

The Influence of Fit Between Regulatory Focus and Decision-Making Strategies on Moral Judgment

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ABSTRACT

Using a 2 (regulatory focus: promotion/prevention-focused) \times 2 (decision-making strategies: intuitive/rational strategies) experimental design, the current study explored the influence of regulatory focus and decision-making strategies on moral judgment. The results are as follows: (a) The main influencing effect of regulatory focus was statistically significant. Specifically, participants that were promotion-focused tended to make utilitarian moral judgments while participants that were prevention-focused tended to make deontological moral judgments. (b) The interaction effect of regulatory focus and decision-making strategies was also statistically significant. Specifically, moral judgement scores from participants that were promotion-focused were higher when they adopted intuitive rather than rational strategies while the scores of participants that were prevention-focused were higher when they adopted rational rather than intuitive strategies. These results suggest that the fit between regulatory focus and decision-making strategies can influence moral judgment.

KEYWORDS

regulatory focus
decision-making strategies
regulatory fit
moral judgment

INTRODUCTION

Moral judgment refers to the process of evaluating and judging the rightfulness of individuals' own behavior and that of others (Haidt, 2001; Ye & Zhang, 2015). It is important to understand how individuals make moral judgments (Greene & Haidt, 2002). Individuals can predict others' decisions and behavioral tendencies under certain circumstances based on the other parties' moral judgments. The original party can thereby decide whether, and in what manner, to cooperate with them (Li & Rao, 2017). Studies have shown that individuals have two tendencies when making moral judgments: utilitarian and deontological. Utilitarian moral judgments are based on the belief that the behavior that benefits the most people is moral, while deontological moral judgments emphasize that the behavior that complies the best with ethics is moral, even if it may result in a greater loss (Greene et al., 2004; Greene et al., 2001). Researchers have investigated the reasons for such discrepancies from various perspectives, such as cognition (Larson, 2017), emotion (Avramova & Inbar, 2013; Haidt, 2001; Landy & Goodwin, 2015), context (Agerström et al., 2006), embodied cognition (see Ye & Zhang, 2015), individual differences (Monin et al., 2007; Yang et al., 2014; Zheng & Zhao, 2013), and religion and culture (Skitka et al., 2009). In recent years, some studies have begun to explore the influence of regulatory focus on moral judgment from the perspective of motivation theory (Chung et al., 2014; Cornwell & Higgins, 2016; Wu et al., 2016).

Regulatory focus theory (RFT), proposed by Higgins (1997), argues that in order to achieve certain goals, individuals tend to regulate themselves through effort, seen in such ways as changing and controlling their thoughts and reactions. In addition, such self-regulation has two orienta-

tions: prevention and promotion. Individuals with promotion-focused orientation tend to construct their goals in a manner that is desirable to them, emphasizing hopes and accomplishments as well as focusing on gains and avoiding nongains. Individuals with prevention-focused orientation tend to construct their goals in a manner deemed safe, emphasizing safety and responsibility as well as pursuing nonlosses and avoiding losses (Higgins, 1997). Since the proposal of RFT, a large number of empirical studies have confirmed its influence on individuals' cognitive evaluations, behavioral strategies, and judgments in decision-making (see Yao & Yue, 2009). In terms of moral judgment, Chung et al. (2014) found that participants with a stronger prevention-focus orientation are more likely to adopt deontological moral judgment. Long (2016) found that a regulatory focus had an influence on moral judgment. Specifically, individuals that are promotion-focused are more likely to make utilitarian moral judgments than those that are prevention focused. These conclusions are conducive to understanding moral judgments. However, further exploration remains necessary. For example, based on RFT, Higgins (2000) further proposed a regulatory fit theory to emphasize the importance of the relationship between individuals' goals for a given activity and the means in which they engage in the activity. Regulatory fit theory points out that when individuals with different regulatory focus

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orientations apply their preferred behavioral strategies, a regulatory fit is achieved. In addition, such fit tends to produce an additional value that is independent of other influencing factors, resulting in a sense of "rightness" and enhancing positive attitude and emotion toward the current behavior. Hsu and Chen's (2014) study on consumer attitude and purchase intentions showed that the fit between message framing and individuals' regulatory focus (gain- and loss-related prevention focus) led to a more positive attitude and willingness to buy organic food. Cesario et al. (2008) discovered that inducing regulatory fit by manipulation of the framing of message arguments and source delivery style impacts decision-making, and thus, within a persuasive context, rhetoric can be made more effective. A review of existing research showed that few studies have investigated the influence of regulatory fit on moral judgment. However, further clarification of its effect on moral judgment may aid individuals in arriving at sound ethical decisions at significant moments. For example, utilitarian moral judgments are conducive to maximizing people's interests when social rules are not violated. Conversely, deontological moral judgments are more reasonable for resolving conflicts between social rules and interests.

