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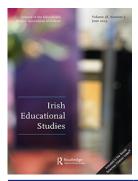# Well-being in post-primary schools in Ireland: the assessment and contribution of character strengths

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Well-being in post-primary schools in Ireland: the assessment and contribution of character strengths

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Well-being in post-primary schools in Ireland: the assessment and contribution of character strengths

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Enhancing the well-being of primary and post-primary students is one of the priorities of the Department of Education and Skills in Ireland. Whilst interventions are being implemented across the board, little is known about the current levels of adolescents' well-being. Drawing from research on positive education, in the current study well-being was assessed amongst 2822 adolescents, aged 12–19 in Ireland, using the PERMA profiler [Butler, J., and M. L. Kern. (2016). "The PERMA-Profiler: A Brief Multidimensional Measure of Flourishing." *International Journal of Wellbeing* 6 (3): 1–48. doi:10.5502/ijw.v6i3.526] and "VIA-Youth Survey" [VIA Character (2014). http://www.viacharacter.org/www/Research-Old2/Psychometric-Data-VIA-Youth-Survey]. Mann–Whitney *U*-test and multiple regression analyses were conducted in the examination of age and sex differences in students' well-being scores, and the prediction of the contribution of character-strength-development to well-being. The results showed that students' well-being decreased steadily from the first year, through to the middle and senior years of post-primary school. Furthermore, in comparison to males, females reported lower levels of well-being across the board, and higher levels of negative emotions and loneliness. Finally, the underuse of character strengths predicted lower levels of well-being in Irish schools. Implications for practice include the importance of customising well-being programmes across different schools and age groups, as well as the potential for the incorporation of psychological tests to evaluate the effectiveness of such interventions.

Keywords: positive psychology; well-being; positive education; PERMA profiler; VIA character strengths

Introduction

The Department of Education and Skills in the Republic of Ireland has recently introduced guidelines for mental health promotion in primary and post-primary schools (DES 2013, 2015), the aims of which were to create awareness of the importance of children's well-being and to provide recommendations for well-being improvement in schools. Subsequently, the *National Council for Curriculum and Assessment* introduced the guidelines for well-being in the junior cycle (NCCA 2017), encouraging schools to teach well-being to students. However, despite the provision of these basic parameters created by the government and the associated bodies, only 51.5%

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of Irish schools have implemented a policy relating to mental health provision, and less than 50% of schools reported that they are doing enough to support students with mental health issues (Patalay et al. 2016). Most importantly, very little is known about the level of well-being amongst students in Ireland, thus making it difficult to evaluate the benefits of any well-being programme implemented in schools across Ireland.

According to the UNICEF report, Ireland ranks 22nd out of 41 countries in child's good health and well-being, with adolescent suicide rates soaring above the international average (UNICEF Office of Research 2017). Good health and well-being are measured with such variables as the rates of neonatal mortality, drunkenness or teenage births, therefore whilst they assess some aspects of well-being, they do not report the psychological state of adolescents in Ireland.

Amongst the aims for the large-scale *Growing Up in Ireland* study was the shedding of more light upon the well-being of children (ESRI 2017). According to their report, approximately 10% of adolescents experienced symptoms of depression. At the same time, adolescents in the study overall showed an 'average' level of life satisfaction (scoring 7.2 out of 10). Whist these are useful findings, this measure of well-being was quite basic, focusing mainly on the impact of the environment on youth's well-being, or on the presence of ill-being (such as depression), rather than more complex and systemic aspects of well-being. Given this, and the general scarcity of well-being assessments amongst the Irish adolescents, a more sophisticated model of well-being was utilised in the current study in order to report on the incidents of well-being in schools in Ireland.

Well-being

There are various definitions and approaches to well-being. For some well-being constitutes the absence of anxiety, distress (Espinoza 2015) and other psychiatric disorders (Goldberg and Blackwell 1970). Others view it from a developmental perspective, seeing it as both a state of well-being and a process of becoming well in various aspects of living that extends to social context, philosophical meaning-making, and individual happiness (O'Brien and O'Shea 2017).

