**Using self-determination theory to understand the relationship between enactment of a calling and daily well-being**

**Keywords**

Calling, calling enactment, self-determination theory, motivation, competence, daily well-being, dairy

**Abstract**

This paper contributes to the calling literature by using self-determination theory – a theory that makes distinctions between different types of motivation –in order to gain a better understanding of how enacting a calling may relate both positively and negatively to well-being. We use a daily diary method novel to the calling field and a sample with a distinctive calling, Church of England clergy. We expect daily calling enactment to relate positively to daily well-being via more autonomous forms of motivation (intrinsic and identified motivation) and negatively via less autonomous forms (introjected motivation). Furthermore, we consider how the relationship between calling enactment and motivation may be moderated by perceived competence. The hypotheses were tested using multi-level structural equation modelling. There was strong support for calling enactment relating positively to well-being, and this relationship was fully mediated by intrinsic and identified motivation; the hypothesized negative pathway, from calling enactment, to introjected motivation, to well-being, was not supported. However, perceived competence was found to moderate some of the relationships between calling and the motivation types, whereby at high levels of competence calling enactment is linked to lower introjected motivation.

**Introduction**

There has been increased scholarly attention paid to the relationship between calling and well-being; it is generally assumed that calling contributes to well-being and life satisfaction as people with a calling pursue goals that they find deeply meaningful (Duffy, Allan, Autin & Bott, 2013). Nonetheless, how and why calling relates to well-being is acknowledged to be under-researched and complex as enacting a calling may also require people to make sacrifices and therefore relate negatively to well-being (Bunderson & Thompson, 2009; Duffy et al., 2013). One reason for this is that enacting a calling is motivationally complex. It is simplistic to assume that people pursuing their calling will be more motivated; we need to examine in what ways they are motivated. Some behaviors may reflect intrinsic interests, whereas others are the result of fulfilling an “unbending duty” (Bunderson & Thompson, 2009, p. 50).

This paper contributes to the calling literature by using self-determination theory – a theory that makes distinctions between different types of motivation – to understand better how enacting a calling relates both positively and negatively to daily well-being. Self-determination theory is highly apposite for understanding the relationship between calling and well-being because features of calling, when enacted, correspond with different types of motivation which in turn have distinctive links with well-being. Although a small number of studies consider intrinsic motivation in a calling (e.g., Dik, Eldridge, Steger & Duffy, 2012), the different types of motivations associated with a calling have not yet been explored (Elangovan et al., 2010).

Our second contribution to calling research is to examine circumstances where enacting a calling may be difficult for individuals, that is when the requirements of calling are outside a person’s perceived competence. Feeling called to an area of work does not necessarily imply competence in that area of work, but as yet little is known about how lacking competence in one’s calling affects motivation (Elangovan et al., 2010).We hypothesize that when enacting a calling is at odds with a person’s perceived competence individuals will draw less on internal and more on external types of motivation (i.e., less intrinsic and more introjected).

Our third contribution is to literature that distinguishes between *having* and *living* a calling (Duffy et al., 2013). Here we argue that even for those who are occupationally well-placed to live their calling (clergy in this case), the extent to which people live – through enacting – their calling will vary on a daily basis. Daily work may entail activities prototypical to a calling; however, it may also involve enacting activities that are much less central to it. Previous research reveals little about how calling is enacted on a daily basis and in what ways this relates to daily motivation and well-being.

We therefore expect calling to relate positively to well-being via more autonomous forms of motivation (intrinsic and identified motivation) and negatively via less autonomous forms (introjected motivation); we also examine the role of competence in the motivation process. Figure 1 summarizes our theoretical framework. We use a daily diary method, novel to calling research, that is well-suited to capturing daily calling enactment, motivation and affective well-being states, which are essentially dynamic constructs. Our study is based on a sample with a distinctive calling, Church of England clergy.

*(Insert Figure 1 about here)*

**Calling and its Links to Motivation and Well-being**

*Defining Calling and Calling Enactment*

A calling is a long-term work orientation (Bellah et al., 1986; Elangovan et al., 2010; Rosso, Dekas & Wrziesniewski, 2010; Wrziesniewski, 2011) that comprises individuals’ core beliefs and preferences about work in general, and shapes how individuals make sense of work and life outside of work. In recent reviews of calling definitions across the social sciences, Dik and Duffy (2009; Duffy & Dik, 2013) identify three common features of a calling as an external summons, profound meaning, and in most cases a clearly implied prosocial motivation. Accordingly, we define calling as “a transcendent summons, experienced as originating beyond the self, to approach a particular life role in a manner oriented toward demonstrating or deriving a sense of purpose or meaningfulness and that holds other-oriented values and goals as primary sources of motivation” (Dik & Duffy, 2009, p. 427; see also Berg, Grant, Johnson, 2010; Elangovan et al., 2010; Praskova, Creed & Hood, 2015; Wrzesniewski, 2011).

Researchers have distinguished calling from several related constructs (e.g., Duffy & Dik, 2013; Rosso et al., 2010; Wrzesniewski, 2011), drawing mainly on the three characteristics of calling (external summons, profound meaning, and prosocial motivation) to suggest how calling differs. For example, while job involvement (Kanungo, 1982) and work centrality (Dubin, 1956) may both involve profound meaning in relation to one’s work, they need not necessarily involve an external summons or prosocial motivation. Calling differs from intrinsic motivation (Csikszentmihalyi, 1990) and work engagement (Bakker et al., 2008; Kahn, 1990), which are defined as temporary episodes of feeling highly motivated to engage in tasks for their own sake without the requirements for profound meaning, external summons, or prosocial motivation (Dik & Duffy, 2009; Elangovan et al., 2010). Calling also differs from affective, continuance and normative commitment, which respectively emphasize affective attachments, perceived costs associated with leaving, and obligations to remain in occupations or organizations (Meyer, Allen, & Smith, 1993), as calling is more concerned with fulfilment and derived meaning from the work itself and contributing to the greater good (Rosso et al., 2010). Finally, calling cannot be reduced to just one of its constituent parts, for example simply to prosocial motivation, as each dimension is a necessary feature of calling (Duffy & Dik, 2013).

