

How Striving for Your Goal Benefits Others: Directional Motive Incongruence
Predicts Organizational Citizenship Behavior as Explained by Self-Determined
Motivation

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Research Master's Psychology Thesis

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Abstract

Organizational Citizenship Behavior (OCB) refers to employees' extra-role behavior that they do voluntarily without explicitly being rewarded for it. Even though predictors of OCB have been studied intensely, the relation between OCB and motive congruence has not been investigated so far. Motive congruence is conceptualized in terms of matching implicit needs and explicit goals. If motives were congruent, individuals were expected to perform more OCB, due to higher self-determined motivation (SDM). In a longitudinal study with 104 student participants, a new online intervention to manipulate motive congruence was tested. Results showed that the intervention increased motive congruence, while leaving SDM and OCB unaffected. Polynomial regression with response surface analysis shed light on the relation between motive incongruence, SDM and OCB, highlighting the importance of directionality (implicit higher than explicit vs. explicit higher than implicit) of motive incongruence. Correlational data supported the hypothesis that SDM mediates the relation between motive congruence and OCB. Implications of the results are discussed.

Keywords: Directional motive congruence, Self-determined motivation, OCB, Polynomial regression, Response surface analysis

How Striving for Your Goal Benefits Others: Directional Motive Incongruence Predicts Organizational Citizenship Behavior as Explained by Self-Determined Motivation

"First keep the peace within yourself, then you can also bring peace to others."

Thomas a Kempis, 1441 (as cited in Beliefnet, 2013)

As Kempis already suspected in 1441, people need to be in balance with themselves to be social, helpful human beings. In a world of prevalent individualism and competitive markets, it is highly relevant to study factors that promote such prosocial behaviors. Prosocial behavior at work, also known as organizational citizenship behavior (OCB), is of particular relevance. Recent events, like the financial crisis, can partly be attributed to missing prosocial behavior, for instance to the limited liability of managers (Kou, 2009). Furthermore, increasing numbers of burnout (e.g., Driessen & Hooftman, 2012) might be alleviated by more prosocial behavior, for instance in form of social support at work (Halbesleben, 2006).

Even though predictors of OCB have been studied intensely, so far no research has linked OCB to motive congruence within individuals, which can be regarded as a measure of being in balance with oneself and presumably promoting prosocial behavior. Motive congruence is conceptualized in terms of matching implicit needs and explicit goals. In order to understand why motive incongruence exists and how it relates to OCB, it is discussed here in light of personality systems interactions theory (PSI theory; Kuhl, 2001). Furthermore, we propose that the directionality of motive incongruence (higher implicit than explicit motive vs. higher explicit than implicit motive) matters for OCB and for the proposed mediator of the relation between motive congruence and OCB, namely self-determined motivation (see Figure 1). Testing this model offers a unique combination of this particular organizational

phenomenon (i.e., OCB) with self-determination and PSI theories. Furthermore, in the present study, a new online intervention is implemented to manipulate motive congruence.

In the present longitudinal study, OCB is measured in a university context (e.g., giving extra-lessons to a fellow student or replying to professors' emails on time). University is one of the first institutional instances in which future managers and workers have a chance to develop OCB and only few studies have investigated OCB in this context (Allison, Voss & Dryer, 2001). This is surprising, as early OCB is likely to be one of the most important predictors of later OCB at work (Williams, Pitre, & Zainuba, 2002) and relates to better academic performance (Allison et al., 2001).

In the following, we first review the concepts of OCB and motive congruence. Next, their relation to self-determined motivation is discussed. Then, the idea of directionality of motive incongruence is introduced. Lastly, the theory behind the new intervention in regard to motive congruence is described.

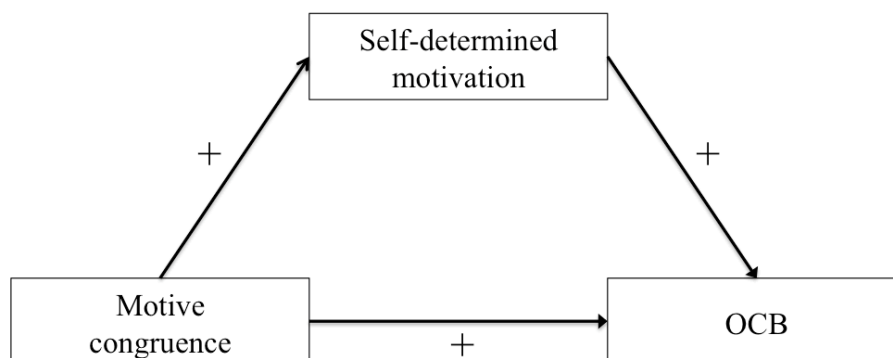


Figure 1: Schematic View of the proposed relationships between motive congruence, self-determined motivation, and OCB.

OCB and motive congruence

Researchers and organizations are highly interested in a phenomenon called OCB. OCB refers to employees' extra-role behavior that they do voluntarily without

explicitly being rewarded for it. Examples are helping a coworker, being active in the workers' council or even cleaning the office coffee machine. OCB is highly relevant because it promotes the success of the organization (Organ, Podsakoff, & MacKenzie, 2006) through its maintenance of the organization's social system (Organ, 1997). Furthermore, it relates to higher job satisfaction among employees (Podsakoff, MacKenzie, Paine & Bachrach, 2000), which is one of the most important predictors of overall well-being (Sousa-Poza & Sousa-Poza, 2000).