Positive Psychology, which is a scientific study of optimal human functioning and its conditions (Gable and Haidt 2005), offers yet another stance on well-being. It proposes that well-being is independent from ill-being (Huppert and Whittington 2003). Therefore, individuals who have high levels of well-being are not merely free from psychiatric symptoms, but have also developed high levels of well-being symptoms, which vary according to the well-being theory (Diener et al. 2009; Huppert and So 2013; Keyes 2002; Seligman 2011). According to this perspective, individuals may experience both facets simultaneously (Huppert and Whittington 2003), thus one does not negate the other. At the same time, it has been argued that experiencing higher levels of well-being, whilst at the same time coping with the symptoms of ill-being, helps individuals build up their resilience, and thus 'bounce back' faster from experiences of adversity (Fredrickson 2001; Jospeh 2011). Thus, for those who purport to measure adolescent well-being, we argue that it is crucial to not only measure adolescents' so-called symptoms of depression (or lack thereof), but also to assess components of well-being (such as positive affect, or sense of achievement), which could help prevent them from experiencing more serious and long-lasting mental health issues.

The current well-being models offered by positive psychologists are 'componential', meaning that in *well-being* and *flourishing* theories, the combination of various elements is proposed as constituting well-being (Burke 2016a; Moneta 2014). For example, in *Subjective Well-being Theory* (SWB: Diener 2000), well-being is a mixture of lower negative affect, higher positive affect, and high life satisfaction. On the other hand, in *Psychological Well-being Theory* (PWB: Ryff and Keyes 1995) it is held that positive affect is *not* necessary for well-being; rather, what matters is the extent to which individuals develop self-acceptance, purpose in life, autonomy, positive relationships, and environmental mastery. The most recently emerging theories of well-being offer a more complex, multi-dimensional view of well-being still, which is referred to as *flourishing* (see Burke 2016a; Burke and Minton 2016, for reviews). Flourishing incorporates both the components of psychological and subjective well-being, as well as some additional elements.

There are four main theories of flourishing (Hone et al. 2014): the *Mental Health Continuum* (MHC: Keyes 2002); Huppert and So's *Flourishing* (2013); the *Flourishing Scale* (Diener et al. 2009); and Seligman's *PERMA* (2011) model. Of these four theories and their attendant measurements, PERMA is the most frequently utilised in schools (Seligman et al. 2009) and has become a symbol of 'positive education' (IPEN 2017). Thus, many evidence-based well-being programmes in schools incorporate the PERMA model, often supplementing it with some additional elements (see White and Murray 2015; White and Waters 2015).

According to the PERMA model, in order for an individual to be deemed 'well', they need to display high levels of *P*ositive affect, *E*ngagement, *R*elationships, *M*eaning, and *A*chievement (Seligman 2011). Seligman argues that each one of the elements is intrinsically motivating; therefore, individuals want to use them for their own sake, rather than simply because they have to. Also, he posits that they are all quantifiably measurable, which makes them attractive to the field of positive psychology and positive education.

To date, no study has compared well-being, as measured by PERMA, across different ages in students of the post-primary school. There is limited evidence that indeed, well-being changes across the lifespan, with higher levels being reported by older participants (Burke 2016a), however, it is unknown whether such changes occur during the turbulent times of adolescents. Similarly, no gender differences have been examined across all components of PERMA, which can help design well-being programmes more applicable to students.

Positive psychology and positive education

Positive psychology has been defined as the science of what is right, rather than what is wrong with people (Biswas-Diener and Dean 2007). Hence, it is viewed by its adherents as ' … the study of the conditions and processes that contribute to the flourishing and optimal functioning of people, groups, and institutions' (Gable and Haidt 2005, 104). Therefore, in positive psychology, there is a differentiation of (negative) pathology and (positive) mental health, and the engagement with and promotion of research and practice which contribute to the positive mental health. This is why in the current article, mental health and well-being will be used interchangeably.