Recent calling research notes the importance of distinguishing between having a calling and living a calling (Duffy et al., 2013), where the latter emphasizes ‘doing’ and ‘acting’ rather than ‘being’ (Elangovan et al., 2010, p. 429). We choose the term *calling enactment* because, similar to identity enactment research, we view calling as “not just an abstract perception … of oneself … but rather a continual process of habitual activities that confers a sense of structure and a sense of coherence on one’s daily life” (p. 1077, Thatcher & Zhu, 2006). Distinguishing between tasks that are more or less prototypical of a calling, we provide a richer understanding of how calling is enacted through performing (or not) a range of activities across the working day. We argue that the more an individual is able to perform activities that are prototypical of one’s individual calling, the more an individual believes to have enacted their calling on any given day. Calling enactment will have implications for an individual’s motivation, to which we now turn.

*Self-determination theory*

Most theories of work motivation consider it to vary in amount rather than quality, whereas SDT identifies five types of motivation that differ in terms of how they are psychologically regulated: *intrinsic motivation* refers to behavior regulated by interest in the task for its own pleasure, *integrated motivation* refers to behavior regulated by values a person wholly recognizes as their own; *identified motivation* refers to behaviors that are regulated by values with which a person identifies but are not the same as their own values; *introjected motivation* refers to behaviors that are regulated by values and forces external to the individual that are not their own but where the individual acknowledges the authority of the external force (e.g., behavior regulated out of a desire to please real or imagined others/avoid disapproval or guilt); *external motivation* (akin to classical treatments of extrinsic motivation) refers to behavior regulated by external contingencies (e.g., rewards or punishments) (Gagne & Deci, 2005).

A key idea is the extent to which motivation types are autonomous or controlled (i.e. self-determined): the types lie along an autonomous–controlled continuum, with intrinsic motivation being the most autonomous form and externally regulated motivation the least autonomous, in other words completely controlled by an external force (Gagne & Deci, 2005). In general, more autonomous motivation types are associated with well-being and higher levels of performance (particularly for complex tasks), whereas controlled motivation is not (Gagne & Deci, 2005). This is because, according to self-determination theory, the extent to which behavior satisfies the three needs of autonomy, competence, and relatedness, is fundamental to experiencing autonomous motivation, human functioning and well-being (Deci & Ryan, 2000).

Because definitions of calling have no links with fully extrinsic motivation, we focus on the following three types: intrinsic motivation, identified motivation (a combination of integrated and identified), and introjected motivation. We collapse identified and integrated motivation as previous theory and empirical research acknowledges that they are essentially about values with which a person closely identifies and are psychometrically indistinguishable (Gagne & Deci, 2005; Koestner et al., 1996; Koestner & Losier, 2002).

We model the self-determination theory types as outcomes of calling enactment, while acknowledging that relations between behavior, motivation and the environment are bidirectional. Consistent with self-determination theorists (e.g., Deci & Ryan, 2000), other intrinsic motivation theorists (e.g., Csikszentmihalyi, 1990), and self-regulation theorists (e.g., Carver & Scheier, 2001), we view motivation and behavior as dynamically and reciprocally related, where motivation emerges as people perform tasks. People “become more or less interested in activities as a function of the degree to which they experience need satisfaction while engaging in those activities” (Deci & Ryan, 2000, p. 233). In other words, motivation fluctuates depending on the extent to which behavior satisfies needs as the activity unfolds in time. Behavior unfolds in a cycle of self-regulation, where the pursuit of goals and maintenance of effort is continually subject to feedback on behavior, and behavior adjusts according to feedback (Nakamura & Csikszentmihalyi, 2002; see also self-regulation theories, Carver & Scheier, 2001).

Empirical assessments of self-determination theory motivation types are based on a person’s attributions for (i.e., reasons for) past behaviors (Ryan & Connell, 1989) and our focus here is how clergy’s motivation attributions following their behavior relates to well-being. It is the regulation of behavior rather than its initiation that has a longer duration and is potentially more likely to influence subsequent attributions and well-being outcomes.

*Calling Enactment, Self-determination Theory, and Daily Well-being*

The different types of autonomous motivation described by self-determination theory are particularly valuable for understanding how calling relates to motivation and, in turn, to daily well-being. Calling is likely to encourage people to behave in ways that lead to feelings of intrinsic motivation. Autonomy refers to volition, acting freely and “endorsing one’s actions at the highest level of reflection” (Gagne & Deci, 2005, p. 334); a defining feature of calling is that it is deeply meaningful and will therefore lead to behaviors that feel at least partly volitional as people act in ways consistent with their self-identity (Elangovan et al., 2010) and passions (Dobrow, 2013). Furthermore, Dobrow’s (2013) emphasis on calling as a *consuming* passion concurs with Csikszentmihalyi’s (1992) research into intrinsic motivation as a state associated with feeling totally absorbed in an activity.

However, enactment of a calling can associate with motivations beyond the intrinsic. Identified motivation refers to behavior regulated by one’s personally endorsed values (Deci & Ryan 2000): a prominent source of these values for people with calling will be the external summons from where their calling originates and to which a person with a calling is devoted (Dik & Duffy, 2009; Elangovan, 2010). Pursuing values is the most commonly defined feature of calling (Berg et al., 2010; Dobrow, 2012) and we expect calling to relate most strongly to identified motivation. Bunderson and Thompson (2009) found that zookeepers identified very strongly with the cause of working with animals and this was an important source of work motivation.

Calling may also relate to introjected motivation. Two defining features of calling are feeling an external summons and prosocial motivation, and so calling enactment in both cases is likely to involve the desire to feel worthy and avoid feeling guilty (i.e., introjected motivation) in the eyes of the external summoner and the recipient of one’s prosocial motivation. For example, while Bunderson and Thompson’s (2009) study of zookeepers noted the importance of transcendent meaning, it also found that zookeepers’ motivation was profoundly shaped by a sense of duty, personal sacrifice, and concern to do right by others. Such concerns with duty fit with the conditions of introjected motivation, and so we surmise that the enactment of a calling can sometimes lead to attributions regarding greater introjected motivation.

*Hypothesis 1*: Calling enactment is positively associated with (a) intrinsic motivation, (b) identified motivation, and (c) introjected motivation.

Research has shown that callings are positively related to well-being, such that people with callings are more likely to report life satisfaction (Duffy et al., 2011) and less likely to suffer depression (Treadgold, 1999). However, other studies suggest that callings can relate negatively to well-being as individuals make a range of sacrifices at work – money, time, well-being – in order to practice their calling (Bunderson &Thompson, 2009).