Researchers found that individuals' decision-making strategies have an impact on moral judgment tendencies. Utilitarian judgment is related to intuition and deontological judgment is related to rational reasoning (Baron et al., 2015; Cornwell & Higgins, 2016). Studies have also shown that individuals with different regulatory focus have a preferred decision-making strategy. Specifically, promotion-focused individuals prefer using intuitive and heuristic strategies while prevention-focused individuals prefer using discreet reasoning and analytic strategies (Friedman & Förster, 2001; Gamez-Djokic & Molden, 2016; Levine et al., 2015). However, research on the influence of the fit between regulatory focus and decision-making strategies in moral judgment remains insufficient. Nevertheless, some studies have laid a theoretical basis for the present study. Long (2016) found that, when participants experienced regulatory fit (for both promotion-focused and gain-framed as well as prevention-focused and loss-framed tasks), they tended to make more ethical judgments for behavior compared to participants without regulatory fit. Thus, participants with regulatory fit were less inclined to make utilitarian judgments. Wang et al. (2011) applied regulatory fit theory to multi-attribute decision-making tasks among consumers and found that, when individuals with a different regulatory focus adopted their preferred decision-making strategies (promotion-focused intuitive strategies and prevention-focused rational strategies), regulatory fit was achieved.

Based on existing theoretical and empirical research, the following hypotheses were proposed in the current study:

H1: Regulatory fit can be achieved between regulatory focus and decision-making strategies (intuitive and rational strategies) in moral judgments.

H2: The regulatory fit between regulatory focus and decision-making strategies affects moral judgment: When promotion-focused individuals adopt intuitive strategies, they will be more likely to make utilitarian moral judgments. When prevention-focused individuals adopt intuitive strategies, they will be more inclined to make deontological moral judgments.

METHOD

Participants

120 college students (49 males and 71 females; $M_{\text{age}} = 19.56$, $SD = 1.03$) were recruited as participants for the experiment.

Procedure

The participants were randomly divided into four experimental groups (30 in each group). None of the participants were aware of the purpose of the experiment nor had any experience in participating in similar studies. The responses of 19 participants that either did not complete the answers or selected consistent answers for all the questions in the questionnaire were removed, yielding 101 valid responses. The removed subjects were from four experimental cells. Each cell ultimately ensured more than 24 subjects. Each participant got 5 RMB (about 0.8\$) after the experiment for participation.

This study was approved by the ethical committee and the school boards of School of Psychology of Jiangxi Normal University. Participation in the study was voluntary and guaranteed anonymity, as indicated clearly by the informed consent form.

Experimental Design

This study applied a 2×2 (situational regulatory focus [promoting/prevention] \times decision-making strategies [intuitive/rational]) between-subjects experimental design. The dependent variable was moral judgment. A 7-point scale was used to rate moral judgment. Higher numbers (higher ratings of moral judgment) indicated a greater likelihood that the participants would make utilitarian moral judgments.

Studies have shown that individuals tend to adopt intuitive decision-making strategies when they are under time pressure to complete their tasks (Dijksterhuis et al., 2006). Therefore, referring to Wang et al.'s (2011) study, we manipulated participants' decision-making strategies through the inclusion of a time limit, which was introduced in the instructions. Specifically, participants primed with rational decision-making strategies (rational group) had no time limit to answer the questions and were asked to think about their answers carefully. Participants primed with intuitive decision-making strategies (intuitive group) were given a time limit to answer the questions and were asked to provide answers as quickly as possible. Fifteen participants were selected to test the time required to complete the task. The average total time it took to complete all the questions was approximately 3 minutes. Hence, 3 minutes was determined as the time limit to be included in the intuitive group. Next, another 20 participants were selected to test the manipulation effect of the decision strategies. The participants were asked to rate whether their responses were intuitive or rational on a 7-point scale (1 = *totally rational* and 7 = *totally intuitive*). The results showed that the manipulation of decision strategies was effective, $M_{\text{intuitive strategy}} = 4.64$, $M_{\text{rational strategy}} = 2.69$, $t(19) = 6.221$, $p < .05$, $r = .82$.

