfulness and Self-Efficacy as a predictor of negative affect.

ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	510.701	7	72.957	1.771	.118 ^a
Residual	1770.985	43	41.186		
Total	2281.686	50			

Appendix viii

Hierarchical-mediation regression, affect, mindfulness = self-esteem

Self-Esteem				
Variable	Model 1		Model 2	
	B	β	B	β
Constant	7.549		9.981	
Mindfulness (MAAS)	.209	.520	.134	.333
Overall Affect			.148	.058
R ²	.270		.353	
F	18.862		13.617	
ΔR^2	.270		.327	
ΔF	18.862		6.381	