Most of the research on OCB has focused on its predictors (Van Dyne & LePine, 1998). Among other factors, individual differences have been studied extensively. Among the five big personality factors, conscientiousness was found to be the only significant predictor of OCB, when controlling for other attitudinal variables, such as job satisfaction (for a review see Organ & Ryan, 1995). There is strong support for the existence of two motive systems within an individual, one explicit and one implicit (e.g., Koestner, Weinberger & McClelland, 1991; Thrash & Elliot, 2002), and it is commonly acknowledged that the information contained in motive (in)congruence is important for personality (e.g., Kuhl, 2001; Thrash, Maruskin & Martin, 2012). Yet, surprisingly, there is no published research on the relation between motive congruence and OCB.

The idea of the existence of two motive systems dates back to McClelland and colleagues in the 1980s. The explicit motivational system is based on self-attributed needs and conscious goals. The implicit system is based on affective experiences, operating outside of conscious awareness and being associated with internal needs (McClelland, Koestner & Weinberger, 1989). These two motivational systems relate to different classes of behavior (McAdams & Vaillant, 1982; McClelland et al., 1989). Specifically, explicit motives predict immediate responses to structured

situations, while implicit motives predict spontaneous behavioral trends over time (McClelland et al., 1989).

PSI theory (Kuhl, 2001) links these two motivational systems to different cognitive systems (i.e., intention and extension memory). Intention memory stores goal representations, which relate to explicit motives. It is a network of central executive functions involving maintenance of an intended action in working memory and inhibition of premature initiation of an intention (Baumann, Kaschel, & Kuhl, 2005). Figuratively spoken, this system is the ‘planner’, which consciously processes information to maintain goals or intentions in memory until they can be implemented. In contrast, extension memory comprises implicit self-schema representing individuals’ core values, needs and wishes, that make up the individual’s self (Baumann & Kuhl, 2005). This system can be regarded as the internal ‘intelligent advisor’ because it stores and has access to a grand volume of experiences, operates fast and in a parallel manner (Kuhl, 2000).

Discrepancy between the two systems carries important information about the congruence of personality (Thrash et al., 2012). This supposition is supported by identified moderators of this relation (e.g., self-monitoring; Thrash, Elliot, & Schultheiss, 2007), its antecedents (e.g., need satisfaction in childhood; Schattke, Koestner, & Kehr, 2011) and its consequences (e.g., volitional depletion; Kehr, 2004a).

According to PSI theory, the most important antecedent of motive congruence is the ability to regulate affect (e.g., to shift from low positive or tense affect to a relaxed mood: see Koole & Jostmann, 2004, Exp. 1 and 3). Affect regulation is required for the systems to interact, as specified in the two modulation assumptions of PSI theory (Kuhl, 2001). The first modulation assumption posits that the inhibition of

positive affect activates intention memory and activation of intention memory reduces positive affect, whereas restoring positive affect (e.g., by self-motivation) facilitates behavioral implementation. The second modulation assumption states that negative affect reduces the activation of extension memory, whereas active down-regulation of negative affect facilitates access to extension memory and the implicit self-schema supported by this system. Conversely, activation of extension memory aids the regulation of negative affect (Baumann et al., 2005).

When this affect regulation is impaired, intention and extension memory are asymmetrically activated. This results in either chronic activation of negative affect, which in turn impedes access to extension memory or chronic inhibition of positive affect, which over-activates intention memory, rendering access to extension memory more difficult (Baumann et al., 2005). Presumably, this imbalance between the two systems impairs their interaction and results in incongruence between implicit needs and explicit goals.

Researchers are in agreement that congruence is beneficial relative to incongruence (Thrash et al., 2012). For instance, it has been shown that motive incongruence has a detrimental effect on well-being and health (Baumann et al., 2005; Kazen & Kuhl, 2011; Kehr, 2004a; Schüler, Job, Fröhlich, & Brandstätter, 2008; Sheldon & Kasser, 1995). Conversely, positive effects of motive congruence on behavior have received less attention in empirical research (e.g., Baumann et al., 2005, Hagemeyer, Neberich, Asendorpf, & Neyer, 2013). In this paper, we attempt to consolidate knowledge in this field and scrutinize the folk wisdom that being ‘in balance with yourself’ makes you behave in a more prosocial way.

Hypothesis 1: Motive congruence positively relates to OCB.

In this study, we sought to explicate the mechanism underlying the relation between motive congruence and OCB. Specifically, we argue that motive congruence and self-determined motivation (SDM) are related because they both depend on affect regulation, which enables intention memory to access extension memory (i.e., have self-access). SDM was in turn expected to influence OCB.

Motive congruence and self-determined motivation

SDM originates from forming and implementing goals that represent the interests of one's self (Self-determination theory, SDT; Deci & Ryan, 1991). SDM involves acting with a sense of volition and having the experience of choice, while controlled motivation (i.e., not self-determined) is associated with the pressure of *having to* do something (Gagne & Deci, 2005). The prototype of SDM is intrinsic motivation (i.e., engaging in an activity for its own sake, because one finds it enjoyable, pleasurable and interesting; Millette & Gagne, 2008), as intrinsic motivation refers to doing an activity whole-heartedly volitionally.

If an activity is not interesting in itself (i.e., the motivation is "extrinsic"), the motivation can become self-determined through a process called *internalization*. This process occurs when people take in values, attitudes or regulatory structures, so that formerly external regulations (e.g., 'my boss is watching, so I work') are transformed into internal regulations (e.g., 'I work even when my boss is not watching', Gagne & Deci, 2005). According to SDT, motivation varies along a controlled-to-self-determined continuum in which motivations are progressively more self-determined depending on the extent to which the goal/behavior has been *internalized*: The continuum ranges from amotivation (i.e., lack of intention and motivation) over the external, introjected, identified and integrated extrinsic stages to intrinsic motivation (see Gagne & Deci, 2005).