The instructions for manipulating the participants' decision-making strategies for the rational group were as follows:

"Next, you are going to be asked to complete the second task. There are no correct answers to the questions. Please read the following materials thoroughly, carefully consider, and analyze the advantages and disadvantages of the options, make a judgment after thorough deliberation, and select the number that best corresponds to your answer. There is no time limit for the completion of the task."

The instructions given to the intuitive group were:

"Next, you are going to be asked to complete the second task. There are no correct answers to the questions. Based on your first impression, make a judgment intuitively, instinctively, and as quickly as possible, and select the number that best corresponds to your answer. You must complete all questions within 3 minutes. As you have only 3 minutes, please pay attention to the time."

Experimental Materials

PRIMING MATERIALS FOR SITUATIONAL REGULATORY FOCUS

Both situational and chronic regulatory focus can predict individuals' behaviors and judgments, while the effect of situational regulatory focus is more prominent (Lee et al., 2000). Hence, this study focused on situational regulatory focus.

Referring to existing research (Friedman & Förster, 2005; Higgins et al., 1994; Lee et al., 2010; Long, 2016), this study adopted a dual-task method designed by Friedman and Forster (2001) to prime the regulatory focus. The first task aimed to prime promotion and prevention focus through a self-directed task. Specifically, the promotion-focus group was requested to recall their hopes and aspirations in the past and present (ideal self) while the prevention-focus group was asked to recall their responsibilities and duties (ought self). Task 2 involved solving a maze where the participants were asked to assist the cartoon mouse in the center of the maze find its way out (by drawing a path out of the maze on the paper). In addition, a piece of cheese was drawn at the exit of the maze provided to the participants of the promotion-focus group and the instructor instructed the participants that their

goal was to assist the hungry little mouse escape the maze and get the cheese (see Figure 1). An eagle that appeared to be diving towards the mouse from the sky was drawn above the maze provided to the participants from the prevention-focus group and the instructor told the participants that their goal was to help the mouse escape the maze to avoid being eaten by the eagle (see Figure 2).

MATERIALS FOR VALIDITY TESTING OF THE PRIMING OF THE REGULATORY-FOCUS TASK

The questionnaire used in Pham and Avnet's (2004) study to test the effect of the manipulation was adopted to examine the validity of the priming of the regulatory-focus task. The questionnaire consisted of three items (one indicative and two counter-indicative items), which adopted the form of a semantic differential scale. Each item included two opposing statements and the participants were asked to select the number that indicated their level of agreement. The items were rated on a 7-point scale (1 = *totally agree with the statement on the left* and 7 = *totally agree with the statement on the right*) and the two opposing statements were placed on the left and right side of the scale, respectively. For example, "I prefer to do the thing that everyone recognizes as right." "1 2 3 4 5 6 7" "I prefer to do what I want to do." Participants that selected a lower number were assumed to be more prevention-focused while participants that selected higher numbers were assumed to be more promotion-focused.

MATERIALS FOR THE MORAL JUDGMENT TASK

Five ethical dilemmas used in Conway and Gawronski's (2013) study were adopted. A detailed description of one of the dilemmas is as follows:

"You are driving through a busy city street when, all of a sudden, a young mother carrying a child trips and falls into the path of your vehicle. You are going too fast to brake in time; your only hope is to swerve out of the way. Unfortunately, the only place you can swerve is currently occupied by an old lady. If you swerve to avoid the young mother and baby, you will likely seriously injure or kill the old lady. Is it appropriate to swerve and hit the old lady in order to avoid hitting the young mother and child?"



FIGURE 1.

The Maze to Prime Promotion Focus



FIGURE 2.

The Maze to Prime Prevention Focus

In order to test the application of the materials among Chinese participants, two pilot studies were conducted.

