Motivation and Proactivity in Solving Work Problems

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ABSTRACT
This study aimed to extend research exploring proactivity and its antecedents using novel experimental methods to address notable limitations in self-report designs. Fifty-three psychology students performed a simulated in-basket memo task requiring proactive problem-solving, and the proactivity of participants’ solutions were evaluated by judges following pre-determined criteria. The relationship between motivation and proactivity was also explored, as it has been speculated that only autonomous motivations should affect proactivity (Parker, Bindl, & Strauss, 2010). Manipulation of task accountability was also investigated. Interesting trends were found with respect to intrinsic motivation and proactivity in particular. Implications for workplace proactivity are discussed. Additional research is currently extending this study with a broader population group, the results of which may be available for presentation.

Keywords: motivation (Organisational Behaviour), creativity (Organisational Behaviour), work performance (Organisational Behaviour)

PAPER TEXT -
Proactivity by individuals refers to anticipatory, change-oriented and self-initiated behaviour, specifically engaged in the work place, with the aim of improving current circumstances or creating new ones that will benefit future demands (Crant, 2000; Sonnentag, 2008). It means taking control, challenging the status quo and making things happen rather than just adjusting to a situation or waiting for something to happen (Frese, Kring, Soose & Zempel, 1996; Parker, 2000). A more recent conceptualisation conceives proactivity as a broader variable that includes an orientation to a particular action, and a set of behaviours that are likely to occur in the context of this trait and other antecedent factors. This development recognises that there are likely common motivational processes across different types of proactive behaviour, beyond simply proactive personality as a driver (Parker, Bindl, & Strauss, 2010). The Proactive Motivation Model (Parker et al., 2010) provides a theoretical conceptualisation of this view of ‘proactivity as a process’, which suggests that individual differences impact on proactive motivation, which encompasses motivational states and goal regulation, which then results in observable outcomes or behaviours. A key difference in this model, as compared with earlier theories, is the addition of motivation as a primary influence in why proactivity might occur or not occur in individual behaviour. The very nature of proactivity, as goal-directed and self-initiated suggests that motivation plays a pivotal role in the process of proactivity being undertaken. However, this is a factor that has largely been overlooked in the earlier proactivity literature.
Motivation and Proactivity

Parker et al. (2010) recognise two general forms of motivation as antecedents of proactive goal generation and striving in their model of proactive motivation: ‘can do’ and ‘reason to’ motivation states. The latter refers to whether the individual desires the proactive goal, either by wanting to be proactive, or recognising some value in acting proactively. This ‘reason to’ state of motivation is often broken down into more finite types of motivation, which vary in their autonomy (e.g. Deci, 1971). The types of motivation vary on a continuum of high to low levels of self-determination, with intrinsic motivation representing the highest level of self-determination and self-willing, followed by extrinsic motivation, followed by amotivation (Guay, Vallerand, & Blanchard, 2000). Within the category of extrinsic motivation, there are also different forms of this motivation that are purported to differ in their level of self-determination and autonomy: integrated regulation, introjected regulation, identified regulation, and external regulation (from highest levels to lowest). Overall, there is little empirical research that has specifically investigated the relationship between motivation and proactivity. Thus, the finite forms of motivation form the focus for the present research, in order to better understand the role of motivation in the proactivity process and understand which finite type of motivation is more central to explaining the occurrence of proactivity.

Some researchers have suggested that proactive behaviour is most likely to occur in “weak” situations (Mischel, 1973) where individuals have high levels of discretion and autonomy, goals are very broadly defined, and the means and methods for achieving the goals are not prescribed (Griffin, Neal, & Parker, 2007). Under these circumstances a strong intrinsic force is required to drive the initiated proactive behaviour. Similarly, Parker et al. (2010) proposed that individuals will be more likely to set and strive for proactive goals when they find their tasks enjoyable, intrinsically interesting, or a source of flow. According to these views, it would seem that intrinsic motivation is likely to be most associated with proactivity. However, temporal construal theory suggests that when goals are longer term focused than shorter term focused, the desirability of the goal is a stronger determinant than its feasibility (Liberman & Trope, 1998); thus ‘reason to’ states, particularly autonomous extrinsic forms
of motivation, may be more important in generating proactivity, particularly for long-term oriented proactive action. For example, integrated (autonomous extrinsic) motivation is illustrated in the research that has shown that individuals who indicate work as a calling engage in active job crafting (a form of proactive behaviour) because of their high personal investment in the work (Wrzesniewski & Dutton, 2001). Likewise, identified (autonomous extrinsic) is illustrated in the example of an individual who perceives feedback as valuable to achieving his or her goals consequently engaging more in feedback seeking behaviour, another form of proactivity (Ashford, Blatte, & VandeWalle, 2003). In contrast, introjected and external motivation, both controlled forms of extrinsic motivation, have little evidence to support their role in promoting proactivity. For example, in the context of goal progress and the pursuit of personal goals via implementation planning, autonomous motivation was shown to be substantially related to goal progress, but controlled motivation was not (Koestner, Otis, Powers, Pelletier, & Gagnon, 2008).