Self-determination theory offers a parsimonious explanation of the positive and negative effects of callings on well-being. We expect intrinsic and identified motivation to have positive associations with daily well-being because these forms of motivation satisfy what self-determination theorists regard as the three fundamental human needs for autonomy, competence, and relatedness (Gagne & Deci, 2005; Ryan & Deci, 2000; Wrzesniewski, 2011), albeit somewhat less so in the case of identified motivation. The need for autonomy is less necessary for identified motivation because, while it is volitional, it is still performed instrumentally to concur with a person’s values rather than purely for intrinsic enjoyment (Deci & Ryan, 2000; Ryan & Deci, 2000). Satisfying these needs is viewed as essential to a fulfilling and enjoyable life. This is supported across a wide range of samples and levels of analysis, from surveys of life goals and well-being, to diary assessments of daily fluctuations in need fulfilment and daily well-being (see Ryan & Deci, 2000, for a review).

In contrast, we expect introjected motivation to associate negatively with daily well-being: while introjected motivation partly satisfies needs for relatedness by avoiding guilt/ seeking approval, it typically thwarts satisfying needs for autonomy because people feel pressured to conform to external social pressures rather than freely choosing to do something (Ryan & Deci, 2000). People experiencing introjected motivation will also thwart satisfying competence needs because behavior motivated to seek others’ approval leads people to feel less competent about following their own values (Vansteenkiste et al., 2007). Psychological health and well-being require the satisfaction of all three needs; frustrating any of the needs will diminish well-being and therefore satisfying one or two as under introjected motivation is insufficient (Deci & Ryan, 2000).

We therefore propose a multiple mediation approach, whereby calling enactment relates positively to well-being via autonomous types of motivation (intrinsic and identified) and negatively to well-being via the controlled type of introjected motivation.

*Hypothesis 2*: Self-determination theory’s motivation types mediate between calling enactment and daily well-being, such that (a) intrinsic and identified motivation mediate a positive relationship between calling enactment and daily well-being, and (b) introjected motivation mediates a negative relationship between calling enactment and daily well-being.

*Calling, Competence, and Motivation*

A person’s gifts or abilities refer to their competence in a particular domain (Dobrow, 2013; Winner, 2000). As this definition reveals, gifts, abilities and competencies are often treated synonymously and, while acknowledging that there may be subtle distinctions, we take this approach. Motivation research has a long tradition of highlighting the importance of competence (e.g., Atkinson, 1964; White, 1959). More recent approaches focus on perceived competence, that is, a person’s confidence in their ability to accomplish a task (Cury et al., 2006), akin to self-efficacy, rather than actual competencies, on the basis that perceived competencies are more psychologically relevant (Bandura, 1977).

We view perceived competence as a moderator of the relationship between enactment of a calling and attributing behavior to autonomous or controlled motivation. When an individual’s calling leads them to enact tasks they find intrinsically motivating and meaningful we expect competence to enhance chances of satisfying needs for autonomy and competence and therefore contribute to intrinsic motivation and identified motivation. This is because, if someone perceives themselves to be competent, it enhances the likelihood that behavior satisfies competence needs due to feeling responsible for competent behavior (Deci & Ryan, 2000). Perceived competence also enhances the likelihood that behavior satisfies autonomy needs by leading to a more internal perceived locus of control (Deci & Porac, 1978). Furthermore, to the extent that perceived competence enhances satisfying competence and autonomy needs, it thereby contributes to the internalization of extrinsic motivation (Deci & Ryan, 2000), with the result that tasks that feel more extrinsic at their outset become more identified and intrinsic due to need satisfaction.

However, where calling involves duties and therefore requires less autonomous and more controlled motivation (i.e., introjected motivation), the burden of the task will feel even greater if it falls outside of an individual’s competence. This is because when a calling compels people to do tasks out of duty where they do not feel competent, then they will experience low mastery, with a greater risk of negative contingencies such as poor performance, negative feedback and concerns that their behavior will meet with disapproval from external parties, thereby creating conditions for controlled, introjected motivation (Gagne & Deci, 2005). In contrast, when calling entails tasks that coincide with an individual’s competence, then risks of failure are lessened, as are concerns that performance will lead to disapproval from external parties and its associated guilt.

*Hypothesis 3*: Perceived competence will moderate the relationship between calling enactment and motivation, such that the positive association between calling enactment and autonomous motivation (i.e., intrinsic and identified) strengthens at higher levels of competence, while the positive association between calling enactment and controlled motivation (i.e., introjected) weakens at higher levels of competence.

**Method**

*Context: Church of England clergy*

The Church of England employs just under 8,000 full-time stipendiary (paid) clergy, working in 43 dioceses in England (Archbishops’ Council, 2013). Around a third of full-time stipendiary clergy are female. As an organization, the Church of England can be considered a bureaucracy with many rules and procedures for clergy and is subject to regulatory (such as health and safety) and governance demands similar to charitable bodies and organizations more generally (Guerrier & Bond, 2013). The Church of England has centralized departments responsible for human resources with similar concerns to many organizations, in terms of recruitment and selection, staff deployment, addressing staff’s professional development and monitoring effectiveness.

Within their occupational role, Church of England clergy engage in diverse formal roles and activities on a weekly basis, for example, personal prayer, preparing and taking church services, conducting pastoral work, such as visiting the sick, attending church-related meetings, and conducting parish administration. Many of these activities are performed on a daily basis. The role of clergy has been described as requiring a hybrid of professional and management skills reminiscent of many management jobs in terms of managing or working in teams, managing resources and projects, working long hours, accommodating conflicting demands, intensive work pressures, and responding to unexpected events (Guerrier & Bond, 2013).

*Procedures and Sample*

Data was collected using an online survey and an online daily diary over seven consecutive days. The participants were stipendiary church ministers within the Church of England. A sample of 865 incumbent priests was randomly selected from a database of ministers in England, but stratified to include equal proportions of males and females and to include equal proportions of priests who were responsible for a single church and those responsible for multiple churches.