In the first pilot study, 42 individuals (18 males and 24 females) were recruited and asked to determine if the behaviors presented in five moral dilemmas were moral or immoral. Approximately 45% to 60% of the participants thought the behavior in the first four dilemmas was moral. 71.43% of the participants thought that the fifth dilemma was moral, and the proportion of immoral respondents was 28.57. Overall, respondents did not reach consistent conclusions, which indicated that the materials had satisfactory discriminant validity.

In the second pilot study, the dual-task method was used to prime the participants' situational regulatory focus (promotion- and prevention-focused). Once the priming of the regulatory-focused task was confirmed to be valid, the participants were given the five dilemmas and asked to rate whether they thought the behavior described in each dilemma was moral on a 7-point scale (e.g., "Is it moral to swerve and hit the old lady in order to avoid hitting the young mother and child?"). The differences in the participants' choices were then analyzed. Sixty-eight undergraduates were selected for the second pilot study. After eliminating the responses of six participants that were either incomplete or selected the same answer for all the questions, 62 valid responses were yielded (25 males and 37 females; 34 promotion-focused and 28 prevention-focused). The results showed that the effect of the manipulation on regulatory focus was significant, $M_{\text{promotion focus}} = 4.81$, $M_{\text{prevention focus}} = 3.94$, $t(60) = 2.885$, $p < .01$, $r = .35$. Statistically significant differences were found in the ratings of the first four dilemmas between the promotion-focused and prevention-focused groups. However, no statistically significant differences were found for the results of the fifth dilemma, $M_{\text{promotion focus}} = 5.79$, $M_{\text{prevention focus}} = 5.60$, $t(60) = 0.49$, $p > .05$, $r = .06$. Therefore, only four of the questions from the study by Conway and Gawronski (2013) were used as materials in the formal experiment.

Experimental Procedure

The participants were given pens and paper to complete the questionnaire. The experiment was implemented one group at a time. The experiment consisted of three steps. First, the participants were asked to complete the tasks that primed the corresponding situational regulatory focus. Next, they were asked to complete three questions that examined the effectiveness of the dual-task priming. Finally, they were asked to complete the moral judgment task based on the moral dilemmas. We report all measures, manipulations, and exclusions.

TABLE 1.

Descriptive Statistics of the Score of Moral Judgment by Group

Regulatory Focus	Decision-Making Strategies	<i>n</i>	Moral Judgment Scores ($\bar{X} \pm S$)
Promotion Focus	Intuitive	26	4.36 \pm 1.33
	Rational	24	3.68 \pm 1.11
Prevention Focus	Intuitive	25	3.18 \pm 1.14
	Rational	26	3.86 \pm 1.07

RESULTS

Testing the Manipulation of Regulatory Focus

Independent-samples *t*-test was used to examine whether the priming of the situational regulatory focus task was successful. The dependent variable was the mean value of the ratings of each item on the manipulation results questionnaire. The results showed that the mean value of the promotion-focused group was statistically significantly greater than that of the prevention-focused group, $M_{\text{promotion focus}} = 4.79$, $M_{\text{prevention focus}} = 3.83$, $t(99) = 3.04$, $p < .01$, $r = .29$. The findings suggested that the priming of the situational regulatory focus was effective.

Moral Judgments under Different Conditions and ANOVA

The mean scores in the four moral judgment tasks for each participant were calculated, then the mean values and SDs of the moral judgments of each group were calculated. The results are shown in Table 1.

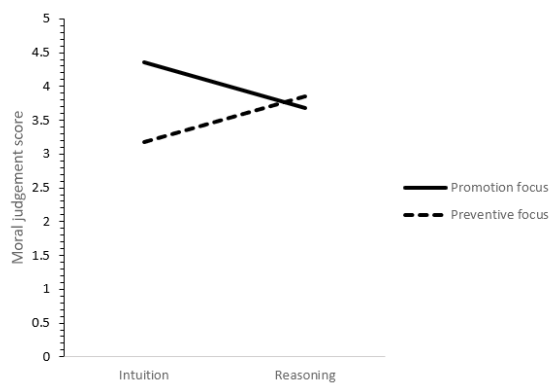
A 2×2 analysis of variance (ANOVA) was computed using regulatory focus and decision-making strategies as the independent variables and moral judgment as the dependent variable. The results showed that the main effect of regulatory focus was statistically significant. The moral judgment score of the promotion-focused group was greater than that of the prevention-focused group, $F(1, 97) = 4.60$, $p < .05$, $\eta_p^2 = .045$. The main effect of decision-making strategies was not statistically significant, $F(1, 97) = .00$, $p > .05$, $\eta_p^2 = .00$. The interaction effect between regulatory focus and decision-making strategies was statistically significant, $F(1, 97) = 8.48$, $p < .01$, $\eta_p^2 = .08$. The results of the simple effect test revealed that the moral judgment scores of the promotion-focused group were greater when they adopted intuitive rather than rational decision-making strategies ($p < .05$). The moral judgment scores of the prevention-focused group were greater when they adopted rational rather than intuitive decision-making strategies ($p < .05$, see Figure 3).