To *internalize* a goal or behavior, intention memory has to exchange information with extension memory, in order to evaluate if the new goal/behavior is in line with the other information contained in the self. In other words, being able to access one's self is a prerequisite for SDM to develop (Kuhl, 2001; Storch, 2009). According to PSI theory, especially the ability to regulate positive affect is an essential requirement for intrinsic motivation and self-determination. The less the ability to generate positive affect from active self-representations is developed, the more the individual depends on external sources of motivation and no internalization occurs (Kuhl, 2001). Support for this assertion also comes from research showing that motive incongruence is negatively related to flow experiences (Schattke, 2011) and other scholars who state that congruence between implicit and explicit motives is a sufficient condition for intrinsic motivation to occur (Kehr, 2004b, p. 489).

As self-determined motivation and motive congruence both depend on affect regulation and self-access, a positive relation between motive congruence and SDM was expected.

Hypothesis 2: Motive congruence positively relates to SDM.

The effect of self-determined motivation

One important predictor of OCB is intrinsic motivation (Farh, Podsakoff, & Organ, 1990; Piccolo & Colquitt, 2006; Podsakoff et al., 2000). One explanation for the relation between intrinsic motivation and OCB is that OCB is less likely to be formally rewarded than regular job behaviors and therefore is presumably performed for self-generated, intrinsic reasons (Piccolo & Colquitt, 2006). This assertion receives support, for instance, from Lee and Allen (2002) who report a link between intrinsic cognitions and some form of OCB and from Rioux and Penner (2001) who report a relation between OCB and an organizational concern motive, which among

others comprises having a genuine interest in work.

Some previous research indicates that SDM is related to prosocial behaviors, like giving blood and volunteering (Gagne, 2003) and engaging in environmentally friendly behaviors (Greene-Demers, Pelletier, & Menard, 1997). The more self-determined the motivation is, the more volition and experience of choice people feel (Deci & Ryan, 1991). This experience of choice associated with SDM makes individuals more likely to joyfully and persistently engage in behaviors (Grant, 2008). OCB is a behavior that originates from volition and free choice as no external regulations demand for it (Piccolo & Colquitt, 2006). Intrinsic motivation is the prototype of SDM. However, also less self-determined forms of motivation are likely to be associated with more OCB than controlled motivation.

Hypothesis 3: SDM positively relates to OCB.

Putting pieces together, SDM can be conceived of as ‘motivation derived from self-access’ and is therefore prone to generate self-determined behavior. Accordingly, we expected SDM to partially mediate the relationship between motive congruence and OCB. We did not expect full mediation because SDM is only one way in which motive congruence relates to OCB. Other factors, such as affect generated by motive congruence, might also influence OCB (see Frijda, 2010). However, the present investigation focused on the effect of motive congruence on SDM.

Hypothesis 4: SDM partially mediates the relation between motive congruence and OCB.

Directionality

Recent research suggested that not only motive incongruence per se but also the directionality of motive incongruence matters (Kuhl & Kazen, 2011). In the following, incongruence derived from explicit being higher than implicit motives is

referred to as *explicit dominance* and incongruence derived from implicit being higher than explicit motives is referred to as *implicit dominance*. Langens and McClelland (1997) described motive incongruence derived from explicit dominance as “striving for goals without gaining pleasure from doing so” and motive incongruence derived from implicit dominance as “a lack of striving for goals which would give rise to positive affect”. In a sample of 382 managers, following goals without having fun was more detrimental to well-being than having needs that were not acted upon (Kuhl & Kazen, 2011).

Similarly, for SDM and OCB, we expected that motive incongruence derived from explicit dominance is more detrimental, because in this situation individuals do not enjoy what they do, they do not feel well and engage in activities without affective support. It is likely that SDM and OCB suffer more from this type of incongruence than from the opposite type.

Hypothesis 5: Motive incongruence derived from explicit dominance relates more negatively to SDM than motive incongruence derived from implicit dominance.

Hypothesis 6: Motive incongruence derived from explicit dominance relates more negatively to OCB than motive incongruence derived from implicit dominance.

Intervention

An additional aim of the present research was to test a new online intervention aimed to increase motive congruence. The intervention was developed by the institute for self-management and motivation (ISMZ GmbH) in Zurich. It is a short version of the original ZRM®-Training, which increases motive congruence (Schneider, 2010; Weber, 2013). This intervention builds upon 4 theoretical assertions (Weber, 2013): (a) PSI theory (Kuhl, 2001) and the central role of affect; (b) the notion that goals are constructed on varying levels (Carver & Scheier, 2009; Deci & Ryan, 2000; Kuhl,

2010); (c) the importance of affect, motivation (Ryan & Deci, 2000) and attachment to a goal (Brunstein, Dargel, Glaser, Schmitt & Spörer, 2008) for goal formation and achievement; (d) multiple code theory by Bucci (2001).

Multiple code theory (Bucci, 2001) is of particular theoretical relevance to understand the intervention's basic mechanisms. This theory proposes that individuals process information in three different ways: In words, pictures and bodily sentiments. Processing of words requires consciousness, while processing of bodily sentiments and basal affect occurs unconsciously. Only pictures can be processed on an unconscious as well as on a conscious level (Weber, 2013). The mechanism that connects these three ways of processing information is termed referential process (Bucci, 2002).

This referential process is necessary for explicit and implicit motives to be congruent (Schultheiss & Strasser, 2012). As implicit and explicit motivational systems process information differently, that is as nonverbal and verbal-symbolic codes, respectively, referential processing is necessary to translate verbal codes into nonverbal codes and vice versa (Schultheiss & Strasser, 2012). Even though, no research has explicitly investigated the relation between referential processing and affect regulation, from a PSI theory perspective, we would expect these processes to be strongly related.