Despite the limited empirical research explicitly exploring the impact on or relationship of the different motivational forms to proactive behaviour, evidence in the wider literature, outlined above, suggest that autonomous motivation (intrinsic, integrated, and identified) predicts may be more likely to predict proactivity than controlled motivation.

*Hypothesis 1:* Autonomous forms of motivation (intrinsic, integrated, identified) will positively predict proactivity. Although all three forms of motivation are expected to positively correlate with proactivity, each form represents a different motivation for an individual to act proactively. For example, an association with intrinsic motivation would mean that proactivity is driven by personal interest and enjoyment in the proactive task, whereas an association with identified motivation would mean that individuals see a value in engaging in proactivity.

*Hypothesis 2:* Controlled forms of motivation (introjected, external) will be negatively related to proactivity.

**Experimental Method Approach**
Whilst empirical research investigating the impact of motivation on proactivity is relatively sparse, the broader proactivity literature is also limited in its experimental research. Utilising experimental method is critical for resolving limitations and uncertainties in existing literature by investigating underlying mechanisms, which are difficult to establish in field settings. Much of the existing research evidence is based on self report measures, which is problematic given the general acceptance that proactivity is a beneficial behaviour to display in a workplace setting, and therefore susceptible to self-report biases. Laboratory-based research would assist in testing the queries and causal relations posed by existing proactivity literature, including the recent inclusion of motivation as an antecedent of proactivity which has little experimental evidence to support the proposed relationships between different forms of motivation and proactivity.

The present research endeavours to narrow the existing gap by investigating the relationship between individual motivation and proactivity in a laboratory setting. Additionally, the research engages a laboratory setting via utilising an online survey method. As this approach is comparatively novel, the present study acts as somewhat of a pilot using psychology students in order to establish support for the laboratory methodology. The study will also provide support for the use of an inbox simulation task via the online survey method, as well as developing a method for assessing proactivity objectively. Validating the laboratory method as a reasonable approach would provide direction for future research to use this method as a way of substantiating the associations, questions and causal relations currently theorised in the proactivity literature. This is particularly the case for measuring and supporting motivation as an important feature of the proactivity process.

**Situational Antecedents and Proactivity**

The experimental method attempts to provide consistency in the contextual factors across participants, although the impact of situational antecedents has been widely recognised in the proactivity literature. Capitalising on the benefits of engaging a laboratory approach, the present study also attempts to gain support for existing research claims regarding situational antecedents. In particular, Grant and Ashford’s (2008) model proposes that ambiguity, autonomy, and accountability are key situational
antecedents likely to influence the performance of proactivity. Although there is substantial evidence for the impact of autonomy, and to a lesser extent, ambiguity, there is very little evidence supporting the theoretical impact of accountability on proactivity. Consequently, and due to the belief that it should be able to be manipulated in a laboratory setting, accountability was included as a variable in the present study. The inclusion of this variable within the experimental method creates an additional context for participants, according to the different manipulation levels, but the experimental approach provides control over other contextual factors that often exist in workplace settings.