The 865 sample members were sent an email inviting them to take part in the project by firstly completing an online background survey. Those that did so were then contacted by the research team by email to complete the online diary surveys following the background survey. Start days were randomized. The online diary surveys were sent via email at 3pm each day and participants were instructed to complete them once they had completed their work for the day. Participants were asked to complete a diary for each of the seven days, even if a day was classified as a ‘day off’, which was recorded.

We received 217 responses to the background survey (25% response rate). Of the 217 survey respondents, 193 participants took part in the diary survey (89% response rate), with 163 people responding on all seven days, 21 responding on six days of the survey and a further 9 responding on 5 days or fewer. The analyses reported here are conducted on the data provided by the 193 respondents to the diaries. Data recorded on ‘days off’ on which fewer than 8 hours were spent engaged in priestly activities were excluded from the dataset, which left 1111 days of data.

The 193 participants were mostly women (59%), between the age of 50 and 59 years (57%), ethnic white-British (93%), and married or in long term relationships (80%). Thirty-nine per cent had dependent children or other dependent relatives. The majority had full-time posts (95%), were responsible for multiple churches (65%) and worked in some form of team context (79%). The location of roles varied across urban (17%), suburban or small town (31%) and rural or coastal settings (52%).

*Measures*

**Calling enactment and competence**

*In the background survey:*

The calling prototypicality of different activities was assessed in the background survey. An incumbent’s role is formed of multiple activities. A number of these activities are stated within the legal contract that forms part of the ordination process into priesthood, whereby the tasks that a priest is both entitled and expected to perform are contained. These include activities relating to preaching and teaching, participation in prayer, liturgical duties, pastoral work, conducting occasional offices, leadership within the local community and performing administrative tasks. In addition to these activities, incumbents’ roles may also involve more specific activities, such as working with colleagues, communicating via social media, offering hospitality and outreach, working with children or young people or running nurture courses. Drawing on discussions with both existing clergy and senior managers within the Church of England, a list of 14 activities was developed that was felt to represent fully the range of activities that form most incumbents’ roles.

 Within the background survey, respondents were asked about each activity in relation to their calling and their sense of competence. Firstly, respondents were asked “How important is this activity in relation to your sense of calling?” on a scale of 1 (not at all important) to 5 (very important). Average scores on this measure ranged from 4.61 (*SD* = 0.65) for ‘Participation in prayer’ to 2.21 (*SD* = 1.12) for ‘Using social media’. Secondly, respondents were asked “How competent do you feel when performing this activity?” on a scale of 1 (not very competent) to 5 (very competent). Average scores on this measure ranged from 4.32 (*SD* = 0.65) for ‘Conducting and preparing for occasional offices’ to 2.33 (*SD* = 1.32) for ‘Using social media’. Correlations between ratings of calling prototypicality and competence were found to be positively associated, but not to such a degree as to cause a concern for the discriminant validity of the constructs: the highest correlation was for ‘Intentional outreach’ (*r* = .53; *p* < .001) and the lowest correlation was for ‘Administration and organization’ (*r* = .24; *p* < .01). Table 1 reports these descriptives and correlations between calling and competence items in full.

*(Insert Table 1 about here)*

*In the daily diary:*

The daily diary survey contained identical measures for each of the seven days. Each day, participants were asked to indicate on a 24 hour grid which activities they had engaged in and at what time. Each column of the grid referred to one of the 14 activities measured in the background survey. In addition to these 14 activities, three further column options were provided for ‘Travelling’, ‘Taking a break’, ‘Other activity’. Each row of the grid referred to an hour period of the day. Participants were asked to indicate the activities engaged in during each hour period of the day and were able to report more than one activity in each hour period. Table 1 reports the average number of hours respondents reported to have spent engaged in each activity each day (if more than one activity was reported in any given hour, the time allocated to the activity was prorated), the most being ‘administration and organization’ at just over 3 hours a day, followed by liturgical duties at 1.7 hours a day.

 Daily calling enactment was calculated by firstly weighting each daily activity by its corresponding calling prototypicality score from the background survey. Then for each hour of the day, a weighted calling enactment score was calculated. If just one activity was performed within that hour period, then the value for that person would be their calling prototypicality score for that activity. If more than one activity was performed that hour, the calling enactment score was an average of their calling prototypicality scores for the different activities. When none of the 14 activities were performed during an hour period, these were coded as missing. To represent daily calling enactment, a daily mean of the hourly scores was computed.

 Competence was calculated similarly, but instead of using calling prototypicality, the daily activities were initially weighted by the perceived self-competence rating provided in the background survey. Again, a mean of the hourly scores represented daily competence.

In addition to the activities grid, the daily diary contained the following measures:

**Daily well-being**

We measured daily well-being using six items from Warr’s (1990) affective well-being scale. The items asked ‘Reflecting on your experience today, how do you feel right now?’ Respondents rated six adjectives (e.g., contented, cheerful, anxious) on a five-point Likert-type scale from ‘Not at all’ to ‘A great deal’. We selected adjectives to cover both contentment and enthusiasm dimensions of the measure and included a negatively-worded item for each. The measure had adequate internal consistency, with Cronbach’s α ranging from 0.83 to 0.87 (*M* = 0.85).

**SDT motivation types**

The three SDT motivation types were assessed using items developed from Ryan and Connell’s (1989) list of reasons defining intrinsic, identified and introjected motivations. Three items were used for each dimension and for each the question asked ‘Thinking about the activities and tasks you engaged in today, how much of the time were you motivated by the following reasons?’ and the scale used referred to proportions of the day, ranging from ‘Not at all (1)’ to ‘All day (5)’.

 **Intrinsic motivation** was measured by the items ‘Enjoyment’, ‘Personal interest’ and ‘Fun’, and Cronbach’sα ranged from 0.71 to 0.82 (*M* = 0.76) across days. **Identified motivation** was measured by three items ‘The importance of the activity/task’, ‘The meaningfulness of the task/activity’ and ‘The achievement of a personal goal’. Internal consistency ranged from 0.56 to 0.71 for the three items (*M* = 0.61). This improved if the last item was removed (min = 0.76, max = 0.91, *M* = 0.83), and thus we proceeded with a two-item measure. **Introjected motivation** was measured by three items ‘The guilt you might have felt if you hadn’t engaged in the activity/task’, ‘The worry of letting others down if you hadn’t engaged in the activity’, and ‘The avoidance of feelings of shame’. Cronbach’s α ranged from 0.67 to 0.85 (*M* = 0.76).

