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Toward the Implementation of Contemplative Practices in Higher Education

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ABSTRACT

Endorsing the role of Universities as caregiving organisations and following an initial report on contemplative practices (CP) in Higher Education by the Institute of Theological Partnerships (2016) and the Mindful Nation UK (2015), a Contemplative Pedagogy Working Group (CPWG) was convened to explore the possibilities to implement contemplative pedagogy and practices at the University. CP such as Buddhist meditation have direct bearings in developing and cultivating compassion. With the intention to foster a culture of gentleness within the University, a survey was administered to 301 students to: 1- probe their attitudes toward the introduction of CP at the University and 2- to collect information on their use of technology. Results indicate that 79% of students will be favourable to the introduction of CP at the University on a voluntary basis and 58% will be keen to engage with the practice. However, if short time practices were to be introduced in classes, 44% will be self-conscious and admit it will affect their practice. Seventy percent admit difficulty with their attention during lectures and exam revisions and 58% are distracted by mobile technologies used in classes, report of distractibility is more marked among the youngest.

The survey's result highlights student's tendency to consider learning about CP in relation to the mind and emotions should be part of their education. This awareness is indicative of a change in students' expectation and support the CPWG initiatives in offering regular Zen meditation practices and building up a Cosmic Garden within the University premises. Challenges in fostering a compassionate learning and teaching environment and concerns related to the pervasive use of technology in classes, in particular the correlation between the variety of online multitasking and the worry of feeling self-conscious during CP will be discussed.

Keywords: Contemplative practices; compassion; secular ethics; student surveys; higher education.

Introduction

In these early years of the 21st century, the responsibility of educational institutions to provide pastoral care to their students is greater than ever. In common with all educational institutions, the University of Winchester has a mission that includes attending to the wellbeing of its students and staff. While there is an on-going debate everywhere about the exact nature and limits of this responsibility, not least given the Widening Participation agenda and consequent continuing rise in the numbers of young people arriving at universities everywhere with pre-existing psychological and physical conditions, there is increasing agreement that the provision of in-house tailored support services is not the whole solution.

The University of Winchester, one of the sixteen institutions within the UK's 'Cathedrals Group' of church foundation universities and university colleges (generally former church-founded teacher training colleges), prides itself on being an effective 'values-driven' institution, and after a wide and inclusive debate, the current three values have emerged: *compassion*, *individuals matter* and *spirituality*. While these values are in no way meant to limit the focus of activity to members of the university community alone – but intend rather to offer a mechanism to engage students and staff with broad social and environmental concerns and global ethical practices and sustainability – including towards the non-human world – they seek to make meaningful the idea that participation in the life of the University will advance not only personal fulfilment and flourishing, but as a consequence the world in which we live.

From values to contemplative pedagogy

To further embed these values inspiration was taken from holistic approaches to student wellbeing that consciously seek to integrate contemplative practices in both the curriculum and the classroom to foster emotional, social and academic resilience that have been implemented with success in many North American universities. To that end, in 2017, a Contemplative Pedagogy Working Group (CPWG) was established with academics who both practised and researched aspects of contemplative and meditative practices.

Contemplative practices (CP) are diverse and might include a range of practices drawn from various traditions. At Winchester, one key approach to CP focuses on mindfulness and meditation techniques drawn largely from the Buddhist tradition.

Jon Kabat-Zinn, one of the foremost pioneers in the Mindfulness movement, has claimed that 'the most systematic and comprehensive articulation of mindfulness and its related attributes stems from the Buddhist tradition' (Universities UK & MAPPG 2015, p. 10). However, that being said, reference to 'Buddhism' only appears twice in the important Mindful Nation report published by Mindfulness All-Party Parliamentary Group in 2015. Kabat-Zinn goes on to explain that mindfulness is not "a belief system…, a religion, or a philosophy. It is best described as 'a way of being'" (ibid). However, others, including Ron Purser and the Zen teacher David Loy have decried what they see as the commodification of mindfulness to make it a marketable technique which has led to "an unfortunate denaturing of this ancient practice, which was intended for far more than… helping executives become better focused and more productive" (Purser & Loy, 2013). In this light, clearly the use of mindfulness-based contemplative practice in a Higher Education setting needs to be clear that the aims of introducing any such practice is not to make individuals better students, but more rounded human beings. Thus any contemplative practices must address the individuals holistically, above and beyond academic life, and this includes the cultivation of mindful awareness and techniques for coping with stress, but also to allow for the flourishing of ethics, creativity, empathy and compassion.

