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Introducing The Index of Balanced Affect Change (TIBACH):

A study among Church of England clergy and laity

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### **Ethical Approval**

Ethical approval was granted by the Research Ethics Committee for the School of Humanities, Religion and Philosophy at York St John University (approval code: HRP-RS-AV-04-20-01). All participants had to affirm they were 18 or over and give their informed consent by ticking a box that gave access to the rest of the survey.

### **Abstract**

Drawing on the classic model of balanced affect as developed and operationalised in the Francis Burnout Inventory, the present study describes the development of, and tests the construct validity of, The Index of Balanced Affect Change (TIBACH) among a sample of 4,449 Church of England clergy (29%) and laity (71%). The two five-item measures showed acceptable internal consistency reliability, with Cronbach's alphas of .70 for positive affect and .83 for negative affect. Construct validity was tested against an independent measure of coping during lockdown. Coping was positively correlated with positive affect and negatively correlated with negative affect. Crucially, for the balanced affect model, there was a significant interaction effect of positive and negative affect on coping, showing that the ameliorating effect of positive affect on coping increased with increasing levels of negative affect.

*Keywords:* balanced affect, coping, clergy, churchgoers, Covid-19

## Introduction

The *Coronavirus, Church & You* survey was launched during the initial Covid-19 lockdown in England during May 2020. A key concern of the survey was to assess the perceived impact of the pandemic, the lockdown of the nation and the lockup of churches on the wellbeing of Anglican clergy and laity. For the purposes of this survey wellbeing was conceptualised in terms of the classic balanced affect model advanced by Bradburn (1969). What was needed for this survey was a measure of the perceived *change* in positive affect and in negative affect. The present paper describes the development of, and tests the construct validity of, the new instrument, which we have chosen to name The Index of Balanced Affect Change (TIBACH). The context is set in three stages: introducing the balanced affect model of wellbeing, examining a research tradition that has applied the balanced affect model to clergy wellbeing, and discussing the *Coronavirus, Church & You* survey.

### The balanced affect model

The balanced affect model of psychological wellbeing has its roots in the classic investigations of Bradburn (1969). The research question underpinning Bradburn's investigations was framed in the following way:

The fundamental question that underlies the study concerns the most fruitful way to understand the psychological reactions of normal individuals to the stress and strains of everyday life. (Bradburn, 1969, p. 1)

Bradburn's answer to this question was to differentiate between the assessment of positive affect and the assessment of negative affect. Bradburn's notion of good psychological wellbeing resided in the degree to which individuals have an excess of positive affect over negative affect. Poor psychological wellbeing results from an excess of negative affect over positive affect. Moreover, Bradburn suggested that these two dimensions of positive affect and negative affect operate independently of each other and are related to different factors. In

his original research, Bradburn reported that positive affect was associated with higher amounts of education, greater social contact, and more exposure to new experiences, while negative affect was uncorrelated with these variables. Negative affect was associated with measures of anxiety, feelings of having a nervous breakdown, and physical symptoms of ill-health, while positive affect was uncorrelated with these factors. As a consequence, positive affect and negative affect are not conceptualised as opposite poles of a single psychological continuum, but as separate psychological systems.

Within the broader field of the psychology of individual differences, Bradburn was no means alone in identifying the independence of the two psychological systems of positive affect and negative affect. For example, the PANAS ~~s~~Scales, developed by Watson, Clark, and Tellegen (1988) have gained good recognition in the field, with the two ~~ten~~10-item scales of positive affect (PA) and negative affect (NA) recording levels of internal consistency reliability ranging between .84 and .90. Repeated studies have generally confirmed the factor structure of these two measures, including most recently data reported by Díaz-García, González-Robles, Mor, Mira, Quero, García-Palacios, Baños, and Botella (2020).

What, however, distinguished Bradburn's (1969) position was his notion of deriving a single score of wellbeing by subtracting the score of negative affect from the score of positive affect. It was this notion that created Bradburn's distinctive view of balanced affect. From the inception of this idea, the practice of deriving a single score of balanced affect by subtracting the score of negative affect from the score of positive affect has been criticised by a number of commentators on both empirical and theoretical grounds (Cherline ~~and~~& Reeder, 1975; Diener, Sandvic, & Pavot, 2009; Kim & Mueller, 2001; McDowell and Praught, 1982; Ryff 1989; Stull, 1987; Ryff 1989; Kim and Mueller, 2001; Diener, Sandvic, and Pavot, 2009), but nonetheless remains an important aspect of Bradburn's (1969) initial findings.