In the same vein, *positive education* is an application of the principles of positive psychology in educational contexts. Specifically, there is an avowed aim ' … to

develop the skills of well-being, flourishing, and optimal functioning in children, teenagers, and students, as well as parents and educational institutions' (Boniwell 2013, 536). Therefore, positive education incorporates some of the models of well-being and flourishing into the school curriculum. Early on, a series of *ad hoc* positive psychology interventions (PPIs) were applied in small-scale school settings (e.g. classrooms), and where such interventions were formally evaluated, significant decreases in ill-being (such as depression and anxiety), and increases of well-being (such as resilience and positive affect) were observed (see Brunwasser, Gillham, and Kim 2009; Kelm, McIntosh, and Cooley 2014; Miller, Nickerson, and Jimerson 2014; Proctor 2014; Seligman et al. 2009; Shoshani and Steinmetz 2014). Such studies were soon followed by larger scale projects incorporating positive psychology as a whole-school approach (Bailey and Challen 2012; Boniwell and Ryan 2009; Brunwasser, Gillham, and Kim 2009; McGrath and Noble 2011; Pluess and Boniwell 2015; Seligman 2011; Seligman et al. 2009; White and Murray 2015; White and Waters 2015; Williams 2011). Hence, over the last two decades, there has been a rapid increase in programmes around the world which have been designed with the aim of enhancing students' well-being, which has, in turn, led to the further theoretical development of positive educational frameworks.

Positive framework

Three main frameworks have been created for positive education (Burke 2016b). The first one was developed to incorporate the *Authentic Happiness* model, which was subsequently updated with additional elements, and implemented in various schools around the world (see Seligman 2011; White and Murray 2015). The second one – the *GGS Applied Model* – was created following from the implementation of positive education principles in the Geelong Grammar School in Melbourne (Norrish 2015; Norrish et al. 2013). The third model – the *PROSPER* framework – is an evolution from the original *Positive Educational Practices* (PEPs) framework, the aim of which was to implement well-being in education (Noble and McGrath 2008, 2015).

What all these frameworks have in common is the 'golden thread' of the PERMA model (see above) running through them. These models combine either the entire PERMA model (with its five components), or the main aspects of it, and supplement this with the character strengths education, which has now become the core component of positive frameworks and thus positive education (see below for more details). Yet, despite the prevalence of PERMA in positive education, very little is known about the students' scores on the PERMA model measure (Donlin 2015; Kern et al. 2015; Schulte 2016), and prior to the current study, no research to date had been carried out assessing PERMA measures amongst students in Ireland.

Character strengths

Character strengths are vehicles for developing human virtues (Peterson and Seligman 2004). According to the Values in Action (VIA) classification, there are 24 character strengths that enable individuals to develop the virtues of Wisdom, Courage, Humanity, Justice, Temperance and Transcendence (Peterson and Seligman 2004).

As we have seen, all of the positive education frameworks incorporated character strengths in their models (Noble and McGrath 2008; Norrish 2015; Seligman et al.

2009). Whilst character strengths are relatively stable (Ferragut, Blanca, and Ortiz-Tallo 2014), the extent to which they have been developed can alter over the years (Peterson and Seligman 2004). Positive education programmes that incorporated character strengths have resulted in greater school enjoyment and student engagement (Seligman et al. 2009). Even single interventions that create an awareness of strengths and help students use them regularly have resulted in substantial increases of students' well-being (Oppenheimer et al. 2014). Therefore, it has been argued that the application of character strengths in educational interventions can contribute significantly to students' well-being.

In a study with 10,000 adult participants, Hone et al. (2015) found that those who had awareness of their character strengths were 9.5 times more likely to psychologically flourish than those who had no awareness of their strengths. Furthermore, participants who used their strengths on a regular basis were 18 times more likely to psychologically flourish than those who did not. Therefore, we argue that it is not enough to identify students strengths but also examine their daily use, which is why the current study attempts to quantify it.