Due to the existence of an interaction effect, further simple effect analyses were carried out. Dunnett's *t*-test was applied (see Table 2).

As can be seen from the results of simple effect analysis: (a) in the promotion-focused group, participants who adopted the intuitive strategy reported statistically significantly higher moral ratings than those who adopted the rational strategy; (b) in the prevention-focused group, the participants who adopted the rational reported statistically significantly higher moral ratings than those who adopted the intuitive strategy. In other words, participants experienced a higher sense of "rightness" under the fit condition.

DISCUSSION

In the current study, moral judgment stimuli that simulated real moral dilemmas were used to examine the influence of regulatory focus and decision-making strategies on moral judgment. The results showed that the main effect of regulatory focus was statistically significant. Specifically, participants that were promotion-focused tended to make utilitarian

**FIGURE 3.**

Comparison of Moral Judgment Scores by Decision-Making Strategies and Regulatory Focus

TABLE 2.

Simple Effect Analysis of Regulatory Focus

Regulatory Focus	Mean Difference (Intuitive Strategy - Rational Strategy)	SE	p
Promotion Focus	0.679	0.331	< .05
Prevention Focus	-0.676	0.327	< .05

moral judgments while participants that were prevention-focused tended to make deontological moral judgments. These findings are consistent with existing research (Gamez-Djokic & Molden, 2016; Long, 2016). A likely reason is that promotion-focused individuals are more likely to insure themselves against danger by making risky choices to pursue gains and achieve desired returns, cast more attention on the existence of likely positive outcomes, and are more sensitive towards the emergence/absence of positive outcomes. In contrast, prevention-focused individuals tend to avoid making errors, emphasize safety and responsibility, are more likely to take no action in order to avoid losses, and are sensitive towards the emergence/absence of negative outcomes (Cornwell & Higgins, 2016; Higgins, 1997; Pfattheicher, 2015; Wang et al., 2011).

The current study further investigated the influence of fit between regulatory focus and decision-making strategies on moral judgment. The results showed that the moral judgment scores of participants in the prevention-focused group were greater when they adopted a rational rather than intuitive decision-making strategy while the moral judgment score of participants in the promotion-focused group were greater when they adopted intuitive rather than rational decision-making strategies. These findings indicate that the fit between regulatory focus and decision-making strategies (intuitive promotion-focused decision-making strategies and rational prevention-focused decision-making strategies) could influence individuals' moral judgments by stimulating an increase moral judgment. This may be due to the fact that intuitive decision-making strategies are intuition-inspired, emotional-based, and rapid (Bago & De Neys, 2016), while a promotion focus is more associated with heuristic processes (Higgins, 1997). Therefore, intuitive strategies appear to be more natural for individuals that are promotion-focused. Rational decision-making strategies are slow and rely more

on rational reasoning, cognitive analysis, and accuracy (Trippas et al., 2016), while a prevention focus is more associated to logical reasoning (Higgins, 1997). Hence, rational strategies appear to be more natural strategies for individuals that are prevention focused.

A further analysis of the regulatory fit in the current study revealed that participants in the promotion-focused group tended to make utilitarian moral judgments regardless of the existence of regulatory fit. However, for participants in the prevention-focused group, when regulatory fit was achieved (rational prevention-focused decision-making strategies were used), they were more inclined to make utilitarian moral judgments. When regulatory fit was not achieved (intuitive prevention-focused decision-making strategies were used), they tended to make deontological moral judgments. These findings suggest that when analyzing the influence of regulatory focus on moral judgment, regulatory fit between regulatory focus and corresponding variables should be considered in order to achieve a more comprehensive, objective, and detailed conclusion. Long's (2016) study also found that fit between regulatory focus and the results had an impact on moral judgment. Wang et al. (2011) found the existence of fit between regulatory focus and decision-making strategies in multi-attribute decision-making tasks among consumers. The results of the current study show that the fit between regulatory focus and decision-making strategies can be extended to the field of moral judgment. These findings contribute to the research on regulatory fit theory.