Traditional Buddhist meditation is concerned with 'mindfulness' but also insight, awareness, compassion and the nature of self. In this light, one model that may be of use in the context of University contemplative practice is the so-called 'Two-Component model' promoted by the clinical psychologists Scott Bishop and Mark Lau (Bishop et al., 2006). In this model the first component involves the self-regulation of attention so that it is maintained on immediate experience, thereby allowing for increased recognition of mental events in the present moment. This is much akin to mindfulness practices as developed for secular contexts. However, it is with the second component that a more holistic approach can be seen. This component involves adopting a particular orientation toward one's experiences in the present moment, that is characterised by curiosity, openness, and acceptance. Both components correspond to traditional and complimentary *samatha* (calming) and *vipassana* (insight) meditations. In particular, the second component is an accurate description of Buddhist *formless* meditation practice as primarily used in the Chinese Chan, Japanese Zen and Tibetan Dzogchen/Mahamudra Buddhist meditation practices, as well as Contemporary Christian methods of meditation, including Centering Prayer. Many of these practices are underpinned by a sound ethical framework and provide a context for the development of more compassionate response to the world around us. In a university context, the two-component model may be useful in that it frames traditional tried and tested practices within a secular context and language, whilst allowing for a more holistic flourishing free of institutional and short-term goals.

Mental health: a degree of concern in education

Academics are increasingly aware of mental health issues each year with a substantial rise in the number of undergraduate students experiencing mental health difficulties over the last decade (Universities UK and MWBHE, 2015). Indeed, this increasing prevalence of mental health issues is present in children (Green, McGinnity, Metzler, Ford, & Goodman, 2005), and this appears to be growing, with depression among 15- and 16-year olds, for example, doubling between the 1980s and 2000s (Nuffield Foundation, 2013, as cited in MAPPG, 2015, p.30). The implementation of mindfulness-based interventions in schools originating from Jon Kabat-Zinn's Mindfulness Based Stress Reduction (MBSR) programme has had promising results in terms of improving mental health, resilience, and academic achievement (Felver, Celis-de Hoyos, Tezanos, & Singh, 2015; Weare, 2013), apparently through improving self-regulation – particularly impulse control (Mindful Nation UK). Recently, with mindfulness training becoming more popular in schools with, for instance, King's school Winchester running a programme developed by the Mindfulness in School Project (MISP), the next generation of students might develop an openness as well as a preference for CP which could find its natural fulfilment in Universities.

Embracing the ethical dimension of an educational institution based on values, together with the practical aspect of their implementation, the CPWG is confronted with the strategy allowing a contemplative culture and community to flourish within a university context. Such a strategy should include the nature of inclusivity, accessibility, communication (for example how best to encourage and inspire people to get involved) and how to maintain the integrity of a contemplative community in the face of an increasingly market-led university. To address those questions, the CPWG developed initiatives to facilitate the introduction of contemplative pedagogy (see discussion) and, in parallel, conducted a survey among students to: 1-probe their attitude toward the introduction of CP at the University and 2-to gather information on their use of technology in classes. Results of this survey that are informing the CPWG actions are presented in this article.

Method

The Mindful University Survey (MUS)

The MUS included 5 biographical questions, 32 five-point Likert-type scale, with each point on the scale represented by a word anchor (from strongly agree to strongly disagree), four closed and open-ended questions and one Yes-No question. Items were developed by the researchers based on their face value to address the two main topics of interest concerning the implementation of

contemplative practices at the University and the use of communication technology in teaching and learning context. The survey was developed using the online survey development platform Qualtrics.

Participants

A total of 314 UK students responded to the survey. They were aged between 19 to 30 years or above (19-21 years: N=217; 21-23: 50; 23-25:13; 25-30:10; 30 or above: 25), predominantly female (female:261; male:51 and other:3) and from the University of Winchester (80.7%). Their topic of study was in Natural Sciences (190), Humanities (40), Art (23), Business (12), Natural Science (12), Computer Sciences (1) and Other (36). Respondents from the University of Winchester, Department of Psychology were eligible to receive course credit for their participation.