Based on evidence in the feedback seeking research, Grant and Ashford (2008) propose that in situations of low accountability, individuals are less likely to perform proactive behaviour because they risk image costs and cannot blame external circumstances if they perform proactively and fail (Grant & Ashford, 2008). In contrast, in situations of high accountability individuals are more likely to engage in proactive behaviour as the individuals are held personally responsible for their actions, so that any proactive activity is likely to increase changes of success and demonstrate initiative if anything, rather than pose additional risk (Grant & Ashford, 2008). Thus, in the present study it was anticipated that situational accountability would increase proactivity, such that:

\[ \text{Hypothesis 3: High accountability will enhance the positive relationship between autonomous forms of motivation and proactivity, whereas low accountability will not augment this relationship.} \]

**METHOD**

**Sample and Procedure**

Fifty three first year psychology students completed a simulated in-basket memo task via an online questionnaire. The mean age was 22.02 years (SD = 8.05). The study employed a between-subjects design to explore the effects of accountability, and a within-subjects design to explore the effects of motivation. The questionnaire randomly allocated participants to one of three situational conditions. To examine the relationship between accountability, motivation, and proactivity, the present study manipulated situational condition with three levels: low accountability, high accountability, and a control condition. Accountability was manipulated via the instructions participants received prior to
engaging in the proactivity task, whereby the level of accountability for participants’ responses varied across condition.

*High Accountability:* Participants received instructions that their responses were to be reviewed individually by experts and specific suggestions would be recorded for future organisational use by a specific organisation.

*Low Accountability:* Participants received instructions that their responses were to be combined with others and reviewed as a group for general comments to be used in related organisational settings.

*Control:* Participants received instructions that their responses were to be reviewed following the experiment.

There was some deception involved in the manipulation of accountability, as participants’ responses in each condition were not actually reviewed any differently across the conditions. The use of deception was approved via the Macquarie University Ethics Review Committee.

Participants’ responses were to an in-basket task (Shalley, 1991) that involved responding to problems recorded in memo form that would be presented to the ‘human resource director of a steel company’, hence responding from a human resource perspective. As an example, one of the memos is from an employee asking for advice on how to deal with his ‘incompetent’ manager, from whom he requires a recommendation for a promotion available in coming months. Participants were asked to review the memos in a simulated email inbox and respond with solutions to the problem outlined in the memos, on the behalf of the HR manager to whom the memos were directed: “You are asked to complete the goal of this task, which is to write down the most PROACTIVE solution that you can think of, for each problem (that Chris faces). Give enough details so that your solution could be implemented”. Participants were also advised that the key goal was to ensure that these solutions were proactive. The format for responding to the in-basket items was open-ended text entry. Participants did not require any background experience or knowledge in order to respond to the items, and the practical quality of the responses provided was not evaluated.
The level of proactivity was evaluated and to assess and determine the level of proactivity demonstrated by each participant, the evaluation of two expert judges was utilised, with judgement conducted according to a strict guideline of criteria. This evaluation criteria was developed by synthesising accepted definitions or proactivity from the proactivity literature. Proactivity by individuals was therefore considered to be active (as opposed to reactive), anticipatory, change-oriented and self-initiated behaviour, specifically engaged in the work place (Crant, 2000; Sonnentag, 2008; Parker, 2000). It involved taking control, challenging the status quo and overcoming obstacles to make things happen, rather than just adjusting to a situation or waiting for something to happen (Frese, Kring, Soose & Zempel, 1996; Parker, 2000). Proactivity also involved acting in advance of a future situation, rather than just reacting and aims to improve current circumstances or create new ones that will assist in meeting future work demands (Grant & Ashford, 2008). Based on these definitions, evidence for proactivity in the suggested solution included: anticipation of problems and/or risks; anticipation of opportunities; articulation of a goal or desired end state; statement of a planned sequence of actions (e.g. first… then…); preparation of a contingency plan (e.g. if X doesn’t work, try Y); adoption of an approach likely to effectively change the situation and/or make a real difference to the problem at hand; adoption of an approach likely to have a long-lasting impact (has a long-term focus), and/or; broadening the scope of the issue beyond the problem presented. For each memo, judges allocated a score of either 0 or 1 for each of the above criteria. This evaluation checklist is available upon application to the researchers. An overall proactivity score was determined by adding scores across all criteria for each memo, and then calculating the mean across all attempted memos.