*Analytical Approach*

Diary data have a multilevel structure with repeated measurements nested within individuals. This allows for the assessment of phenomena at two levels of analysis: at the between-person level of analysis and also at the within-person level of analysis. The hypotheses were tested using multi-level structural equation modelling (MSEM) within Mplus (Muthen & Muthen, 2010). Measurement models were tested using multilevel confirmatory factor analysis (MCFA), also within Mplus. Calling enactment was treated as an observed variable while well-being and the three SDT motivational types were treated as latent variables.

Prior to these analyses, the intraclass correlations were checked for the items used to ensure that an appropriate amount of variance in each of the study variables existed at both the between- and within-person level. The intraclass correlations showed that 36 per cent of variance in calling enactment could be attributable to within-person variation, leaving 64 per cent of variance in calling enactment for between-person variation. Intraclass correlations showed that within-person variation was accountable for between 73 and 67 per cent of the variance in intrinsic motivation items, between 66 and 64 per cent of the variance in identified motivation items, between 73 and 65 per cent of the variance in introjected motivation items, and between 71 and 45 per cent of the variance in well-being items. Therefore, substantial amounts of variance are attributable to within-person variations on these items.

Our hypotheses concern the within-person level (e.g., daily fluctuations in calling enactment, short-term motivational and mood states) and a methodological advantage of diary methods is examining within-person variance. We therefore focus mainly on within-person findings; however, we replicated the within-person structural relationships at the between person level to control for level 2 variances and covariances of the study variables. The maximum likelihood method of estimation was used. In addition, several control variables were included at the within-level of analysis. Firstly, total number of hours worked each day was controlled for as previous studies have shown rather complex links between working hours and well-being (Sparks, Cooper, Fried & Shirom, 1997). Secondly, while ‘days off’ with fewer than 8 hours of work performed were removed from the dataset, days which were supposed to be a day off but where 8 or more hours of work were performed were controlled for, as working on a supposed day off may affect mood. Thirdly, the day of the week was controlled to account for ‘good day effects’ (Sheldon, Ryan & Reis, 1996).

The main study variables were grand mean centered for the analyses. When variables are modelled at both within and between levels within Mplus, the latent within component of the variables is by default centered to the group mean (Muthen & Muthen, 2010). Dichotomous control variables were not centered, and neither was the dependent variable. Accordingly, our results can be interpreted as follows: in the within part of the model, a positive relationship between an *x* and a *y* variable means that on days when a respondent reports levels of *x* higher than they did on average over the seven days, they report higher levels of *y*. In the between part of the model, a positive relationship between an *x* and a *y* variable means that when a respondent’s average level of *x* over the seven days is higher than the sample’s average level of *x*, they report higher levels of *y*.

 Tests of mediation and moderation were informed by the procedures advocated by Preacher, Zyphur and Zhang (2010) and Preacher, Curran, and Bauer (2006). However, as bootstrapping is not available within multilevel analysis within Mplus, we present normal-theory confidence intervals of effects. Our model represents a multiple mediation model, so we followed recommendations by Preacher and Hayes (2008) and compared the independent mediator effects.

**Results**

A multi-level CFA including the motivation types and daily well-being supported the fit of the hypothesized measurement model (*χ2* = 431.143, *df* = 162, CFI = 0.95, TLI = 0.93, RMSEA = 0.038, SRMR = 0.038 [within] and 0.096 [between]), and more closely than a single factor model at each level (*χ2* = 2306.673, *df* = 181, CFI = 0.59, TLI = 0.52, RMSEA = 0.102, SRMR = 0.106 [within] and 0.189 [between]); or a model where the items tapping intrinsic and identified motivation were loaded onto the same factor at each level (*χ 2*= 1315.864, *df* = 171, CFI = 0.78, TLI = 0.73, RMSEA = 0.077, SRMR = 0.116 [within] and 0.136 [between]) or where the items tapping identified and introjected motivation were loaded onto the same factor at each level (*χ2*= 1211.945, *df* = 171, CFI = 0.80, TLI = 0.75, RMSEA = 0.074, SRMR = 0.090 [within] and 0.207 [between]). Accordingly, the measurement model had sufficient construct validity to proceed with hypothesis testing. Table 2 shows the means, standard deviations and correlations between the main study variables, at both the day-level and the person-level.

*(Insert Table 2 about here)*

The hypothesized multilevel mediation model fitted the data well: *χ2* = 576.992, *df* =244, CFI = 0.94, TLI = 0.92, RMSEA = 0.035, SRMR = 0.030 (within) and 0.064 (between)[[1]](#footnote-1).The model and significant standardized parameter estimates are presented in Figure 2. Looking firstly at the direct effects, both within-person and between-person findings are similar. At the within-person level, significant and positive associations are found between calling enactment and both intrinsic and identified motivation. No significant association was found between calling enactment and introjected motivation. This suggests that on days when people report greater than usual calling enactment, relative to what they report on average, they also report experiencing greater intrinsic and identified motivation on those days than usual. Overall this ­provides some mixed support for the first hypothesis, where the hypothesis is supported for the autonomous motivation types (i.e., intrinsic and identified) but not the controlled motivation type (introjected).

*(Insert Figure 2 about here)*

The second hypothesis referred to the SDT motivational types mediating the effect of calling enactment on well-being. It is initially worth noting that the three forms of motivation were each significantly associated with well-being at the between-person levels; intrinsic and identified motivation were positively associated with well-being and introjected motivation was negatively associated with well-being. However at the within person-level, the effect of introjected motivation was not significant. Estimates of the direct and indirect effects at both within and between-person levels are presented in Table 3. Findings indicate significant and positive direct effects of calling enactment on well-being at both levels of analysis. Furthermore, these direct effects are almost fully accounted for by the mediators. Both intrinsic and identified motivation account for significant and unique indirect variance in the model at both levels.