Procedure

The researcher used a purposeful, opportunistic and snowball sampling method to select respondents based on the criterion of being enrolled in a UK based University and above the age of 18 years. The survey was published on various online and internal platforms: The University of Winchester' Online Research Platform (SONA); Facebook; LinkedIn; Twitter; Mindful Nation UK; The Student Room. None of the participants were acquaintances of the researchers. After providing their informed consent, respondents were invited to proceed through the online survey, ticking relevant boxes to give their answer, or typing in text box responses to open questions. Responses and relevant information were recorded online on Qualtrics. Of the 314 surveys completed, 13 were returned as incomplete and were subsequently removed from statistical analyses. The experiment was approved by the University of Winchester Ethic Committee.

Results

Exploratory Factor Analysis

The analysis retained questionnaires with no missing data for the 5-point scale items of interest, two of them (Q38 & Q39) had conditional answers and were excluded from this first analysis, leaving a pool of 30 items for a total of 301 respondents. Exploratory Factor Analysis (EFA) was performed to identify inter-item correlations leading to the extraction of psychological constructs. From a first EFA outcome four further items (Q12, Q19, Q20 & Q42) with low correlation or individual factor loading were removed from the FA and are considered in a separate analysis. The final EFA performed on 26 items used Principal Component Analysis to extract factors with a criterion of eigen value, $e > 1$. The correlation matrix determinant (d= 8.8E-6), the Kaiser-Meyer-Olkin measure of sampling (KMO=0.845), and the significance of the Bartlett test of sphericity (Chi-square (325) =3380, $p<0.001$), together provided the necessary checks for data analysis suitability. Six factors with an eigen value, $e > 1$ were extracted. This number was confirmed by the location of the inflexion point on the scree-plot. A Varimax rotation provided a clearer factor identification, with respectively 17.8, 11.6, 11, 8.6, 7.2 and 5,2% of the variance accounted for, with a cumulative variance of 61.6%.

Based on items semantic similarity, 6 psychological constructs corresponding to the six factors were identified. They respectively correspond to 'Information, implementation and engaging with CP' (construct C1), 'Multimedia use in class' (C2), 'Perception of CP effects on behaviour' (C3), 'Level of attention in classes and exams' (C4), 'CP knowledge and practice' (C5) and 'Distraction with technology in class' (C6). Item grouping within their construct together with the percentage for three response categories: 1- definitely agree and somewhat agree, 2- neither agree or disagree and 3- somewhat disagree and definitely disagree are presented in Table 1. Constructs C1, C3 and C5 reflect attitude toward CP, while C2, C4 and C6 concern attitude toward communication technology and attentional resources.

Construct C1 corresponds to questions on the suitability for the University to provide information on CP, to take initiatives toward implementing CP on campus and the student willingness to engage with CP. The average agreement on C1 is 60%, with 79% of students being favourable to CP introduction at the University on a voluntary basis and 69% expressing willingness that University allocates time and space to CP (see open questions section for complementary information on attitudes toward CP implementation in HE). Concerning construct C3, a large majority of students (81%) think that CP have positive effects on cognitive processes, emotion and stress, yet only a minority (17%) recognise having knowledge or learnt through media or engaging in CP (C5).

Considering constructs on attitude toward technology, 33% percent of students engage or are distracted by their device (C2), and 52% admit difficulties with attention in exam revision or during classes (C4) and 27% are distracted by other students engaging with their device while 63% think that when engaging they will distract their fellow students (C6) (see Table 1).

Table 1: Item reference, item, percentage of agreement (definitely agree and agree), undecided and disagreement (disagree and definitely disagree), construct identification and significance of Pearson Rho coefficient of correlations between Item and Tech Variety. (see text for explanation).

	Item	Agree	Undecided	Disagree	Construct	Correlations
Q43	Would you like to receive more information about benefits of Contemplative Practices in Higher Education?	57	15	28	C1 CP Information Implementation & engagement	Not Significant (NS)
Q44	Would you like to receive this information through University information channels?	56	17	27		NS
Q21	Will you be interested in being offered time for contemplative practice at your University?	59	23	20		Rho = .12 p = .04
Q35	Will you be favourable to the introduction of contemplative practice on a trial and totally voluntary basis in your University?	79	17	5		NS
Q34	If contemplative practice could consist of 5 minutes of focused attention to the coming and going of your breath, trying not to be distracted by your thoughts and trying to stay non-judgmental about the process. Will you be keen to engage in 5-minutes contemplative practice before a lecture?	58	20	23		NS
Q22	Will you be favourable for the University to allocate a space devoted to contemplative practice?	69	20	11		NS
Q40	Do you think there is a possibility to introduce contemplative practice on a totally voluntary basis in class?	57	20	24		NS
Q37*	If 5 minutes of contemplative practices were offered on a totally voluntary basis, and if you were not engaging in the practice itself, would you think it to be a waste of time?	29	24	48		Rho = -.16, p = .005
Q30	How compulsive is your need to check your device in class?	23	27	51	C2 Multi-media use in classes	Rho = -.51, p < .001
Q31*	How easy do you feel you could refrain from checking your device during a lecture?	63	13	21		Rho = .41, p < .001
Q27	How often do you do media-multitasking during lecture time?	32	21	46		Rho=-0.53, p<0.001
Q28	How much do you find yourself distracted by technology, i.e. using your phone/laptop/iPad?	58	23	20		Rho=-0.49 p<0.001