The problem with Bradburn's position was that he failed to provide a convincing and testable theory regarding the way in which the two systems of positive affect and negative affect interacted to underpin the notion of balanced affect. More recent work that has applied the notion of balanced affect to the field of clergy work-related psychological wellbeing and professional burnout has been more successful both in specifying theory and in testing the construct validity of that theory.

### **Balanced affect model of clergy wellbeing**

The balanced affect model of psychological wellbeing was introduced to the field of clergy studies in a paper entitled "Happy but exhausted? Work-related psychological health among clergy" by Francis, Kaldor, Robbins, and Castle (2005). As an alternative to the established Maslach Burnout Inventory (Maslach & Jackson, 1986) that conceptualised poor work-related psychological health as an incremental function of high emotional exhaustion, high depersonalisation, and low personal accomplishment, Francis, Kaldor, Robbins, and Castle (2005) conceptualised poor work-related psychological health in terms of high levels of negative affect alongside low levels of positive affect. In proposing the Francis Burnout Inventory, they assessed negative affect with the 11-item Scale of Emotional Exhaustion in Ministry and positive affect with the 11-item Satisfaction in Ministry Scale.

The Scale of Emotional Exhaustion in Ministry included items such as "I feel drained by fulfilling my ministry role"; "I find myself frustrated in my attempts to complete tasks important to me"; "I am less patient with those among whom I minister than I used to be"; and "fatigue and irritation are part of my daily experience". The Satisfaction in Ministry Scale included items such as "I gain a lot of personal satisfaction from working with people in my current ministry"; "the ministry here gives real purpose and meaning to my life"; "I have accomplished many worthwhile things in my current ministry"; and "I feel that my pastoral ministry has a positive influence on people's lives". In their initial study among

6,680 clergy from Australia, England, and New Zealand, Francis, Kaldor, Robbins, and Castle (2005) reported good internal consistency reliability for the Scale of Emotional Exhaustion in Ministry ( $\alpha = .84$ ) and for the Satisfaction in Ministry Scale ( $\alpha = .84$ ), and a negative correlation between the two measures ( $r = -.59, p < .001$ ).

In order to test the construct validity of the balanced affect model of work-related psychological wellbeing among clergy as operationalised by the Francis Burnout Inventory, a series of studies has been designed to examine the incremental impact on independent measures of wellbeing of the interaction term created by the product of the two measures of negative affect (Scale of Emotional Exhaustion in Ministry) and positive affect (Satisfaction in Ministry Scale) after taking into account the impact of these two measures considered separately. In these studies, the dependent variable is conceived as a proxy measure of overall wellbeing which the theory suggests would be associated negatively with exhaustion in ministry and positively with satisfaction in ministry. The test of balanced affect is whether there is an interaction between the two sorts of affect, such that the mitigating effects of satisfaction in ministry on independent measures of wellbeing increases with increasing levels of emotional exhaustion in ministry. This is because positive affect is unlikely to influence wellbeing by offsetting negative affect among people who have low negative affect anyway. For those with high negative affect, however, positive affect could have a more noticeable offsetting effect, which should be in proportion to the level of positive affect. In the first study in this series, Francis, Village, Robbins, and Wulff (2011) drew on data provided by 744 clergy serving in the Presbyterian Church (USA). In this study two independent measures of wellbeing were provided by indices of self-perceived physical health and self-perceived burnout. In the second study, Francis, Laycock, and Brewster (2017) drew on data presented by 658 clergy serving in the Church of England, and employed three independent measures of wellbeing: thoughts of leaving ministry since ordination, count