Taking all of this into consideration, an aim for the current study is to shed light on the incidence of well-being in Irish schools, in the context of the PERMA model, which is the most prevalent model in positive education, yet does not show much evidence of being used to measure well-being in adolescents. Therefore, the first research question is: How do post-primary students in Ireland score on the PERMA well-being measure? Age and sex differences across all components of PERMA are examined, as is the contribution of character strengths to students' well-being. Thus, the second research question is: What are the age and sex differences in well-being scores of post-primary school students in Ireland?

Methodology

Participants and procedure

The study was carried out with 2822 participants aged 12–19 ($M = 15.05$, SD = 1.66), from 13 secondary schools located across all four provinces in Ireland (both rural and urban areas). However, due to data missing not at random in the 'VIA-Youth Survey' (VIA Character 2014), responses from 46 participants were excluded from the analysis of this variable, thus the total number of participants for the strength-use assessment was 2776, aged 12–19 ($M = 15.05$; SD = 1.66). A strategic sampling method was applied in the recruitment of participating schools in order to ensure that all *types* of schools (secondary, vocational, comprehensive and community), across the four provincial regions of the Republic of Ireland (Connaught, Leinster, Muster and Ulster) were represented in the sample at similar frequencies as exist at the nationwide level. This type of strategic sampling attention was also given to the representation of schools of the various denominational affiliations (Roman Catholic, Church of Ireland, multi- and non-denominational), language use (English and Irish), and student gender (girls-only, boys-only and co-educational schools). Of the students in the sample, females represented 50.8% of the sample. The questionnaire was administered by school teachers in a paper-and-pen format, half-way through the academic year (January–February 2015). Each school was asked to distribute questionnaires to no more than 30% of its students, and to ensure that each year was represented.

The current study was in itself part of a larger study examining well-being and bullying in Irish schools.

Measures

Two measures were selected for the current analysis. The first one was the PERMA Profiler (Butler and Kern 2016), which measures well-being. It is a 23-item scale, on an 11-point Likert scale. The range of responses vary according to each statement, some range from *not at all* to *completely*, others from *never* to *always*, yet some from *terrible* to *excellent*. In general, items are designed to elicit participants' opinions about their satisfaction with aspects of their lives, and the extent to which they feel lonely or excited. The results of PERMA are analysed by congregating means from groups of questions that create five main sub-categories: Positive Emotions, Engagement, Relationships, Meaning and Achievement. Sample questions for each sub-category included: In general, how often do you feel joyful? (Positive emotions); How often do you become absorbed in what you are doing? (Engagement); To what extent do you receive help and support from others when you need it? (Relationships); In general, to what extent do you feel that what you do in life is valuable and worthwhile? (Meaning); How often do you achieve the important goals you have set for yourself? (Achievement). It is recommended that two additional measures are reported, i.e. Negative Emotions and Health, which refer to physical health and vitality. Sample questions for these sub-sections include In general, how often do you feel anxious? (Negative emotions); How satisfied are you with your current physical health? (Health). In addition to these, the measure used in the current study included two single items for Loneliness and Happiness, based on questions: *How lonely do you feel in your daily life?* and *Taking all things together, how happy would you say you are?* The reliability of the test in previous research has been high, ranging between $\leq.74$ and $\leq.94$ (Butler and Kern 2016). In the current study, the Cronbach alpha scores for PERMA was $\leq.88$, positive emotions $\leq.88$, negative emotions $\leq.73$, engagement $\leq.50$, relationship $\leq.70$, meaning $\leq.77$, achievement $\leq.73$, and health $\leq.85$.

The second measure that was used was the 'VIA-Youth Survey' (VIA Character 2014), which is a 96-item scale with responses on a 5-point Likert scale ranging from *not like me at all* to *very much like me.* Each one of the 24 character strengths is an aggregation of four responses to statements. Sample strengths include Bravery, Creativity, Curiosity, Fairness, Forgiveness, Gratitude, Humour, Perseverance, Prudence. Sample questions include: I expect good things to come my way (Hope); If there is a chance to learn something new, I jump right in (Love of learning); I have a lot of enthusiasm (Zest); I consider every opinion before I make a final decision (Open mindedness). Past reliability tests have shown $\leq.87$ (VIA Character 2014).