The present intervention was designed to improve referential processing. For this purpose, in the beginning of the intervention, participants chose an unpleasant duty, which was supposed to reflect a goal/behavior that is not supported by the extension memory as participants do not enjoy it (i.e., resulting in motive incongruence). The rest of the intervention aimed at formulating a new goal towards the duty in words that created strong and clear images. Images play a pivotal role in

connecting the unconscious, subsymbolic with the conscious, verbal system (Bucci, 2002). These images are connected to strong and clear positive somatic markers (Storch, 2009). This intervention was hypothesized to strengthen the connection between the three ways of information processing and thereby increase congruence in the motive, which is content-related to the duty selected (e.g., when an achievement related duty is selected, motive congruence in the achievement motive increases).

Hypothesis 7: The intervention increases motive congruence for individuals who have a significant motive incongruence and who chose a duty in the intervention that is content-related to the motive being incongruent.

The achievement motive and the present study

The most widely accepted and applied taxonomy of work-related motivation is the one by McClelland (Barbuto & Story, 2011). McClelland (1985) proposed three basic motivations: Need for achievement, need for power, and need for affiliation. A fourth motive was added by Alsleben (2008), which is labeled *Freiheit* (engl.: Freedom).

As has recently been argued, motive incongruence is only relevant in certain contexts. Specifically, motive incongruence matters when the motive in question is important for the individual, which for instance depends on personal situation, occupation or long-term goals (Kazen & Kuhl, 2011). For example, power motive incongruence is particularly detrimental for the well-being of managers, for whom exerting influence on others is part of their profession (Kazen & Kuhl, 2011). Further, under certain conditions, affiliation motive incongruence is particularly detrimental to first-year students' well-being, for whom social support is important while adapting to a new university environment (Schüler et al., 2008). The achievement motive incongruence is more important for university students in general (e.g., Baumann et

al., 2005), because university teaches students to achieve a certain standard of excellence, which therefore is the prevalent theme in everyday student life. As the present study investigated OCB in a university context, all hypotheses were tested specifically in regard to the achievement motive.

In conclusion, the present study examined how students' achievement-related motive incongruence influenced their OCB in the university context. Specifically, reduced self-determined motivation was expected to mediate this effect. We were also interested in the directionality of motive incongruence and expected that an incongruence derived from explicit dominance is more detrimental for SDM and OCB than incongruence derived from implicit dominance. To manipulate motive congruence, we used a new online intervention designed to bring explicit achievement orientation and implicit achievement motives closer together.

Method

Participants

104 students (77 women, 27 men, $M_{age} = 20.9$ years, $SD_{age} = 2.43$, age range: 17-27 years) completed the first two of three questionnaires (see procedure). Of these, 92.3 % also completed the third questionnaire. Participants were recruited via different means: First, flyers were distributed in buildings of the universities of Amsterdam, Bonn, Berlin and Düsseldorf. Second, online flyers were distributed on social media sites (e.g., facebook page of ISN Amsterdam Online Market). Last, first-year students of the University of Amsterdam were recruited via an announcement on the official research participant website.

Participants were rewarded for their participation by provision of individual feedback on their test results. First-year students of the University of Amsterdam additionally received 1.5 study points for completion of all three questionnaires.

The only inclusion criterion was being a student. Two participants were excluded from analysis because of the short time needed to complete the first questionnaire (i.e., less than 20 minutes, roughly 2 SD below the average time), which was suspected to be the result of randomly answering the questions. Additionally, they were repeatedly identified as significant outliers in the analysis.

Participants could freely choose to complete the English or the German version of the questionnaires (14 completed the German and 90 the English version).

Materials

As the questionnaires were offered in English and in German, some of the questionnaires needed to be translated. A native German speaker with high proficiency in the English language translated the questionnaires. The translation method used was back-translation, in which the questionnaires were translated into the other language and then back into the first to ensure that they were equivalent enough so that results could be compared. The Academic Motivation scale and the OCB scale were translated into German. The MET items measuring the fourth motive *freedom* and the experimental intervention were translated into English.

Implicit/explicit motives. To measure motive congruence, explicit and implicit motives were assessed. As different measures were used for explicit and implicit motives, their scores were standardized to be able to determine their degree of correspondence. Explicit motives were assessed by the dominance scales of the Motive Enactment Test (MET; Kuhl & Henseler, 2004). The MET dominance scales consist of 18 items. Out of these 18 items, 4 measure explicit affiliation (e.g., “I enjoy meaningful exchanges with other people”), 4 measure explicit achievement (e.g., “Once I have solved a difficult task I am on to the next challenge”), 4 measure explicit power (e.g., “I often provoke arguments with others”) and 6 measure explicit

freedom motive (e.g., “To me, it is important to find personal meaning in everything I do”). Responses were given on a 4-point Likert scale (“This statement applies to me: not at all, somewhat, much, completely”). Internal consistency of the MET dominance scale found in the present study at baseline measure were .62, .58, .54, and .54 for the affiliation, achievement, power and freedom motive, respectively. For the second measurement point (baseline and post-measure, see procedure), internal consistencies were .72, .52, .51 and .65.