**Measures**

*Situational Motivation* was measured via a Situational Motivation Questionnaire adapted from two motivation questionnaires utilised in prior studies (Parker & Jimiesson, unpublished; Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009). Tremblay et al.’s (2009) measure underwent validation testing, with results pertaining to the validation of the measure being consistent with the
findings obtained with similar Self Determination Theory-based instruments used in other life
domains (e.g., sports: Pelletier, Fortier, Vallerand, Tuson, & Brière, 1995; environment: Pelletier,
Tuson, Green-Demers, Noels & Beaton, 1998). This enables a high degree of consistency in estimates
of factor loadings, reliability, and intercorrelations as well as content and criterion validity for the
measure of motivation in work-based context. The Parker and Jimiesson (unpublished) measure
translates the items into a work-specific setting and is presently undergoing validation. Responses to
the items were given on a scale ranging from 1 (Does not correspond at all) to 7 (Corresponds
exactly) according to how well the motivation statement reflected the participant’s motivation to
complete the task. Although the Situational Motivation Questionnaire included integrated motivation
in its measure (as in the Parker & Jimmieson and Tremblay et al. scales), in the present study this type
of autonomous motivation was not found to be sufficiently independent from the identified form of
motivation and so was not included in the analysis of results. While unexpected, this is somewhat
consistent with research using other SDT-based motivation scales, which has found that because both
identified and integrated forms of motivation are characterised by an internal perceived locus of
causality the two forms are often difficult to differentiate (e.g. Gagne et al., 2012).

Situational motivation was measured at three time points in the study: at the beginning of the survey,
prior to the manipulation (Time 1); immediately following the manipulation (Time 2), and; following
completion of the proactivity in-basket task, at the end of the survey (Time 3). The time between each
of these points varies according to the length of time the participant takes to complete each section of
the survey. According to their order and position within the survey, the shortest time is between Time
1 and Time 2 (a matter of minutes), whereas the time between Time 2 and 3 should be far greater (at
least more than 15 minutes). The three different time points were of interest because finding effects at
the different points would have different implications. That is, Time 1 provides a baseline of
participants’ motivation and any effect between this motivation and proactivity indicates that
motivation, as unrelated to the task, has some relationship with proactivity. Time 2 represents the
motivation following the accountability manipulation, which determines whether the situational factor
influences participants’ motivation. Whereas, Time 3 is a retrospective reflection of participants’
manipulation, which may be a more accurate reflection of the motivation experienced once the task is known and has been conducted.

RESULTS

Manipulation check. A one-way analysis of variance with contrasts comparing the experimental conditions revealed that across the three conditions, perceptions of accountability were not significantly different, $F(2, 46) = 0.06, p = .95$. A univariate analysis of variance was also conducted for each of the motivation types; however we did not find support that these significantly differed across the accountability conditions. Based on these findings, it appears that the accountability manipulation was unsuccessful in creating different levels of accountability. Consequently, the measure of motivation at Time 1 are no longer valid because the accountability manipulation was the only intervening factor between the measure of motivation at Time 1 and Time 2.

Hypothesis tests. The means, standard deviations and correlations between proactivity and the different forms of motivation are displayed in Table 1. Motivation at both Time 2 and 3 were included in the analyses to determine whether proactivity related differently to the motivation type at the two time points. The correlation results indicated that intrinsic motivation was positively related to proactivity at Time 3 ($r = .31, p < .05$), although at Time 2, it was not significant. A paired samples t-test revealed that the change in motivation at Time 2 ($M = 3.48, SD = 1.47$) and Time 3 ($M = 3.86, SD = 1.63$) was in fact a significant increase, $t(48) = -2.36, p < .05, d = 0.68$. The correlation analysis also revealed a negative trend between introjected motivation and proactivity, which almost achieved significance ($r = -.29, p = 0.51$). Introjected motivation at Time 3 ($M = 3.65, SD = 1.50$) was also found to be significantly greater than at Time 2 ($M = 4.01, SD = 1.51$), $t(48) = -2.41, p < .05, d = 0.23$. The correlation results also indicated at Time 3 identified motivation trended towards a positive relationship with proactivity, whilst the other controlled form of motivation (external) trended towards a negative relationship with proactivity, although these results were non-significant.
A multiple regression analysis was conducted to further investigate and consolidate the relationships found at Time 3, with each motivation form forming the independent variables and the judges’ proactivity scores as the dependent variable. Only intrinsic motivation significantly predicted proactivity, $\beta = .391, t(44) = 2.06, p < .05$; all other relationships were non-significant.

**DISCUSSION**

The present study provided some headway into the laboratory method approach to the investigation of proactivity and its relationship with other key variables. The experimental approach is one that is lacking in existing proactivity literature, particularly for the investigation of motivation as an antecedent of proactivity as it is a relatively recent inclusion with the emergence of the proactivity process model (Parker et al., 2010). Therefore, the current study provided foundation and guidance for the use of a laboratory method and objective measure for investigating proactivity, as well as the use of an online procedure for examining elements of the proactivity process.