Results

Since the well-being data were not normally distributed, Mann–Whitney *U*-tests were carried out to explore differences between age groups as well as males and females. However, due to the residuals being normally distributed, the multiple regression analysis was carried out to identify strength-use in the current sample.

Age differences

Age groups were divided into Junior (aged 12–13), Middle (aged 14–16), and Senior (aged 17–19), which represent the first class students, students preparing for the Junior Certificate, and students preparing for the Leaving Certificate. Table 1 provides the details of the median values, and Table 2 provides the Mann–Whitney *U*-test results for differences between the age groups.

Overall, PERMA results showed a steady age-related decrease in well-being from Junior, through to the Middle and Senior groups. There were statistically significant differences between Junior (Md = 7.72) and Middle (Md = 7.36) groups ($U = 259,198$, $z = -6.15$, $p < .001$, $r = -0.12$); Junior (Md = 7.72) and Senior (Md = 7) groups ($U = 223,247.5$, $z = -10.81$, $p < .001$, $r = -0.20$); and Middle (Md = 7.36) and Senior (Md = 7) groups ($U = 535,228$, $z = -6.26$, $p < .001$, $r = -0.12$). The same pattern (of age-related decreases) were observed in the individual PERMA and supplemental components (positive emotions, engagement, relationships, meaning, achievement, health, and happiness). Perhaps predictably, the reverse was true (i.e. age-related increases) for measures of negative emotions and loneliness (statistically significant between age-group differences were found ($p < .05$). However, the effect sizes for all these differences were small.

Gender differences

The use of Mann–Whitney *U*-tests revealed statistically significant differences between males (Md = 7.50) and females (Md = 7.11) in the overall PERMA scores ($U = 819,987$, $z = -8.11$, $p < .001$, $r = -0.15$). The pattern of males scoring higher than females at $p < .001$ continued for most of the individual variables (positive emotions, engagement, meaning, achievement, health and happiness), except for relationships, where no significant differences were found between males (Md = 7.33) and females (Md = 7.33) ($U = 984,748.5$, $z = -.49$, $p = .623$).

There were also statistically significant differences between males (Md = 1) and females (Md = 3) in their respective levels of loneliness ($U = 743,827.5$, $z = -11.76$,

Table 1.   Median value of variables across age groups ($N = 2822$).

	Aged 12–13 (Junior)		Aged 14–16 (Middle)		Aged 17–19 (Senior)	
	Mdn	N	Mdn	N	Mdn	N
PERMA	7.72	574	7.36	1105	7.00	1143
Positive emotions	7.67	574	7.33	1105	7.00	1143
Negative emotions	3.67	574	4.33	1105	5.00	1143
Engagement	7.67	574	7.67	1105	7.33	1143
Relationship	8.00	574	7.33	1105	7.33	1143
Meaning	7.67	574	7.22	1105	6.67	1143
Achievement	7.27	574	6.75	1105	6.65	1143
Health	8.00	574	7.84	1105	7.33	1143
Happiness	8.00	574	8.00	1105	7.00	1143
Loneliness	2.00	574	2.00	1105	3.00	1143

Table 2.   Mann–Whitney *U*-test analyses for differences between age groups (*N* = 2822).