*(Insert Table 3 about here)*

The third hypothesis proposed that competence will moderate the relationships between calling enactment and the three SDT motivational types. A new MSEM model was run in which the variable representing competence and an interaction term computed from group mean-centered versions of the calling enactment and competence variables were added to the model at both levels and regressed onto the three SDT motivational types. In other respects the model remained the same. The new model fitted the data adequately: *χ2* = 646.512, *df* = 291, CFI = 0.93, TLI = 0.91, RMSEA = 0.033, SRMR = 0.029 (within) and 0.073 (between). The interaction term in the within part of the multilevel structural equation model was found to be significant only for introjected motivation (standardized *β* = -.243; *p* < .05), but not for intrinsic (standardized *β* = .147; *p* > .05) or identified motivation (standardized *β* = .049; *p* > .05) although both effects were in the expected direction; overall, the results partially support Hypothesis 3. Figure 3 graphs the significant effect at +/-1 *SD* on the moderator and a test of simple slopes (Preacher, Curran & Bauer, 2006) suggests that under conditions of high competence, the slope between calling enactment and introjected motivation is negative and significant (*z* = -2.454, *p* = .014); however, when competence enactment is low, the slope is positive although much weaker and is non-significant (*z* = .125, *p* = .905).[[2]](#footnote-2)

*(Insert Figure 3 about here)*

**Discussion**

The main aim of this study was to explain the relationship between calling enactment and daily well-being using self-determination theory. We found that the extent to which calling is enacted on a daily basis varied considerably between and within-person over time. Calling enactment related significantly to more positive daily mood and this relationship was fully explained by intrinsic and identified motivation. In other words, when employees enact their calling, they experience intrinsic and identified motivation, which in turn explains daily well-being. We found no support for the negative effects of calling enactment. Perceived competence did, however, moderate the relationship between calling enactment and introjected motivation (and the relative autonomy index), indicating that when competence is high, calling enactment is linked to lower introjected motivation and the supplementary analysis on the relative autonomy index suggest the neutralizing effect of low perceived competence on the positive link between calling enactment and autonomous motivation. Below we discuss how these findings contribute to research on calling and self-determination theory and outline directions for future research.

Firstly, this is the first study to look at calling enactment on a daily basis; as such, it has extended our knowledge of calling as both an activity-related and a dynamic construct. For clergy, a profession arguably archetypical of calling, we found considerable variation in the extent to which different activities were seen as prototypical of calling both across activities and across people. We further found that calling enactment relating to these activities varies significantly between-person and within-person on a daily basis. This contributes to debates about the lived experience of calling (Duffy & Dik, 2013), by showing that, in a sample of people occupationally placed to live their calling, the extent to which clergy enact their calling varies significantly within-person on a daily basis and these daily fluctuations matter in terms of predicting important outcomes. Thus, to live one’s calling successfully, having sufficient opportunities to enact it is potentially as important as being in the right occupation.

Our second contribution is to show calling enactment matters when considering the outcomes of motivation (intrinsic, identified, and introjected) and daily well-being. These outcomes (except for intrinsic motivation) are new to calling research, which has so far concerned itself with people’s well-being in the form of more abstract, stable indicators such as job and life satisfaction (Duffy et al., 2013). The finding that calling enactment was significantly related to more positive daily well-being is important because daily affective well-being is acknowledged to be a more important indicator of human experience than job satisfaction, which is regarded as more of a stable attitude. Affective states such as daily mood furthermore are key drivers of variation in an individual’s performance over time (i.e., within-person variation) (Beal et al., 2005); daily affective experiences are expected, in aggregate and over longer time periods, to feed into more stable affective constructs, such as job and life satisfaction (Weiss & Cropanzano, 1996).

 Our third contribution is to show how calling relates positively and negatively to well-being via the motivation types proposed under self-determination theory, contributing to calls to understand better the types of motivations in people who feel called (Elangovan et al., 2010) and mediators between living a calling and well-being (Duffy et al., 2013). Clergy who enacted their calling reported higher levels of intrinsic and identified motivation, which in turn largely explained daily well-being. We found no evidence that calling enactment relates in a direct and negative way to well-being via introjection. While introjection related negatively to daily well-being at the between-person level, calling enactment did not relate directly to introjection and so clergy’s calling was not associated directly with feelings of guilt. Our findings therefore support the importance of living a calling for enhancing well-being, and the importance of the motivation-type distinctions proposed under self-determination theory as an explanation for why calling and well-being may be related. However, they provide little support for the notion that callings also have a ‘dark side’ (Bunderson & Thompson, 2009; Duffy & Dik, 2013). Future research should explore whether these finding generalize to other occupational groups, perhaps where the external call is less likely to be internalized and feelings of introjection are more commonplace.

Fourthly, we contribute to clarifying how calling and competence interrelate. Activities rated as highly important to clergy’s calling were only moderately correlated with perceived competence in those activities (*r* ranged from .29 to .47, see Table 1), suggesting that calling and competence are not closely aligned at the activity level. We considered the interaction between calling enactment and perceived competence and found that, at the within-person level, on days where clergy perceived themselves engaging more in activities at which they felt highly competent the relationship between calling enactment and introjected motivation was strongly negative (i.e., lower fears about letting someone down). Furthermore, supplementary analysis using the RAI showed that the relationship between calling enactment and less controlled/more autonomous motivation was strongly positive at high levels of competence, whereas at low levels of perceived competence the relationship between calling enactment and less controlled/more autonomous motivation is all but cancelled (where this effect appears largely carried by the interaction between competence and introjected motivation). With the RAI, it was further found that calling has a more limited indirect effect on well-being via motivation at low levels of perceived competence than at high levels of perceived competence. The positive effects of calling on the RAI and well-being are therefore undermined at low levels of perceived competence. It may be that for activities where people perceive that they lack competence, concerns for social approval are heightened as the likelihood of negative feedback increases, leading to poorer, more controlled motivation (Deci & Ryan, 2000) and future research should explore this possibility.

Finally, we also contribute to self-determination research by being one of the few studies to capture distinctions between motivation types (Burton et al., 2006) compared with the common approach which focuses on intrinsic motivation or use the RAI. Researchers have raised concerns that using the RAI may mask important distinctions (e.g., Dysvik, Kuvass & Gagne, 2013) and our research found the distinctions important in terms of affecting daily well-being. At the within-person level, intrinsic motivation had a far larger effect on daily well-being compared with identified motivation (although both were statistically significant), whereas introjected motivation had no effect. The differing effects may be explained by SDT propositions about the role of need satisfaction, where intrinsic motivation indicates greater satisfaction of the needs for autonomy, competence, and relatedness, compared with identified motivation (Deci & Ryan, 2000). Furthermore, the distinctions between motivation types also emerged as important in our interaction analysis, where the interaction between RAI and perceived competence appears to be carried by the interaction between perceived competence and introjected motivation.