Implicit motives were assessed by the Operant Motive Test (OMT, Kuhl & Scheffer, 2002). Subjects saw 15 pictures showing the layout of one or more persons and were asked to invent a story choosing a main protagonist and indicate their associations to three questions: “What is important for the person in this situation and what is the person doing?”; “How does the person feel?”; “Why does the person feel that way?” (Kazen & Kuhl, 2011). The scores on each of the three questions were combined to yield one coding for each picture. The scoring was done as described in the guidelines of the OMT manual (Kuhl & Scheffer, 2012). The scores to all 15 pictures were summed to yield one implicit motive score for each of the four motives (affiliation, achievement, power and freedom). Test-retest reliability of $r = .72$ and construct validity of the OMT have been confirmed in previous research (Baumann, Kazen, & Kuhl, 2010). The OMT has been used in different fields (e.g., Chasiotis, Bender, Kiessling, & Hofer, 2010; Job, Oertig, Brandstätter, & Allemand, 2010; Scheffer, Kuhl, & Eichstaedt, 2003). In the present study, correlations between first and second measure of implicit motives were all significant ($r_{\text{affiliation}} = .39, p < .001$, $r_{\text{achievement}} = .22, p < .05$, $r_{\text{power}} = .57, p < .001$, $r_{\text{freedom}} = .41, p < .001$).

Self-determined motivation. Self-determined motivation was assessed by the Academic Motivation scale (AMS; Vallerand, Pelletier, Blais, Briere, Senecal, &

Vallieres, 1992), which assesses external, introjected, and identified regulation, intrinsic motivation and amotivation. The AMS was designed for use with college students. In previous studies, test-retest reliabilities ranged from $r = .71$ to $r = .83$. In addition, the AMS has been shown to have adequate levels of concurrent and construct validity (Vallerand, et al., 1992; 1993). Internal consistencies of the AMS in the present study were found to be .89 for the first and .90 for the second measurement point.

Organizational citizenship behavior. OCB was assessed by 10 items previously used by Allison and colleagues (2001). These authors made use of the items developed by Podsakoff & MacKenzie (1994) and MacKenzie, Podsakoff, & Fetter (1993), which have been found to have sufficient reliability and validity. Allison and colleagues (2001) adapted these items to the student context (e.g., “I am willing to take time out of my own busy schedule to help students with their schoolwork”, “I turn in homework, projects, reports, etc. earlier than is required”). Subjects responded on a 7-point Likert scale from strongly disagree to strongly agree. One item was deleted (item 4: “ I always found fault with what the university/team was doing”) because it significantly lowered the internal consistency of the scale as it appeared to measure a different construct. After deletion of this item, the internal consistencies in the present study were .65 for the first and .67 for the second measurement point.

Intervention. To manipulate motive congruence, half of the participants took part in an intervention to reduce motive incongruence while the other half completed a control task. The intervention consisted in an online task, which takes approximately 20 minutes to complete. In the intervention group, participants were first asked to freely choose an unpleasant duty from their everyday life and describe

how they feel when confronted with this duty. Next, they chose a picture that triggered a strong positive feeling in them (see Appendix A). Next, participants saw positive ideas related to their picture of choice and again select the ones that triggered a strong positive feeling in them. After selecting their favorites among the chosen ideas, participants formulated a new attitude towards life using these ideas. As a last step, they considered what would change in how they feel about their unpleasant duty and their earlier situation when they approach life with their new attitude. For a comparison of the exact instructions given in the intervention vs. control task see Appendix B.

Control task. The control task was of comparable length. The participants also first described a personally important, unpleasant duty and how they feel when confronted with this duty. Next, they thought about new ways of dealing with their unpleasant duty to make it more pleasant and were asked to note down the results of their considerations. Subsequently, they also considered what would change in how they feel about their unpleasant duty and their earlier situation when they approached life with their new way of dealing with the duty (for the exact instructions see Appendix C).

Procedure

An online study with a baseline (consisting of one questionnaire) and a post measure (consisting of two questionnaires, as OCB was assessed in retrospect three weeks after the intervention) was conducted. For each measurement, participants received an email with a link to start the questionnaire. Participants were asked to complete each questionnaire within one week. Two reminders were sent, one after 4 days, the other after 7 days.

Before starting the first questionnaire, participants received an information

leaflet and gave informed consent. The first questionnaire was structured in the following way: (1) MET-dominance scales; (2) SDM; (3) OMT; (4) OCB.

Two weeks after completion of the first questionnaire, participants received the second questionnaire. Participants were randomly assigned to one of two conditions: One group completed the intervention, while the other group completed the control task. After that, both groups completed the OMT again. Both groups were primed while doing the OMT, to enhance the effect of the intervention. As a prime, for the intervention group, their selected picture was displayed in the format 44 x 63 mm in the upper left corner and in the lower left corner and stayed there until the end of the OMT. For the control group, the words “New attitude towards your duty” were displayed in grey color at the same places. The second questionnaire was structured in the following way: (1) intervention vs. control task; (2) OMT; (3) MET-dominance scales; (4) SDM.

Three weeks after completion of the second questionnaire, participants received a third questionnaire, which was part of the post measure, in which retrospective OCB during the previous three weeks was assessed.

To enhance the quality of the measures, the coder of the OMT was thoroughly trained by not only reading the OMT manual (Kuhl & Scheffer, 2012) but also by coding example answers until sufficient inter-rater reliability was ensured. Furthermore, the coder was unaware of the conditions the participants were in and of any other demographic variables.

Results

The alpha level used to assess statistical significance throughout the analysis was $\alpha = .05$.