	Item	Agree	Undecided	Disagree	Construct	Correlations
Q17	Do you agree that contemplative practice may contribute to foster positive mood?	85	12	3	C3 Perception of CP effect on behaviour	NS
Q15	Do you agree that contemplative practice may have a positive influence on the regulation of your emotions?	88	9	3		NS
Q16	Do you agree that contemplative practice may contribute to stress reduction?	87	11	2		NS
Q14	Do you agree that contemplative practice may have a positive influence on cognitive processes such as attention, motivation or on academic achievement?	84	13	3		NS
Q13	When completely absorbed in the present moment, how positive is this state of mind for you?	61	23	16		Rho = .18, p = .001
Q24	Do you find it difficult to stay focused on your exam revisions?	77	9	14	C4 Level of Attention in classes	Rho = -.21, p < .001
Q25*	When going back over the lecture material, can you easily remember it?	38	36	26		NS
Q26	How distracted are you during your exam?	28	9	63		Rho = -.23, p < .001
Q23	Do you find it difficult to stay focused on a 50-minute lecture?	63	13	24		Rho = -.29, p < .001
Q9	Are you knowledgeable about contemplative practice?	7	25	68	C5 CP Knowledge & Practice	Rho = .13, p = .03
Q10	Have you already engaged in some sort of contemplative practice?	36	19	45		NS
Q18	How much have you learnt about contemplative practice through media?	9	27	64		NS
Q29	How much do you find yourself distracted by other student fellows using their phone/laptop/iPad?	27	27	46	C6 Distraction with technology in classes.	Rho = -.16, p = .006
Q32	Do you think checking your device during a lecture could distract your classmates?	63	17	21		Rho = .16, p = .005
Supplementary items						
Q38	How much do you think you would be self-conscious of your neighbouring environment while engaged in contemplative practice if it were introduced on a voluntary basis in your class?	44	34	22		Rho = -.20, p < .001

	Item	Agree	Undecided	Disagree	Construct	Correlations
Q39	And how much would this affect your own engagement with the practice?	37	35	28		Rho = -.23, $p < .001$
Q12	In everyday life how often you found yourself absorbed in the present moment?	46	39	14		NS
Q19	Matthieu Ricard, a French writer and Buddhist Monk, said: 'Our mind is our best friend but also our worst enemy' Do you agree with this statement?	95	3	2		Rho = -.19, $p < .001$
Q20	Is there support for Contemplative Practices in your University	36	56	8		NS
Q42	Do you find the idea to introduce CP on a voluntary basis in the University class original?	61	20	19		NS

*correspond to items with negative factor loading and whose rating should be reversed to be included in the construct.

Multivariate Analysis of Variance (MANOVA)

To further explore possible determinant in the respondent responses, the mean rating scores for each of the 6 constructs were subjected to MANOVA with 'Age' (reduced to two categories: below (251) and above (47) 23 years old) and 'Gender' (Male (48), Female (250)) as main factors. In addition, response to question Q11 'Do you or have you practiced Yoga, Tai Chi or Qi Gong?' Yes (132) and No (166) was used as a third factor 'Mind and Body' practices (M&B). Using Pillai's trace, factors M&B (value=0.062, $F_{(6,285)}=3.14$, $p=0.005$, PES=0.062) and Age (v=0.057, $F_{(6,285)}=2.85$, $p=0.01$, PES=0.057) are significant. No other factor or interaction is significant.

Univariate tests performed on individual constructs further reveal that factor M&B is significant for constructs related to CP (C1, C3 and C5) and Age is significant for constructs C2 and C4 related to distraction and attention (see Figure 1).