*Limitations and future directions*

While we expect that the relationships in the model we develop may apply generally across occupations, our findings are particularly reflective of those with a calling characterized by high ideological purpose. It is also likely that calling strength is high in this population; future research should explore whether the positive effects of calling enactment are reduced when calling strength is lower. Furthermore, the external summons is clearly embodied for priests in the form of God; future research should examine where people are called from more abstract sources, such as a desire to make the world a better place, or to contribute to an artistic or scientific tradition.

Our data was gathered using self-reports on the same day and therefore may be subject to common method variance. We do not expect the associations between calling enactment and outcomes to be affected majorly by common method bias. The self-report measure of calling enactment was based on respondents recalling their hourly activities, such as at what times during the day they prayed, taught, engaged in administration. The relatively objective nature of this information is unlikely to be subject to common method effects, compared with more subjective perceptions and attitudes, which are more likely affected by priming and consistency biases when people answer questionnaires (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The associations between motivation and affective well-being constructs are more likely to be affected by common method bias; however, self-reports are arguably the most valid means of operationalizing these constructs. Furthermore, within–person analyses of repeated measures data are less prone to common method variance concerns compared with survey designs, because they collect more accurate assessment due to reducing the time between the experience and its reporting, and remove all between-person confounds such as personality and general response biases (Conway & Briner 2002). Nevertheless, future research should consider methods to overcome common method biases such as asking people to complete the calling, SDT and well-being measures at three different times across the day and take objective measures of well-being.

Our empirical assessment of motivation types was based on a person’s attributions for past behaviors; ideally we would have collected information on motivation when the behaviors occurred in real-time, which would be consistent with motivation emerging as people perform tasks. However, collecting real-time data is challenging and may even be counterproductive in the case of self-report data, if its collection interrupts individual behavior. Future research should endeavor to measure motivation as close to the behavior as possible (e.g., multiple daily reports) and explore non-invasive means of measuring motivation simultaneous to behavior.

Self-determination theory was only partially tested in our study. Self-determination and related theories view motivation as an emergent experience when people perform tasks (Csikszentmihalyi, 1992; Deci & Ryan, 2000),as people seek activities that satisfy basic psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 2000). Future research should consider a fuller version of the model in Figure 1 which includes needs as predictors of activities and need satisfaction as leading to more autonomous types of motivation.

*Practical implications*

Given the positive effects of calling enactment on well-being here and elsewhere (Duffy et al., 2013), individuals, organizations and career counsellors should encourage the identification and enactment of calling by, for example, ensuring people have available time to enact their calling and to identify barriers that may impede enacting calling (Duffy et al., 2012). Practitioners should consider how prosocial motivation theory can be applied to emphasize the significance of tasks to a person’s calling through manager feedback channels, explaining how projects benefit others, reflecting on how daily acts make small differences to people’s lives, and encouraging interaction with the beneficiaries of a person’s calling (Sonnentag & Grant, 2012). Finally, practitioners should recognize that people may not feel competent to enact their calling and, if so, the positive effects of calling on well-being are compromised. Perceived competence in one’s calling could be enhanced by drawing on suggestions for increasing domain-specific self-efficacy (Stajkovic & Luthans, 1998).

To conclude, this study shows that calling is enacted dynamically over time and that self-determination theory is a useful approach to understanding the relationship between calling enactment and daily well-being. The findings show that if people are offered opportunities to enact their calling, then this contributes to their motivation and well-being. The motivational effects of calling depend to some extent on perceived competence. The results offer new insights into calling and self-determination theory and future research should test whether the model we developed is relevant to other occupations.

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Table 1.Daily activities and calling and competence information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  Activity | Daily hours | Calling prototypicality | Competence | Association between calling and competence |
|  | *Mean* | *SD* | *Mean* | *SD* | *Mean* | *SD* | *r*  |
| Preaching/teaching (including preparation) | 1.39 | 1.88 | 4.57 | 0.62 | 3.94 | 0.76 | .36\*\* |
| Liturgical duties (e.g., planning, preparing and presiding at worship/services at church and other public venues) | 1.71 | 2.22 | 4.58 | 0.63 | 4.28 | 0.68 | .35\*\* |
| Participation in corporate & individual prayer | 1.23 | 1.18 | 4.61 | 0.65 | 3.70 | 0.86 | .37\*\* |
| Administration and organization | 3.02 | 2.24 | 3.48 | 1.02 | 3.36 | 1.05 | .24\*\* |
| Exercising pastoral ministry (e.g., in crisis and in regular pastoral care, visiting people’s homes) | 1.43 | 1.65 | 4.34 | 0.83 | 3.74 | 0.91 | .41\*\* |
| Conducting and preparing for occasional offices (e.g., baptisms, weddings, funerals) | 0.74 | 1.35 | 4.42 | 0.82 | 4.32 | 0.65 | .32\*\* |
| Leadership role in local community (both as minister &recognizable community leader) | 0.48 | 1.17 | 4.12 | 0.95 | 3.58 | 0.84 | .47\*\* |
| Working with colleagues (either supportively, collaboratively or in providing leadership, e.g., within schools) | 1.03 | 1.68 | 4.28 | 0.95 | 3.69 | 0.86 | .45\*\* |
| Use of social media (e.g., Twitter, Facebook) | 0.24 | 0.76 | 2.21 | 1.12 | 2.33 | 1.32 | .43\*\* |
| Engaging in your own CMD | 0.25 | 1.06 | 3.80 | 0.97 | 3.30 | 1.01 | .42\*\* |
| Intentional outreach (e.g., offering hospitality, hanging around the school gate, etc) | 0.24 | 0.76 | 3.80 | 0.95 | 3.13 | 1.02 | .53\*\* |
| Running nurture courses for new Christians and/or new members | 0.14 | 0.58 | 4.10 | 0.89 | 3.57 | 0.86 | .34\*\* |
| Working with children and/or young people | 0.32 | 0.94 | 4.17 | 0.98 | 3.57 | 0.86 | .29\*\* |
| Extra-parish activities (e.g., Diocesan or Deanery task)  | 0.60 | 1.50 | 3.11 | 1.13 | 3.45 | 0.93 | .48\*\* |