	Junior–Middle			Junior–Senior			Middle–Senior		
	U	*z*	*R*	*U*	*z*	*r*	*U*	*z*	*r*
PERMA	259,198	−6.15**	−0.12	223,247.5	−10.81**	−0.20	535,228	−6.26**	−0.12
Positive emotions	270,201.5	−4.99**	−0.09	234,850	−9.64**	−0.18	538,367	−6.07**	−0.11
Negative emotions	278,739	−4.08**	−0.08	239,422.5	−9.15**	−0.17	539,695.5	−5.97**	−0.11
Engagement	297,307	−2.11*	−0.04	272,409	−5.76**	−0.11	560,257	−4.64**	−0.09
Relationship	260,326.5	−6.038**	−0.11	246,304	−8.45**	−0.16	581,490	−3.26**	−0.06
Meaning	264,737	−5.57**	−0.10	222,167.5	−10.94**	−0.21	530,980	−6.54**	−0.12
Achievement	278,572.5	−4.10**	−0.08	251,839	−7.88**	−0.15	560,160	−4.65**	−0.09
Health	292,853.5	−2.58*	−0.05	243,737	−8.71**	−0.16	521,102.5	−7.19**	−0.14
Happiness	267,865	−5.32**	−0.10	240,686	−9.16**	−0.17	555,687	−5.00**	−0.09
Loneliness	293,174.5	−2.58*	−0.05	260,207.5	−7.08**	−0.13	547,800	−5.50**	−0.10

*p < .05.
**p < .001.

$p < .001$, $r = -0.22$). Equally, females (Md = 5) experienced higher levels of negative emotions than did males (Md = 3.67) ($U = 709,484.5$, $z = -13.22$, $p < .001$, $r = -0.25$). Again, the effect sizes for all differences were small. Further information about the mean value can be found in Table 3 and the Mann–Whitney *U*-test analyses are presented in Table 4.

Use of character strengths

In order to identify the use of strengths, syntax was applied grouping all responses at value 5 for each strength, as *frequently used strengths*; all responses at value 3 and 4 as *moderately used strengths;* and all responses at value 1 and 2 as *underused strengths.* The values reflected the frequency with which the strengths were applied.

Multiple regression was used to assess the ability of the three levels of strength-use to predict well-being. Preliminary analyses were conducted to ensure no violation of

Table 3.   Median value of variables for males and females ($N = 2822$).

	Male		Female	
	Mdn	*n*	Mdn	*n*
PERMA	7.50	1397	7.11	1425
Positive emotions	7.67	1397	7.00	1425
Negative emotions	3.67	1397	5.00	1425
Engagement	7.67	1397	7.33	1425
Relationship	7.33	1397	7.33	1425
Meaning	7.33	1397	6.67	1425
Achievement	7.00	1397	6.33	1425
Health	8.00	1397	7.33	1425
Happiness	8.00	1397	8.00	1425
Loneliness	1.00	1397	3.00	1425

Table 4.   Mann–Whitney *U*-test analyses for males and females ($N = 2822$).

	Males–Females		
	U	*z*	*r*
PERMA	819,987	−8.11**	−0.15
Positive emotions	828,867.5	−7.71**	−0.15
Negative emotions	709,484.5	−13.22**	−0.25
Engagement	864,249.5	−6.08**	−0.11
Relationship	984,748.5	−0.49	−0.01
Meaning	789,924.5	−9.51**	−0.18
Achievement	810,433.5	−8.56**	−0.16
Health	739,404.5	−11.85**	−0.22
Happiness	858,398	−6.43**	−0.12
Loneliness	743,827.5	−11.76**	−0.22

*$p < .05$.
**$p < .001$.

the assumptions of normality, linearity, multicollinearity and homoscedasticity. The detailed results can be found in Table 5.

The strength-use explained 21% of the variance in PERMA results ($F(3, 2772) =$ 251.66, $p < .001$). Of the three variables, only two were statistically significant with underused strengths making the largest unique contribution (beta = −.36), followed by frequently used strengths (beta = .23). All of the other variables, except for negative emotions for overused strengths ($p < .05$), followed the same pattern, showing statistically significant (at the $p < .001$ level) contributions in well-being for underused and frequently used strengths, with underused strengths (positive emotions, beta = −.32; negative emotions, beta = −.20; engagement, beta = .24; relationship, beta = −.28, meaning, beta = .32; achievement, beta = −.31; health, beta = −.23; happiness, beta

Table 5.   Summary of multiple regression analyses for predicting the levels of well-being ($N = 2776$).