With an overall average rating of $M_{C1}=2.44$ ($sd_{C1}=0.79$) respondents are in favour of receiving information, of implementing and engaging with CP within the University. Likewise, there is an overall clear positive perception of CP effects on behaviours ($M_{C3}=1.96$, $sd_{C3}=0.57$) and respondents who indicate practicing M&B agree significantly more than non-practitioners. A mean score of $M_{C5}=3.35$ ($sd_{C5}=0.82$), is indicative of a slight disagreement on being knowledgeable about CP, but M&B practitioners disagree significant less than non-practitioners (Figure 1A).

The overall mean rating of $M_{C2}=3.2$ ($sd_{C2}=0.96$) indicates a slight disagreement with statements suggesting distraction and compulsiveness with mobile device use, and respondents above 23 years old show a significantly higher disagreement compared to the younger respondents. There is an overall agreement on the difficulty to focus attention in class and exam revision ($M_{C4}=2.75$, $sd_{C4}=0.87$), but this agreement is significantly higher among younger respondents compared to the older who are undecided. There is an overall slight agreement on items related to distraction from technology in class ($M_{C6}=2.86$, $sd_{C6}=0.88$), but no group difference is observed.

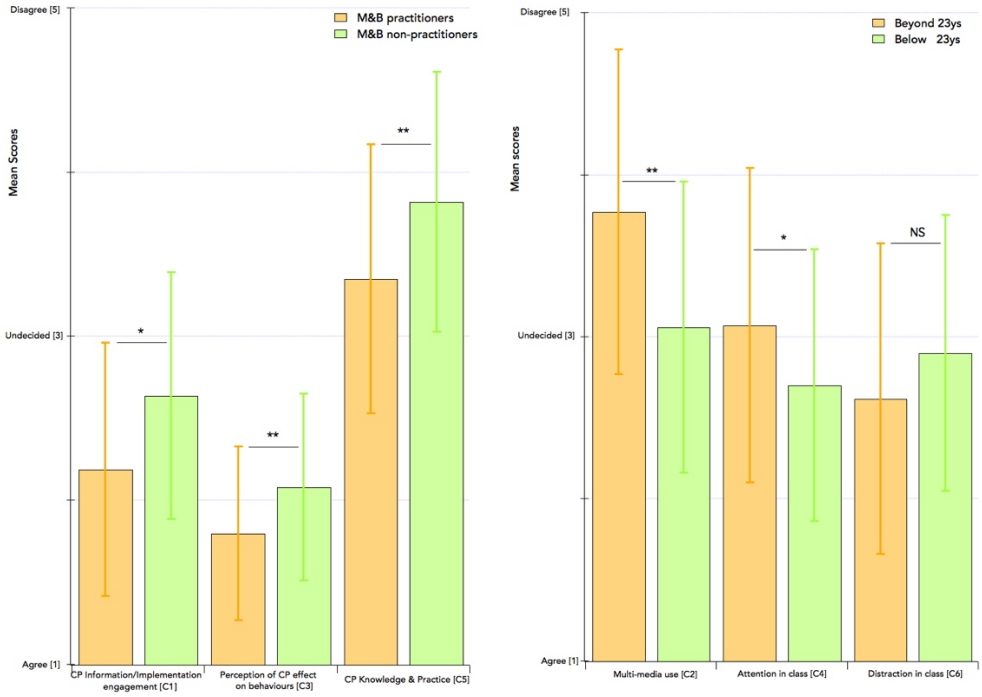

Figure 1: A (left) Mean sores on constructs related to CP [C1, C3 & C5] are compared between M&B practitioners (orange) and non-practitioners (green). B(right) Mean scores on constructs related to mobile technology use [C2, C4 & C6] are compared between respondents beyond (orange) and below (green) age 23 years. Significant differences are indicated with * (p<0.05) and ** (p< 0.01) (see text for explanation).

Concerning supplementary items (Table 1), if CP were introduced in class, 44% of students agree that they will be self-conscious about their environment and for 37% of them, this awareness will affect their practice. Sixty-one percent find the idea of introducing CP at the University original, and 36% percent think that there is support for CP at their University. Forty-six percent find themselves absorbed in the present moment in their everyday life, and 95% agree with Matthieu Ricard's statement that "Our mind is our best friend but also our worst enemy".

Open question analysis

Four items included open responses and were subjected to content analysis. Three items (Q36, Q41 and Q48) provided responses on attitude toward the introduction of CP in HE and one (Q33) questioned the type of activities students engaged in when using mobile devices during lectures.