*Note*: Number of person-days = 1111; \*\* *p* < .01

Table 2. Means, standard deviations and correlations at both day- and person-level among main study variables (*N* = 1111 days; *N* = 193 participants)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | Variable  | *Mean (person-level)* | *SD (person-level)* | 1 | 2 | 3 | 4 | 5 | 6 |
|   | Mean (day-level) |   |   | 4.14 | 3.77 | 2.82 | 3.61 | 1.53 | 3.62 |
|  | SD (day-level) |  |  | 0.68 | 0.65 | 0.81 | 0.76 | 0.70 | 0.67 |
| 1 | Calling enactment | 4.15 | .53 |  | .36\*\* | .12\*\* | .23\*\* | -.01 | .11\*\* |
| 2 | Competence  | 3.78 | .52 | .27\*\* |  | .08\*\* | .19\*\* | -.13\*\* | .18\*\* |
| 3 | Intrinsic motivation | 2.72 | .51 | .20\*\* | .11 |  | .15\*\* | -.21\*\* | .47\*\* |
| 4 | Identified motivation | 3.69 | .49 | .34\*\* | .25\*\* | .29\*\* |  | .06\* | .23\*\* |
| 5 | Introjected motivation | 1.56 | .50 | .04 | -.21\*\* | -.17\* | .10 |  | -.27\*\* |
| 6 | Well-being | 3.60 | .50 | .15\* | .29\*\* | .55\*\* | .35\*\* | -.31\*\* |  |
| *Notes*: Day-level descriptives and correlations are presented above the above the diagonal. Person-level descriptives and correlations are presented below the diagonal using aggregate scores of the seven days; \* *p* < .05, \*\* *p* < .01. |

Table 3. Direct and indirect effects of calling enactment on well-being

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Standardized estimate | SE | 95%LLCI | 95%ULCI |
| Between-person total effect of Calling enactment on Well-being |  |  |  |  |
| Total effect | .344 | .157 | .087 | .602 |
| Total indirect effect | .427 | .136 | .203 | .650 |
| Effect via Intrinsic motivation | .221 | .102 | .053 | .389 |
| Effect via Identified motivation | .227 | .079 | .097 | .356 |
| Effect via Introjected motivation | -.021 | .039 | -.086 | .044 |
| Within-person total effect of Calling enactment on Well-being |  |  |  |  |
| Total effect | .294 | .096 | .133 | .454 |
| Total indirect effect | .218 | .056 | .126 | .310 |
| Effect via Intrinsic motivation | .138 | .048 | .060 | .217 |
| Effect via Identified motivation | .068 | .023 | .031 | .105 |
| Effect via Introjected motivation | .012 | .010 | -.005 | .029 |

Figure 1: Theoretical framework linking calling enactment, competence, motivation and daily well-being

–

Calling enactment

Perceived competence

**SDT types**

Intrinsic motivation

Identified motivation

Introjected motivation

Daily wellbeing

+

+

+

+

+

Figure 2.Multi-level structural equation mediation model results. Only significant parameters shown (*p* < .05). Total work hours, day off and week-day at the within level, and age and gender at the between level are controlled for but not presented.

Intrinsic motivation

.53\*\*

.42\*

.31\*\*

Identified motivation

.30\*\*

.75\*\*

Well-being

Calling enactment

-.22\*\*

Introjected motivation

Between

…………………………………………………………………………………………

Within

Intrinsic motivation

.30\*\*

.46\*\*

.26\*\*

Identified motivation

.18\*\*

.37\*\*

Well-being

Calling enactment

-.31\*\*

-.10\*

Introjected motivation

Figure 3.The moderation effect of competence on the relationship between calling enactment and introjected motivation.

1. In addition, a partial mediation model was run in which a direct path from calling enactment to well-being was added. The fit of this less parsimonious model was not superior to the hypothesised model (*χ2* = 576.141, *df* = 242, CFI = 0.94, TLI = 0.92, RMSEA = 0.035, SRMR = 0.030 (within) and 0.063 (between)) and a *χ2* difference test was not found significant (*χ2 difference* = 0.851, *df difference* = 2, *p* > .05). [↑](#footnote-ref-1)
2. Self-determination research commonly aggregates motivation types into the Relative Autonomy Index (RAI) when the objective is to consider the broad underlying autonomy–controlled continuum (Gagne & Deci, 2005). The RAI was computed using the formula provided by Grolnick and Ryan (1987): RAI = (2\*Intrinsic motivation)+1\*(Identified motivation)+(-1\*Introjected motivation).

A further MSEM model was run in which the RAI observed variable was substituted for the indicators underlying three SDT latent variables at both the within and between levels. In addition, the variable representing competence and an interaction term computed from group mean-centered versions of the calling enactment and competence variables were added to the model at both levels and regressed onto the RAI variable. In other respects the model remained the same. The new model fitted the data adequately: *χ2* = 287.442, *df* = 102, CFI = 0.93, TLI = 0.91, RMSEA = 0.040, SRMR = 0.023 (within) and 0.047 (between). The interaction term in the within part of the multilevel structural equation model was found to be significant (standardized *β* = .202; *p* < .05), thereby lending support to Hypothesis 3. Under conditions of high competence, the slope between calling enactment and RAI is positive and significant (*z* = 2.303, *p* = .021); however, when competence enactment is low, the slope becomes much weaker and is non-significant (*z* = .225, *p* = .822), suggesting that low competence neutralizes the effect of calling enactment on motivation. Integrating RAI findings with tests of the specific dimensions suggests that the RAI effect is largely carried by the interaction between competence and the introjected type.

Moreover, the indirect effect of calling enactment on well-being via the RAI varied according to competence enactment, which is suggestive of a moderated mediation. At higher levels of competence (+1SD), the indirect effect was slightly larger (unstandardized b = 0.095, *p* <.001) than at lower levels of competence (-1SD) (unstandardized b = 0.059, *p* <.05). The difference between these two indirect effects was found to be significant (unstandardized b = 0.036, *p* <.05).This suggests that the SDT motivation types may better account for the effects of calling enactment on well-being when people are engaged in tasks about which they also feel competent performing. [↑](#footnote-ref-2)