Model	Coefficients	Frequently used strengths	Underused strengths	Moderately used strengths	R^2	F
PERMA	B	.15	−.38	.01	.24	251.66
	$SE\ B$	.01	.18	.01		
	®	.23**	−.36**	.01		
Positive emotions	B	.12	−.40	.01	.14	155.72
	$SE\ B$	.01	.02	.01		
	®	.16**	−.32**	.01		
Negative emotions	B	−.05	.30	−.06	.05	50.38
	$SE\ B$	.02	.03	.02		
	®	−.05*	.20**	−.06**		
Engagement	B	.12	−.25	−.03	.11	111.27
	$SE\ B$	.01	.02	.01		
	®	.19**	−.24**	−.04*		
Relationship	B	.17	−39	.00	.14	145.92
	$SE\ B$	.02	.03	.02		
	®	.19**	−.28**	.00		
Meaning	B	.17	−.44	.02	.17	184.25
	$SE\ B$	.02	.03	.02		
	®	.20**	−.32**	.02		
Achievement	B	.16	−.36	.01	.16	176.29
	$SE\ B$	.01	.02	.01		
	®	.21**	−.31**	.01		
Health	B	.07	−.33	.01	.06	62.31
	$SE\ B$	.02	.03	.02		
	®	.08**	−.23**	.01		
Happiness	B	.15	−.40	.02	.12	119.81
	$SE\ B$	.02	.03	.02		
	®	.16**	−.27**	.02		
Loneliness	B	−.07	.34	−.02	.04	34.32
	$SE\ B$	.03	.04	.03		
	®	−.06*	.17**	−.02		

*$p < .05$.
**$p < .001$.

= −.27; and loneliness, beta = .17) contributing more than did frequently used strengths (positive emotions, beta = .16; negative emotions, beta = −.05; engagement, beta = .19; relationship, beta = .19; meaning, beta = .20; achievement, beta = .21; health, beta = .08; happiness, beta = .16; loneliness, beta = −.06). The only exception to this general pattern was the scores for negative emotions and engagement. For negative emotions not only frequently used and underused strengths, but all three measures, were statistically significant and predicted 5% of the unique variance (F (3, 2772) = 50.38, $p < .001$), with underused strengths recording the highest beta value (beta = .20), followed by frequently used strengths (beta = .05), and moderately used strengths (beta = .06). For engagement not only frequently used and underused strengths, but all three measures, were statistically significant and predicted 11% of the unique variance (F(3, 2772) = 111.27, $p < .05$), with underused strengths recording the highest beta value (beta = .24), followed by frequently used strengths (beta = .19), and moderately used strengths (beta = .04).

Discussion

As we have seen, an analysis of the age and gender differences between well-being scores, along with the contribution of strength-use to well-being, was undertaken in the current study. It will be recalled that, firstly, the results showed that all aspects of well-being decreased with age. This included PERMA overall, and the individual and additional components of positive emotions, engagement, relationship, meaning, achievement, health and happiness scores. At the same time, negative emotions and loneliness increased with age. Past research is inconsistent about this, with some studies showing that older students report lower levels of well-being and higher levels of ill-being, and others indicating that age differences do not affect all aspects of well-being (e.g. Liu et al. 2016; McLellan and Steward 2015). In an ordinary understanding of the Irish educational context, it seems possible to suggest that this age-related reduction in student well-being may be at least partially attributable to the academic pressure students are placed under when preparing for their junior and leaving certificate examinations. Such examinations are consistently presented to the students as 'high-stake', and deemed to be particularly stressful (Banks and Smyth 2015; Connor 2003). However, it is also prudent to suggest that further research needs to be undertaken in order to identify (and potentially, to cross-correlate) measures of other potential developmental, psychosocial and systemic factors influencing well-being amongst post-primary school aged young people in Ireland.