of psychosomatic ailments, and count of psychological distress. In the third study, Francis, Laycock, and Crea (2017) drew on data provided by 155 priests serving in the Roman Catholic Church in Italy and employed the Purpose in Life Scale developed by Robbins and Francis (2000) as an independent measure of wellbeing. In the fourth study, Francis, Crea, and Laycock (2017) drew on data provided by 95 priests and 61 religious sisters serving in the Roman Catholic Church in Italy, and again employed the Purpose in Life Scale developed by Robbins and Francis (2000) as an independent measure of wellbeing. In the fifth study, Village, Payne, and Francis (2018) drew on data provided by 358 Anglican clergy serving in the Church in Wales and employed an index of thoughts of leaving ministry since ordination as an independent measure of wellbeing. In the sixth study, Francis, Laycock, and Ratter (2019) drew on data provided by 99 Anglican clergy serving in a rural diocese in the Church of England and employed the Warwick-Edinburgh Mental Well-being Scale (Tennant, Hiller, Fishwick, Platt, Joseph, Weich, Parkinson, Secker, & Stewart-Brown, 2007) as an independent measure of wellbeing. Consistent with the theory of balanced affect, the analyses in all these studies demonstrated that the mitigating effects of positive affect on independent measures of wellbeing increased with increasing levels of negative affect.

In a separate initiative, independent of the Francis, Burnout Inventory, Francis, Village, Bruce, and Woolever (2015) drew on data provided by 622 clergy who completed the Leader Survey within the US Congregational Life Survey to create a six-item measure of positive affect (Satisfaction in Ministerial Life Index) and a six-item measure of negative affect (Emotional Exhaustion in Ministerial Life Index), together with an independent indicator of overall wellbeing (the Likelihood of Leaving Ministry Index). Crucially, for supporting the construct validity of the notion of balanced affect, these data demonstrated a significant effect of the interaction term between the measure of positive affect and the measure of negative affect on the independent measure of wellbeing, showing that the

mitigating effects of positive affect on wellbeing increased with increasing levels of negative affect.

### ***The Coronavirus, Church & You survey***

The effect of the pandemic on civil life in England was sudden and extreme when on 23 March 2020 the Government imposed a lockdown on the nation. The effect on religious life in England was also sudden and extreme when on 24 March 2020 the archbishops and bishops of the Church of England imposed a lockup on all its churches. Churches were closed completely, even for private prayer and even for the clergy (McGowan, 2020). Clergy who were accustomed to seeing the parish church as their natural habitat and as the centre for liturgical and pastoral ministry needed to discover new ways through which to deliver ministry, liturgy, and pastoral care. Church members who were accustomed to expressing and resourcing their faith within the context of public engagement within a familiar local place and sacred space were suddenly cut off from those resources. More widely across the UK, there was a growing concern about the effects of the lockdown on the wellbeing of the general population (Marshall, Bibby, & Abbs, 2020; Mental Health Foundation, 2020).

The *Coronavirus, Church & You* survey was conceived shortly after the civil lockdown and the religious lockup had been imposed. It was both a matter of scientific interest and pastoral concern to observe how clergy and lay people were responding to the new environment in which they found themselves and how they were experiencing the effects of this changed context on their psychological wellbeing. Recalling Bradburn's (1969) original research question concerned with understanding “the psychological reactions of normal individuals to the stresses and strains of everyday life” (Bradburn, 1969, p. 1) we recognised the need for a research instrument capable of reflecting the balanced affect approach in a situation in which we wished to assess the impact of the pandemic simultaneously on levels of positive affect and negative affect. The aim of the present study is

to describe the development and to test the construct validity of this new instrument, which we have chosen to name The Index of Balanced Affect Change (TIBACH).

## Method

### Procedure

In April 2020 the *Coronavirus, Church & You* online survey was developed and launched on the Qualtrics® platform. A link to the survey was distributed through the online and paper versions of the *Church Times*, the main newspaper of the Church of England, from the beginning of May. The link was also distributed to Church of England dioceses and other denominations, including Baptists and Methodists. The survey closed on 23 July 2020, by which time there over 7,000 replies, 5,347 of which were from respondents affiliated with the Church of England. Of these, 4,449 had sufficiently complete responses to be used in this analysis.

### Sample profile

Of the 4,449 in the sample, 29% were clergy and 71% were lay people; 40% were men and 60% were women; 9% were aged less than 40, 13% were in their 40s, 21% in their 50s, and 57% were 60 or over.