Motivation is one such element of the proactivity process that was able to be investigated using the current experimental approach. Results from the current study provided support for existing literature which suggests that proactivity is most likely to occur as a result of intrinsic motivation, as opposed to the other forms of motivation, particularly controlled forms (Parker et al., 2010). Individuals high in intrinsic motivation were found to engage in greater proactivity, whilst the other autonomous forms of motivation did not yield the same result. The positive relationship between intrinsic motivation and proactivity reinforces the view that individuals will engage in proactivity when they find a task enjoyable, intrinsically interesting, or a source of flow (Parker et al., 2010). Under this view, it is assumed that the intrinsic motivation will drive the individual to engage and maintain the proactive behaviour. However, the present results found that intrinsic motivation was more strongly related to proactivity after the proactive task had been completed. It is difficult to ascertain the causal direction of the relationship between the two based on the current study, however there are a number of potential answers to this finding. Of particular note, is the potential that the proactive task itself generates intrinsic motivation which then perpetuates the engagement in proactivity. This is not
dissimilar to the assertion that proactive behaviour is most likely to occur in “weak” situations (Mischel, 1973) where individuals have high levels of discretion, goals are very broadly defined, and the means for achieving the goals are not prescribed (Griffin, Neal, & Parker, 2007), which is likely to require intrinsic force to drive the initiated proactive behaviour. The present results are unable to elucidate the nature of this relationship, however it does pose questions for future investigation.

The present finding that individuals high in introjected motivation were less likely to engage in proactive behaviour also supports the existing literature which asserts that individuals motivated by controlled sources are less likely to act proactively (e.g. Koestner et al., 2008). As introjected motivation is characterised by feeling motivated to demonstrate ability to maintain self worth (Deci & Ryan, 1995), behaviour motivated by introjected regulation is not perceived as freely chosen and is therefore predicted to not motivate proactivity and potentially even suppress it (Parker et al., 2010). The present finding is therefore consistent with this speculation and evidence that a strong performance goal orientation (which is generated by autonomous regulation) is negatively linked to proactive work behaviours (Parker & Collins, 2010).

**Limitations and Suggestions for Future Research**

One of the key limitations of the present study was the small sample size and the consequent difficulty in achieving significant results. Future research may amend this by conducting the same study with a similar group of participants to increase the statistical power of the sample; revisiting the results found above with a larger sample would be beneficial to determining the substance of the relationships found presently, particularly those found to be close to significance. Future research in this area is also warranted in order to explore the effects of motivation and accountability on proactivity within a broader sample group. In the present study the population was made up of first year psychology students, who presumably do not have as much work experience as what a broader sample group might possess. In fact, the researchers are presently conducting a very similar study as to the present research with a broader ‘industry’ group of participants, all of whom are required to be presently working and understand a workplace environment. This aspect is particularly important to this
research area as proactivity is fundamentally a work-based phenomenon. Research conducted with a work group is potentially more reliable for generalising results past the sample to the broader workplace.

A further limitation was the unsuccessful accountability manipulation as participants in the different conditions did not perceive their level of accountability differently. This variable is worth investigating further as it is a condition that can be manipulated in an experimental setting and has been suggested to impact on proactivity (Grant & Ashford, 2008). Future research may overcome this manipulation effect by not providing any accountability information to the control group and altering the information provided to the other conditions to increase the level of detail provided to participants. This is the amendment the current researchers have taken in the extension study in order to improve the manipulation effect.

Due to the existing limitations, the present study has provided a useful pilot for what is a relatively novel approach to exploring the impact of antecedent variables and proactivity and has provided direction for a larger study involving a professional sample population. The findings related to motivation and proactivity pose some interesting trends and implications for the kind of motivation that is likely to enhance proactivity, although future experimental research may assist in determining the direction of this relationship. Moreover, the results of the present study do indicate the utility of an experimental approach for exploring the relationship between motivation and proactivity and provides support for the laboratory technique as a valuable method. Advancing this literature using an experimental approach has important implications for isolating and confirming the factors that do impact on individuals engaging in proactivity, rather than relying on self-report information. This in turn has significant implications for encouraging and enhancing proactivity in an organisational environment.
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their work. Academy of Management Review, 26, 179-201.
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