Another finding from the current study was that males' well-being was higher than females', in relation to PERMA, positive emotions, engagement, meaning, achievement, health and happiness. Also, females experienced more negative emotions and loneliness than males. This is consistent with the past research about ill-being and well-being of young people, indicating that females score lower than males in relation to subjective well-being (Gestsdottir et al. 2015; Lehtinen, Sohlman, and Kovess-Masfety 2005). However, whilst the difference is prominent in late adolescence, it is reduced in young adulthood (Kling et al. 1999). Again, it is possible to suggest that some of these differences may be due (at least in part) to a particularly high level of negative body-image amongst adolescent females (Frost and McKelvie 2004; Kanta-nista et al. 2015; Knauss, Paxton, and Alsaker 2007). In the gender intensification theory, it is advanced that in adolescence, males and females become more sensitive

to cultural expectations of gender roles (Ruble, Martin, and Berenbaum 2006). With this additional pressure from the media about the so-called 'ideal' body, females are disproportionately affected, resulting in internalisation that leads to higher level of body dissatisfaction, and ultimately, lower levels of reported well-being (Knauss, Paxton, and Alsaker 2007). A direct measure of body-image was not included in the current study; however, this (i.e. a correlational study of gender, body-image and PERMA-influenced measure of well-being) may well be a fruitful line of enquiry in subsequent research. Additionally, it may also be important to consider the results of previous research, which show that gender differences are *not* consistent across all components of well-being (for example, it has been found that no gender differences for adolescents exist in relation to life satisfaction (Diener and Diener 1995; Huebner et al. 2005). Whilst direct measure of life satisfaction was not included in the current study, such a measure could also be included in the subsequent research.

The only exception to the pattern of statistically significant differences existing between males and females in relation to many aspects of well-being in the current study was the component of relationships, where no such differences were observed. At first, this finding seems inconsistent with the past research that indicates that females tend to select a support-focused coping strategy when dealing with adversity (and therefore, seek help, advice and comfort from their social networks), more often than do males, who opt for problem-focused coping (Broderick and Korteland 2002). This finding is consonant with reports that young men do not engage with social support when experiencing trauma, resulting in higher suicide rates amongst males in Ireland (Richardson, Clarke, and Fowler 2013). Hence, previous research suggests that we might expect to see some statistically significant differences with respect to positive relationships and perceived support. However, the quality of relationships or social support in the *context of adversity* was not measured directly in the current study; rather, participants' *general* view of the quality of positive relationships they experience in their lives was (which showed no gender differences). Again, such measures could perhaps be included in the design of subsequent research.

The final finding related to the contribution of strengths' use to participants' well-being; it was found in the current study that the two main contributing factors o the prediction of well-being were *underused* strengths and *frequently used* strengths, with no statistically significant contribution for *moderate* use of strengths. Furthermore, the underused strengths made the greatest unique contribution in explaining well-being across all measures, and not the frequently used strengths (as had been expected). This finding is in line with past research carried out in other countries, showing that indeed, using character strengths contributes significantly to students' well-being (e.g. Ferragut, Blanca, and Ortiz-Tallo 2014; Oppenheimer et al. 2014). However, the results of the present study are the first that indicate that it is the *under-use*, rather than the *frequent* use of strengths that contributes to well-being the most.

Implications

The current study provides a comprehensive outline of adolescent well-being in Ireland, using the measures associated with one of the Positive Education models. These findings can serve as (i) a comparative foundation for identifying well-being in Ireland; and, therefore, (ii) in the monitoring of the progress of well-being post well-being programmes (iii) informing the policy makers on the components that

need to be incorporated in measuring and developing well-being in schools. Also, considering the significant age and gender differences in young people, the study highlights the importance of taking such differences into consideration when designing well-being programmes for students. More customised support needs to be given to students, in order to improve their well-being at a different age, or to at least ensure that the well-being is sustained as they move into their junior and leaving certificate exams. Finally, more care needs to be given by providers of well-being courses in Irish schools, so that the most effective interventions are offered to students in order to enhance their well-being, which may be different to the interventions aimed to reduce ill-being. As such, the effect of either needs to be monitored using comprehensive psychological questionnaires.

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