### Instruments

*Wellbeing* measures were taken from a pool of 20 items that included ten that measured various aspects of positive affect and negative affect. The question was introduced by the following rubric: “How would you rate the effect of the lockdown on you so far? (Please click one button EACH row to indicate a positive (+) or negative (-) effect. The middle button (0) indicates no effect of the lockdown)”. Items were presented on a three-point bipolar scale with radio buttons between them to indicate if that aspect of wellbeing had declined, increased or remained unchanged during the lockdown. Exploratory factor analysis

(Principal components extraction and varimax rotation) indicated two factors that represented positive affect (Excitement, Thankfulness, Hopefulness, and Trust) and negative affect (Exhaustion, Anxiety, Stress, Fatigue, and Frustration). One item, Happiness, loaded on both factors (.44 on positive affect and -.61 on negative affect) and was included with the positive items to give two scales of five items each. Positive affect items were coded such that a high score indicated an increase in positive aspects of wellbeing during the lockdown; negative affect items were coded such that a high score indicated an increase in negative aspects of wellbeing during the lockdown.

*Coping during lockdown* was used as a proxy measure of overall wellbeing, measured by a single five-point bipolar scale anchored at one end with “Coped very poorly” (= 1) and the other “Coped very well” (= 5). A list of items was introduced by this question: “Overall, how do you rate responses to the coronavirus crisis?”, and the coping item was introduced by “How have you personally responded?”.

### **Analysis**

Bivariate correlation was used to test if coping levels were positively correlated with positive affect and negatively correlated with negative affect. The balanced affect model predicts a significant interaction effect of the two measures of affect on coping, such that the negative correlation of coping with negative affect is less evident in subjects with higher levels of positive affect. Standardized Z scores of affect were included in a regression model that had two main effects and one interaction. The interaction was illustrated graphically.

### **Results**

When it came to individual affect items (Table 1), participants were more likely to report unchanged affect for those on the positive scale (mean recording unchanged: 55.8%, range 38-68%) than for those on the negative scale (mean: 43.0%, range 38-46%). Both scales showed acceptable internal consistency reliability, with Cronbach’s alphas of .70 for

positive affect and .83 for negative affect. Most people reported that they had coped well with the lockdown, with 36% scoring 5five (coping very well), 40% scoring 4four, 18% scoring 3three, 5% scoring 2two and only 1% scoring 1one (coping very poorly).

- insert table 1 about here -

Bivariate correlations were in the expected directions: coping was positively correlated with positive affect ( $r = .46, p < .001$ ) and negatively with negative affect ( $r = -.49, p < .001$ ), and the two measures of affect were negatively correlated ( $r = -.53, p < .001$ ). Crucially for the balanced affect model, there was a significant interaction effect of positive and negative affect on coping with the Covid-19 lockdown (table 2). The negative slope of coping against negative affect was steeper among those with below-average levels of positive affect and shallower among those with above-average levels of positive affect (Figure 1). This meant that while there was little difference in average coping levels among those with low negative affect whatever their level of positive affect, for those with high negative affect, coping was higher among those with higher positive affect.

- insert table 2 about here -

- insert Figure 1 about here -

## Discussion and Conclusions

This study set out to describe the development and to test the construct validity of The Index of Balanced Affect Change (TIBACH) among a sample of 4,449 Church of England clergy and laity during the initial lockdown of the nation and lock-up of churches in response to Covid-19 during May, June, and into July 2020. Three major conclusions emerge from these data.

First, exploratory factor analysis (principal component extraction and varimax rotation) identified two sets of items that distinguished between change in positive affect and

negative affect. The resulting two five-item scales generate acceptable internal consistency reliability, with Cronbach alphas of .70 for positive affect and .83 for negative affect. The fact that one item, happiness, loaded on both scales suggests that further work might be needed to refine the TIBACH ~~scale~~ in the future, possibly by using items that more sharply signal positive versus negative affect. Unlike other scales operationalising affect levels, this scale was specifically designed to ask about *change* in affect, in this case change since the Covid-19 lockdowns began in the UK. This needs to be borne in mind because the values recorded will obviously depend on the original levels of affect and the length of time over which change is assessed. In the case of a crisis or sudden change in social context it is rarely possible to measure the same people before and after the event, so an index of perceived change is the best option. It may also be the most useful one because subjective perceptions of change could be crucial in affecting how someone copes in general.