- Q36: "If you were keen on the introduction of CP on a voluntary basis which time do you think will be the best?" 217 (76%) indicated before the lecture and 47 (16%) after the lecture whereas 21 (8%) expressed alternative suggestions around three indicator themes: 'during scheduled lecture time', 'outside scheduled lecture-time but within the University' and 'outside the University'.
- Q41:"If you don't see the introduction of contemplative practice at the University as a possibility, what is the reason?" 54 (17%) thought there was not enough time in 1-hour lecture slot, 60 (19%) would like to engage but would feel self-conscious, 50 (16%) would be worried about judgment from others, 71 (23%) think that class is too large for this type of practice, 31 (10%) that CP is inappropriate to the context of a lecture setting, 18 (6%) do not see the benefit of CP and 17(6%) gave other reasons. These other reasons related to the practicalities of the implementation (organisational and environment) and concerns regarding participation and privacy of the practice.
- Q48 asked for general comments about the survey (N=33), and further highlights attitudes toward the introduction of CP in HE: 9 expressed a limited support toward the introduction of CP in HE for the same reasons expressed in Q41 (Class or University structure is not adapted to CP and its benefit is questionable).
- Q33 asked the type of activity students engage in when using technology during lectures. Two hundred and three students report using social media, 214-texting, 51-shopping, 135-emails, 63-online search not related to lecture, 149-online search related to lecture-and 28 do not use technology.

Correlations between the variety of technological activities and scores to constructs and supplementary items

To further explore the possible relationship between mobile technology use in class with other attitudes, a measure of the variety of technological activities ('Tech Variety') corresponding to the sum of responses to item Q33 (from 1 to 7) was calculated for each respondent and correlated with constructs and supplementary items scores (see Table 1 for correlations).

As expected, Spearman's rank correlations were significant for all items in C2 "Multi-media use in classes" (*p-values* <0.001) indicating that students who often indulge in multi-media use, also engage in a greater variety of uses. Correlations were also significant in C4 (Q25 excepted) "Level of attention in classes and exams" (p <0.001), indicating greater variety of use is associated with difficulties in focusing on studies. Correlations were also significant in C6 items "Distraction from others with technology" where a greater variety of technologies was associated with a reported increase of disturbance from other students using technology (Q29) and with a paradoxically lower expectation that using oneself technology will disturb other students (Q32).

Correlations were also significant with items related to CP. Two items in C1 show that a greater variety of technology is associated with a lower interest to be offered CP at the University (Q21) and with a higher appreciation that CP will be a waste of time for those who do not engage (Q37). It also correlates with a less positive appreciation to be absorbed in present moment in C3 (Q13) and with a lower knowledge about CP in C5 (Q9). Correlations with supplementary items Q38 and Q39 show that high variety of technology use is associated with high levels of self-awareness in CP (if implemented) and with anticipating this awareness to impact with the practice engagement. Finally, more variated the technology use, greater is the agreement with Matthieu Ricard's quote (Q19).

Discussion

The survey allowed us to probe attitudes on the two CPWG topics of interest about the introduction of CP in the University and the use of mobile technology in classes. For each topic, three psychological constructs were identified.

Concerning the introduction of CP in the University, a large majority (79%) will be favourable to their introduction on a voluntary basis and to be provided with space (69%) and time (59%) for the practice. Only a minority declared having knowledge about CP (17%) and 56% were open to learn about CP from the University. The majority of students (81%) perceive PC as having a benefit on cognition and emotions. Forty-four percent of respondents declared to engage in some form of Body & Mind practice (Yoga, Tai Chi, etc..) and those who do so show a systematically more favourable attitude, engagement and knowledge about CP. Qualitative data provided useful complementary information on practical aspect of CP implementation. In particular, although lecture time would be possibility, it was noted that self-awareness and the lack engagement from students but also from lecturers might be a limit to the implementation of the practice in classes.

The largely positive attitude expressed by students toward the introduction of CP in the University is welcome and echoes the recent expansion of the CPWG with University staff as new members willing to explore CP to be included in their teaching, or to be introduced into routine team and business meetings. The students-staff synergy was mentioned in the survey results and is perceived by both students and CPWG members as one of the conditions of the success of CP implementation at the University.