The current study confirmed that the fit between regulatory focus and decision-making strategies can affect moral judgment. However, further studies should be conducted. For example, studies on persuasion and consumer decision-making indicate that when individuals experience a sense of "rightness" (Avnet & Higgins, 2003; Higgins, 2000) and "processing fluency" (Lee & Aaker, 2004) under regulatory fit, the effect is due to the processing mechanism behind regulatory fit. However, no studies have explored if such a mechanism also applies to the field of moral judgment. In addition, Greene's dual-processing theory, a classic theory of moral judgment, posits that moral judgment is a process in which rationality and intuition compete with one another (Greene et al., 2004). When intuitive emotions prevail, individuals make moral judgments. When rational reasoning is dominant, individuals make utilitarian judgments. However, the results of the current study suggested that individuals with a promotion focus prefer to apply intuitive strategies while making utilitarian moral judgments while individuals with a prevention focus tend to make deontological moral judgments when regulatory fit is not achieved. Future studies are suggested to explore whether such inconsistent conclusions are due to the fact that dual-processing theory is sensitive to individual differences.

The current study had certain limitations. First, its primary objective was to examine the interaction of regulatory focus fit and decision-making strategies. It did not compare the impact of situational regulatory focus and chronic regulatory focus on moral judgment. However, according to Wang et al.'s (2011) research on information persuasion, whether adopting situational regulatory or chronic regulatory focus, the influence of information and emotional intensity on value evaluation is consistent. Still, in terms of behavior intention, situational regulatory fit leads

to its enhancement. In contrast, chronic regulatory fit does not lead to behavioral intention change. Situational regulatory fit leads to a broader range of effects than qualitative regulatory matching. Future research can further investigate whether there is a regulatory fit effect between chronic regulatory focus and decision-making strategies in moral judgments.

Second, there were some limitations in the experimental materials. There are some differences between the moral situations in the study and the dilemmas faced by the general public. It is difficult to approach the simulated situation in the same way as a real one. Participants need to rely on their imagination to respond to the presented dilemmas. In daily life, people are more likely to face situations related to personal interests. For example, deceiving others for self-interest, dishonesty, stealing, and so on. In addition, the material presentation will also affect the participants' reactions. Some studies have shown that regulatory orientation type affects risk consideration (Higgins, 1997, 1998; Idson et al., 2000). The framing effect influences individual risk decision-making (Kahneman & Tversky, 1979; Wang, 1996, 2006) and moral judgments (Rai & Holyoak, 2010; Sinott-Armstrong, 2008). Therefore, what is the relationship between regulatory orientation, decision-making strategy, and the framing effect? This question poses an intriguing direction for future research. Changing the study materials and presentations of moral judgments would also potentially be productive in designing future research.

Finally, the current study examined college students only. Therefore, future research should examine generalizability by including participants from a broader range of ages, life experiences, and cultural backgrounds.

CONCLUSION

Using a dual-task method, the current study discussed the influence of fit between regulatory focus and decision-making strategies on moral judgment. The conclusions are as follows:

Participants with a promotion focus were more likely to make utilitarian judgments while participants with a prevention focus were more likely to make deontological judgments. When making moral judgments, regulatory fit exists between regulatory focus and decision-making strategies. Specifically, the moral judgment scores of participants in the prevention-focused group were greater when they applied rational rather than intuitive strategies while the moral judgment scores for participants in the promotion-focused group were greater when they applied intuitive rather than rational strategies. In addition, participants that were prevention-focused were inclined to make utilitarian moral judgments under regulatory fit while participants that were promotion-focused tended to make deontological moral judgments under regulatory fit.

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On behalf of all authors, the corresponding author states that there is no conflict of interest.

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DATA AVAILABILITY

The datasets generated during and analysed during the current study are available from the corresponding author on reasonable request.

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