Second, the item endorsement demonstrates that at least one in three participants noted as a consequence of the pandemic increases in each of the five indicators of negative affect: exhaustion (34%), stress (34%), anxiety (37%), frustration (43%), and fatigue (44%). Across the five indicators of negative affect the percentage increase averaged at 38%. The average increase across the five indicators of positive affect was lower at 26% and the variability of increase among the indicators was much greater, with increases in excitement (9%), happiness (16%), trust (20%), hopefulness (27%), and thankfulness (58%). The latter three measures are particularly prized within the Christian tradition, where followers are to maintain positive affect whatever the circumstances (see, for example, the Beatitudes, Matthew 5:1-12 or the letters of St Paul as in 2 Corinthians 4 or Philippians 4: 4-7). How far religion may have played a part in fostering some aspects of positive affect is not clear from this sample, but the positive association between various aspects of religion and coping is well established and widely discussed (Gall & Guirguis-Younger, 2013; Pargament, 1997).

During the first lockdown in England, the overt offering of gratitude to the National Health Service was publicly promoted, notably by the nation gathering on doorsteps once a week to clap as an expression of thanksgiving.

Third, and of greatest significance, the two measures of perceived change in positive affect and perceived change in negative affect functioned as good predictors of individual differences in coping with the effects of the pandemic. Coping was positively correlated with positive affect ( $r = .46, p < .001$ ) and negatively correlated with negative affect ( $r = -.49, p < .001$ ). Crucially, for the balanced affect model, in addition to the separate and cumulative effect of positive and negative affect on predicting coping during the pandemic, the interaction term between positive affect and negative affect added predictive power, showing that the ameliorating effects of positive affect on coping increased with increasing levels of negative affect. This suggests there is some merit in combining the scores of the two scales to indicate overall levels of psychological wellbeing, if this is a key variable of interest. In measuring psychological health across populations in a crisis such as the pandemic it may be more useful to know the balance of negative and positive affect rather than concentrating on just one. Thus, the widely reported increases in negative affect in the lockdown (ONS, 2020) may not have had as serious an effect on those who also experienced positive effects of the lockdown. Conversely, the positive effects may have been offset among those who also experienced negative effects of lockdown. The best wellbeing would be among those with high positive and low negative affect, and the worst wellbeing would be among those with low positive and high negative affect. Arithmetical combination obviously depends on the how the metric of each scale relates to absolute levels of affect, something which few if any scales can assess. The combined figure of “–affect balance”– (positive affect minus negative affect) would be a relative and not an absolute measure of psychological wellbeing.

Nonetheless, it may be a more sensitive and useful measure for survey use than single items such as the coping scale used here.

Two practical recommendations emerge as a consequence of these three conclusions, one relevant for further research and one relevant for practical application. In terms of further research, the TIBACH can be commended for further use and investigation. Given the internal consistency reliability and construct validity of the measure, TIBACH can be employed to understand more about the correlates, precursors, and consequences of individual differences in the change in wellbeing experienced by individuals as a consequence of the pandemic, the lockdown of the nation, and the lockup of churches.

In terms of practical application, the evidence that increases in positive affect can ameliorate the impact of negative affect offers insight into recommendations for pastoral intervention. The next research task is to learn more about the kind of interventions during the pandemic that enhanced positive affect among clergy and laity and then to focus resources on maximising opportunities for such interventions.

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Table 1

*Details of positive and negative affect scales*

Positive affect				
$(\alpha = .70)$	CITC	Declined	Unchanged	Increased
		%	%	%
Happiness	.48	24	60	16
Thankfulness	.46	4	38	58
Hopefulness	.55	18	55	27
Trust	.36	12	68	20
Excitement	.42	36	58	9

  

Negative affect				
$(\alpha = .83)$	CITC	Declined	Unchanged	Increased
		%	%	%
Exhaustion	.63	22	43	34
Anxiety	.59	19	45	37
Stress	.69	23	43	34
Fatigue	.69	18	38	44
Frustration	.52	11	46	43

Note:  $N = 4,449$ .  $\alpha$  = Cronbach's alpha. CITC = Corrected Item-Total Correlation.

Table 2

*Multiple regression of standardised affect scores on level of coping with the Covid-19 lockdown.*

	B	SE	$\beta$	$t$
Zscore: Negative affect	-0.36	0.01	-.38	-25.6***
Zscore: Positive affect	0.23	0.01	.25	16.8***
Interaction ZNA x ZPA	0.13	0.01	.15	11.8***

Note: \*\*\*  $p < .001$ .

Figure 1

*Interaction of positive and negative affect on level of coping with the Covid-19 lockdown.*

*Based on standardised Z scores.*