Since September 2017, few months after the survey took place, contemplative practices have been introduced on a totally voluntary basis through a meditation group which is held weekly during term times. As mentioned, meditation practices supported by the CPWG have been drawn largely from the Zen tradition which unlike modern applications of 'Mindfulness', has traditionally presented a broader set of practices that includes mindfulness meditation, ethics, traditional contemplative arts and, importantly, an emphasis on contemplative community. Moreover, despite being rooted in Buddhist tradition, Zen, as it has come down in the west, is often free of sectarian, religious and cultural ideologies which might otherwise inhibit its application. Consequently, Zen practices are particularly relevant for use in a multi-faith context, where it may offer those of other faiths (or none) a way to incorporate CP into their lives without compromising their beliefs and faith. Since the 1950s many practising, and ordained, Christians have used Zen meditation as a particularly direct method of contemplation, some becoming certified Zen teachers (*Roshis*) in their own right. In the meditation group at The University of Winchester participants can explore a range of practices including *Shikantaza* ('Just Sitting'), *Anapanasati* (mindfulness of breathing), meditation on sound and walking meditation. Additionally, to provide a broader set of contemplative techniques, these meditations are often complimented by the 'Heart' Practice of *Metta Bhavana*, a meditation on loving kindness which can offer a particular and more direct focus on the development of loving kindness, empathy and compassion.

Spaces have also been specifically allocated to develop contemplative pedagogy and these include the University's Cosmic Garden designed to tell the scientific story of creation as a tool for pedagogical and personal practices and offers a practical tool for learning about and embodying CP in everyday life. Likewise, the planned Green Spaces Mobile Application will encourage students and staff to make use of the various campus green spaces. A QR code at specific locations will enable people to access three short suggestions for contemplation (Buddhist, Christian and Humanist) together with an optional virtual demonstration of a yoga position and themed meditative music. It is intended that these practical approaches will help create a more spiritually therapeutic or 'salutogenic' campus environment and thereby support new approaches to classroom teaching, such as the newly introduced undergraduate Values Studies course. This consciously seeks to promote the slow and careful reading of fewer key classroom texts than found in many courses; active listening, deep conversation, and measured reflection; and the embodiment of chosen themes within the broader need to ensure the education we offer and the pedagogical methodologies and environments we use can foster a culture of effective and robust compassion and caring and so make a real practical difference to the world in which we live.

Results from the survey provided encouraging evidences of students' attitudes regarding the CPWG initiatives. Next, communication tool will be developed to inform on CP and contemplative pedagogy and training opportunities, including a presence on the university's intranet, are currently explored to develop perspectives on the creation of CP approaches for use across the academic, professional and wellbeing agendas. It is hoped that the outcome of these initiatives will, over time, enable students to experience and cultivate a more grounded, robust and considered approach to understanding issues, texts and problems; and develop a measured and less hasty response mechanism and a greater familiarity and willingness to value team building, negotiation and consensus making skills. Whether or not these outcomes can be formally captured (as they could be) the resultant impact on transferable skills and employability is manifest.

The second topic of enquiry concerned the use of technology in class and the quality of attention experienced by students in their study. There is no doubt, that the use of smartphone/tablet technology in teaching – 'mobile learning' – can be beneficial in education (Al Emran, Elsherif, & Shaalan, 2015), and a 2012 survey revealed that 67% of students use mobile devices for their academic work, and believe them to be important for their academic success (Educause Centre for Applied Research [ECAR] survey, 2012). As such, in the context of education, mobile technology is primarily thought as enabling teaching and learning (Rollag & Billsberry, 2012) and is an integral part of activities supported by the CPWG. However, as reported by lecturers, the use of mobile technology for non-academic purposes during lectures may appear to be problematic and it is this aspect that we intended to clarify by probing students views and attitudes on their use of technology in classes.

Results indicated that of the 314 respondents, only 28 students reported not using technology during lecture confirming that use of technology during class is the dominant attitude. Use of technology in classes is perceived as compulsive by 23% and distracting by 58%. A majority of students report difficulty to stay focused during exam revisions (77%) and during 50-minutes class (63%). These two attitudes are significantly more prominent among 19-23 years old compared to older students. On-line search related to lecture concerns 17% of the activities, the rest consist in texting (24%), social media (23%), emails (15%), shopping and gaming (10%) and online search not related to the lecture (7%). Correlations between the variety of online activities and the different constructs highlighted relationship between greater variety of activities and greater use of multimedia in class (C2), increased difficulty in focusing attention (C4) and greater distraction from technology (C6). There is interesting paradoxical result with distraction from technology depending whether it comes from others using their device or is inflicted to others while using one own device. While more than twice of students (63% vs 27%) anticipate inflicting more distraction to other than they are themselves distracted by other using their device, which expresses a pro-social attitude, the trend is reversed for individuals enjoying a large variety of online activities. Finally, there was also a correlation between the variety of online multitasking and the worry of feeling self-conscious during CP.