Mixed ANOVAs testing the intervention effect

To test the hypothesis that the intervention significantly reduced achievement motive incongruence, a subsample was selected (i.e., only participants who chose an achievement related duty in the intervention and had a significant achievement motive incongruence at the baseline measure). To determine a significant incongruence, we adopted the procedure proposed by Fleenor, McCauley & Brutus's (1996), who suggested that any participant with a standardized score on one variable that is half a standard deviation above or below the standardized score on the other variable is considered to have incongruent values (Shanock, Baran, Gentry, Pattison, & Heggstad, 2010). 73% of the present sample had significant achievement motive incongruence (see Table 4). From these, 35.6% chose an achievement related duty (examples of descriptions of achievement related duties from the present study are: "Reading the pages for my study every day - I feel like I want to perform, but I can't. I have so much on my mind that I can't focus on it and I can't find the motivation to start, while I always feel so much better when I have done it and when I've accomplished something"; "deadlines for papers - restless, hollow, stressed"). Upon visual inspection of Q-Q plots and boxplots, two significant outliers were excluded from analysis. The subsample consisted of 26 participants, of which 17 were in the intervention and 9 in the control group. Due to non-normality of the dependent variable *motive incongruence*, that is the absolute value of the difference between standardized explicit (i.e., MET_{Ach}) and implicit motive (i.e., OMT_{Ach}) scores, the DV was transformed by common square root transformation. Furthermore, the distributional shape of the difference in the DV between the groups was examined to determine the extent to which the assumption of normality was not violated. Skewness (Motive_{Ach} congruence baseline, intervention: $-.58$, $SE = .72$; baseline, control: $.59$, $SE = .55$; post-measure, intervention: $-.05$, $SE = .72$; post-measure,

control: .09, $SE = .55$), kurtosis (.78, $SE = 1.4$; -.83, $SE = 1.1$; .86, $SE = .1$; .27, $SE = 1.06$), shapiro-wilk tests ($S-W(9) = .93$, $p = .480$; $S-W(17) = .9$, $p = .059$; $S-W(9) = .981$, $p = .98$; $S-W(17) = .95$, $p = .396$) and visual inspection of Q-Q plots suggested that the assumption was not violated. Assumption of equality of variances between groups also held, $F(3, 6491.27) = .62$, $p = .602$.

A mixed model ANOVA was conducted with one within factor *time* (baseline and post measure), one between factor *group* (control vs. intervention) and *motive incongruence* as dependent variable. There was no significant main effect of group on motive incongruence, $F(1, 24) = 1.67$, $p = .21$, $\eta_p^2 = .07$, and there was also no significant main effect of time on motive incongruence, $F(1, 24) = 1.92$, $p = .179$, $\eta_p^2 = .07$. There was a significant interaction between time and group, $F(1, 24) = 7.19$, $p = .013$, $\eta_p^2 = .23$. This indicates that motive incongruence at different time points differed in control and intervention group. A simple contrast was performed comparing post- to baseline measure across groups. The contrast also revealed a significant interaction when comparing control and intervention scores to post compared to baseline measure, $F(1, 24) = 7.19$, $p = .013$. Table 1 summarizes mean motive incongruences for the groups at baseline and post-measure. Post hoc power analysis indicated a statistical power of .98.

Table 1

Means (SD) for motive incongruence for the mixed model ANOVA

DV: Motive Incongruence	Intervention (n=17)	Control (n=9)
Baseline	1.18 (.20)	1.09 (.19)
Post measure	.86 (.41)	1.19 (.27)

Note. N= 26; Motive incongruence is measured as the absolute value of the difference between standardized explicit and implicit motive scores.

We conclude that the intervention reduced motive incongruence for those participants who had a significant achievement motive incongruence at the pre-test and who chose an achievement related duty in the intervention. An analogous mixed-model ANOVA with *directional motive incongruence* (i.e., the difference between MET_{Ach} and OMT_{Ach}) did not produce a significant interaction effect of time and group, $F(1, 24) = .93, p = .345$. That is, the intervention did not reduce directional motive incongruence but only absolute motive incongruence.

Next, in order to test whether the intervention not only reduced motive incongruence, but also increased SDM and OCB through their hypothesized relation to motive congruence, a mixed model MANOVA was conducted. For this analysis the sample was identical to the previously described one, except of one person in the control group, who did not fill in the third questionnaire. Assumptions of multivariate normality were not violated (see Table 2), except the significant Shapiro-Wilk test assessing normality of the distribution of OCB at time 2 in the control group. As this type of analysis is quite robust against moderate forms of normality violation, this did not pose a substantial concern. The assumption of equality of population covariance matrices is not violated, $F(21, 722.708) = 1.53, p = .060$.

The multivariate test indicated that there was no significant main effect of time on the set of the three DVs motive congruence, SDM and OCB, $F(3, 21) = 7.92, p = .512, \eta_p^2 = .1$. There was also no significant main effect of group on the three DVs, $F(3, 21) = .89, p = .462, \eta_p^2 = .11$. Finally, there was also no significant interaction effect of group and time on the three DVs, $F(3, 21) = 1.7, p = .197, \eta_p^2 = .2$. Post hoc power analysis indicated a power of .73. In Figure 2, the estimated marginal means of motive congruence, SDM and OCB as a function of group and time are graphically displayed.

To sum up, the first part of the analysis suggests that the intervention significantly reduced achievement motive incongruence for participants with a significant achievement motive incongruence at baseline and who chose an achievement related duty in the intervention. However, the intervention did not seem to have an effect on the overall set of the three dependent variables (i.e., taken motive congruence, SDM and OCB together) over time.