This later relationship makes sense in light of research suggesting that individuals who are uncomfortable with others use smartphones to avoid rejection (Kim & Koh, 2018); compulsive checking of one's mobile phone has been suggested to be a safety behaviour in anxious individuals (King et al., 2013), and in one focus group, a self-professed "smartphone addict" described their smartphone as "my adult pacifier" (Kuss, Harkin, Kanjo, & Billieux, 2018, p. 9). Sub-populations of students who may be more prone to this kind of multitasking include those with Attention Deficit Hyperactivity Disorder (ADHD), who often find multitasking to be a useful way of satisfying their need for stimulation (Lasky et al., 2016). While experimental studies have shown beneficial cognitive effects of multitasking in ADHD populations (Delisle & Braun, 2011), this population might be especially at risk for the negative emotional effects of smartphone multitasking, as shown by a recent study that demonstrated higher problematic smartphone use in students with ADHD, which was associated with increased loneliness (Kim, 2018).

Going forward, it is relevant to consider our students' mobile technology use, as excessive-problematic smartphone (PSU) is associated both with poor academic achievement (Chaudhury & Triparthy, 2018), and with depression and anxiety severity, stress, low self-esteem (Lachmann et al., 2018; Elhai, Dvorak, Levine, & Hall, 2017), rumination, and emotional dysregulation (Elhai, Levine, Dvorak, & Hall, 2016; Elhai, Tiamiyu, Weeks, Levine, Picard, & Hall, 2018). Most pertinently to our current enquiry, is that PSU and internet addiction have been associated with reduced empathy (Jiao, Wang, Peng, & Cui, 2017; Melchers, Li, Chen, Zhang, & Montag, C., 2015; Uhls et al., 2014) and reduced prosocial personality (Saffarina, Abbaspour, & Dehestani, 2015). Recent findings that found that distress tolerance and mindfulness mediate the relationship between PSU and depression and anxiety sensitivity (Elhai, Levine, O'Brien, & Armour, 2018), suggest that a mindfulness-based intervention may be particularly useful to these multitasking students. Furthermore, the promising findings of mindfulness interventions in ADHD population suggest that it would be beneficial if the sessions are carefully adapted to their particular needs (Mitchell, Zylowska, & Kollins, 2015).

Because of the ubiquitous nature of mobile technology in our everyday activities, it is essential to be aware of its potential impacts on cognitive, emotional and social behaviours whose consequences might be as diverse as individual differences are. Technology immersion is a very recent phenomenon in modern human societies and call for self-awareness in human-machine interaction to develop harmonious use for people to weave prosocial user-network for healthy and peaceful communities. From that respect, contemplative practices may come as a timely practice to develop a mindful assimilation of technology induced changes and a compassionate prosocial accommodation to the ever-evolving complexity of our life environment. We believe that CP as an emerging and radical approach to education will not only improve the development of critical skills and thinking that will enhance employability, but will meaningfully engage students in the conscious shaping of their own identities, aspirations, values, purposefulness and humanity in the world at large at the time of anthropocene.

Biographies

Terry Biddington is the Dean of Spiritual life at the University of Winchester. His areas of research include practical theology, applied hermeneutics, multifaith spaces and plays an instrumental role in engaging the community in creative ways around the University's values of compassion, individual matters and spirituality.

Valérie Bonnardel is Reader in Experimental Psychology at the University of Winchester. She did her PhD in Visual Neuroscience under the supervision of Francisco Varela whose philosophical and scientific approach to the study of mind was most influential in her research and teaching. She recently developed a third year Psychology module on 'Embodied Cognition and Contemplative Practice Studies'.

Rhiannon Jones is a Senior Lecturer in Biological Psychology at the University of Winchester, specialising in cognitive neuroscience. Her research explores the neural correlates of stress and anxiety, and she has a strong interest in the neuroscientific mechanisms of contemplative practice as a therapeutic intervention.

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Simon Roffey is Reader in Archaeology. He has received lay-ordination in the Soto Zen lineage and is Buddhist Chaplain for the University of Winchester. His area of research includes exploring links between contemporary Zen practice in the West and the Christian mystical tradition and creating contexts for a contemplative practice in Higher Education.

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