Table 2

Descriptives and assessment of multivariate normality

DV	Time	Group	Skewness	Kurtosis	Shapiro-Wilk		
					Statistic	df	Sig.
Motive Congruence	1	0	-.37 (.75)	.52 (1.48)	.96	8	.758
		1	.53 (1.48)	-.83 (1.06)	.9	17	.059
	2	0	-.46 (.75)	-1.11 (1.48)	.95	8	.671
		1	.09 (.55)	.27 (1.06)	.95	17	.396
SDM	1	0	-.73 (.75)	.37 (1.48)	.95	8	.735
		1	-.71 (.55)	-.09 (1.06)	.17	17	.362
	2	0	-.01 (.75)	-1.52 (1.48)	.94	8	.588
		1	-.71 (.55)	.39 (1.06)	.95	17	.499
OCB	1	0	.52 (.75)	-.1 (1.48)	.94	8	.591
		1	-.01 (.55)	-1.1 (1.06)	.93	17	.205
	2	0	-.71 (.75)	-1.6 (1.48)	.81	8	.036
		1	-.47 (.55)	-.22 (1.06)	.95	17	.386

Note: Time 1= Baseline, 2=Post-measure; Group 1= Intervention, 2= Control.

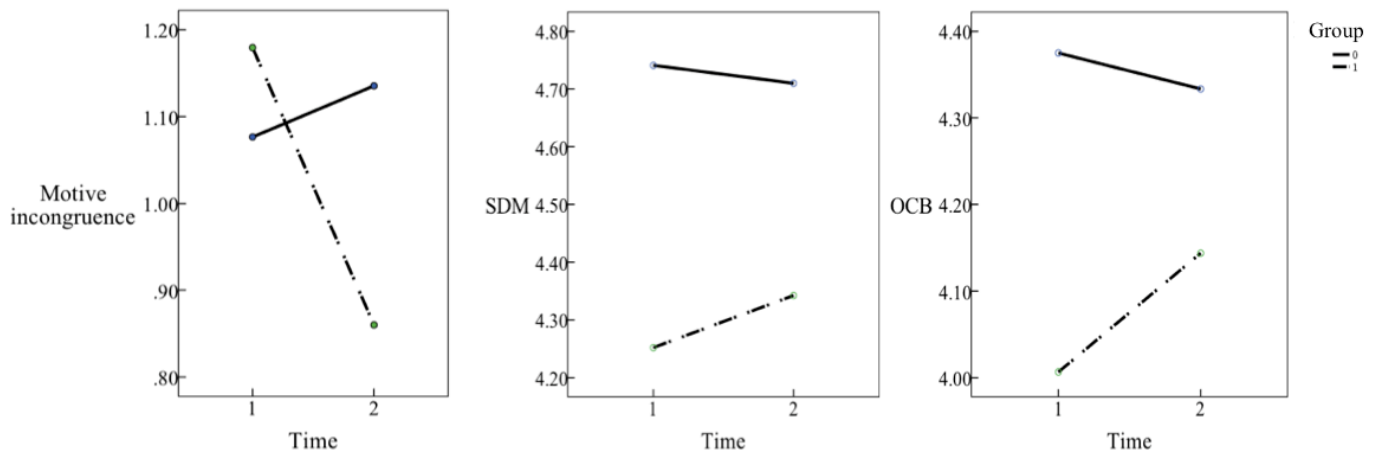


Figure 2. Estimated marginal means of motive incongruence, self-determined motivation (SDM) and organizational citizenship behavior (OCB) as a function of time (1= baseline, 2= post-measure) and group (0= Control, 1= Intervention).

Polynomial regression with response surface analysis

As we hypothesized that the directionality of motive incongruence influences SDM and OCB, but the intervention only reduced absolute motive incongruence, we investigated the relation between directional motive incongruence and SDM and OCB with the correlational data from the baseline measure in the second part of the analysis (for intercorrelations among the main variables see Table 3). The baseline data were chosen because at this point no manipulation had taken place and both groups received identical questionnaires.

Table 3

Intercorrelations among the main variables at baseline measure

	(1)	(2)	(3)	(4)	(5)	(6)
(1) MET _{Ach}	/	.07	.67**	.04	.39**	.48**
(2) OMT _{Ach}		/	-.69**	.04	-.12	.02
(3) MET _{Ach} - OMT _{Ach}			/	.01	.37**	.33**
(4) Absolute (MET _{Ach} - OMT _{Ach})				/	.07	-.03
(5) SDM					/	.27*
(6) OCB						/

MET_{Ach} is the standardized explicit achievement motive, OMT_{Ach} is the standardized implicit achievement motive, SDM refers to self-determined motivation, OCB refers to organizational citizenship behavior

* $p < .05$, ** $p < .01$ ($N = 102$)

Polynomial regression with response surface analysis is recommended in situations in which researchers are interested in how combinations of two predictors (here explicit and implicit motives) relate to an outcome (here SDM and OCB; Edwards, 1995). This method enables us to identify the independent effect of each predictor on the outcome (Shanock et al., 2010). The present data fulfilled all criteria that justify the use of this type of analysis. Specifically, the predictors *explicit* (i.e., MET_{Ach}) and *implicit achievement motive* (i.e., OMT_{Ach}) have the same scaling (after standardization), the predictors come from the same conceptual domain and assumptions for multiple regression analysis were met. First, as advised by Shanock, et al. (2010), we inspected the base rate of motive incongruence in our sample. As can be seen in Table 4, almost two thirds of the sample had values of MET_{Ach} or OMT_{Ach} that were different from each other in one direction or the other. This suggests that exploring how explicit and implicit achievement motives relate to SDM and OCB makes practical sense.

Table 4

Frequencies of MET_{Ach} levels over, under and in-agreement with OMT_{Ach} levels

Agreement groups	Percentage	Mean(SD) MET	Mean(SD) OMT
MET more than OMT	40.4	.69 (.80)	-.63 (.72)
In agreement	26.0	-.18 (.76)	-.07 (.74)
MET less than OMT	33.7	-.69 (.84)	.81 (.90)

Note: N=102

Values are displayed as standardized scores, MET_{Ach} measures explicit achievement motives, OMT_{Ach} measures implicit achievement motives

Next, two polynomial regression analyses (using Enter method) were conducted by regressing SDM and OCB on the following predictors: MET_{Ach} and OMT_{Ach} , their product, and MET_{Ach} and OMT_{Ach} squared. Instead of looking at the

variance explained by the regression equation (i.e., R^2) in response surface analysis four surface test values, a_1 , a_2 , a_3 and a_4 , are examined (for a review see Shanock, et al., 2010). These 4 surface test values inform us about how congruence, the degree of incongruence and the direction of incongruence between the predictors relate to the outcome. The first polynomial regression analysis (i.e., with SDM as DV) resulted in two significant surface values, namely a_1 and a_3 (see Table 5). The a_1 coefficient has a positive value and indicates that when the predictors are in congruence, they have a linear, positive relation to SDM. Specifically, the a_1 coefficient represents the slope of the linear relation between the congruent predictors and SDM (cf. the increase on the surface from the front right corner to the back left corner in Figure 3). We see that when explicit and implicit achievement motives are congruent and both increase, SDM also increases. The a_3 coefficient was also positive and informs us about the extent to which the direction of incongruence matters. In Figure 3, the a_3 coefficient represents the slope of the line on the surface as we go from the front left to the back right corner. The significant positive a_3 indicates that SDM is higher when the incongruence is such that MET_{Ach} is higher than OMT_{Ach} than vice versa. Put differently, SDM levels suffer more from an incongruence derived from higher OMT_{Ach} levels than MET_{Ach} levels than vice versa.

The second polynomial regression (with OCB as DV) resulted in three significant surface values, a_1 , a_2 and a_3 , (see Table 5). The a_2 surface value indicates that when the predictors are in congruence, they have a non-linear relationship with OCB. This can also be seen in Figure 3, as the surface is shaped convexly (i.e., curving upwards) on the line from the front right to the back left corner.

Self-Determined Motivation and Organizational Citizenship Behavior as predicted by Explicit – Implicit Motive Discrepancy

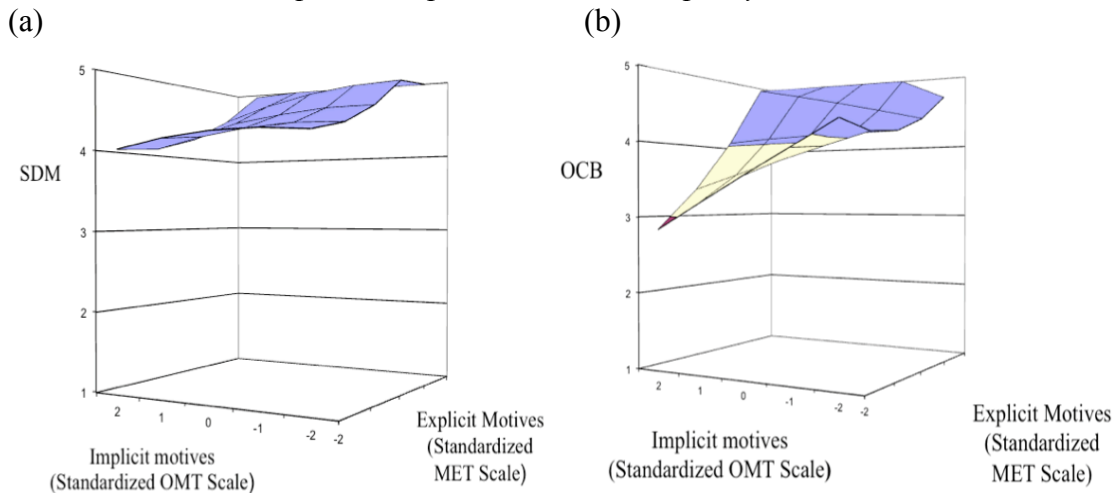


Figure 3. Response surface analysis of the polynomial regression on SDM (Figure a) and OCB (Figure b). The predictors were explicit achievement motive (X) and implicit achievement motive (Y), as measured by the MET and OMT, respectively. The *direction of discrepancy* value a_3 was significant and positive, contradicting our hypothesis. This is visible in the graphs when looking at the right-back corner where SDM and OCB are higher than in the left-front corner. In the right-back corner, incongruence results from $MET > OMT$, while in the left-front corner, incongruence results from $OMT > MET$. The *congruent increase* value a_1 was significant and positive for SDM and OCB, indicating that SDM and OCB increase as MET and OMT are congruent and also increase. This is visible in the graphs as the surfaces lift up when going from the right front to the left back corner. For OCB, the surface shows curvature along this line (significant a_2 value).

Overall, the results from the polynomial regression with response surface analysis provide us with new information about the relation between motive congruence and SDM/OCB. SDM and OCB both increased as congruent motives increased. However, for OCB this relation was curvilinear, shaped convexly: As MET_{Ach} and OMT_{Ach} increased at low levels, OCB went down, but after an initial drop, OCB increased as MET_{Ach} and OMT_{Ach} increased. With regard to the effect of directionality of motive incongruence, SDM and OCB were higher when the incongruence was such that MET_{Ach} was higher than OMT_{Ach} than vice versa.

These findings contradict our hypotheses. Specifically, both, SDM and OCB, suffer more from incongruence derived from implicit dominance than from explicit dominance. Further, no hypotheses were previously made about the relation to SDM/

OCB as the congruent motives increase. Results suggest that OCB and SDM increase as the congruent motives increase, though the relation to OCB is curvilinear.

Table 5

Explicit (MET)-Implicit (OMT) achievement motive discrepancy as predictor of SDM (upper part) and OCB (lower part)

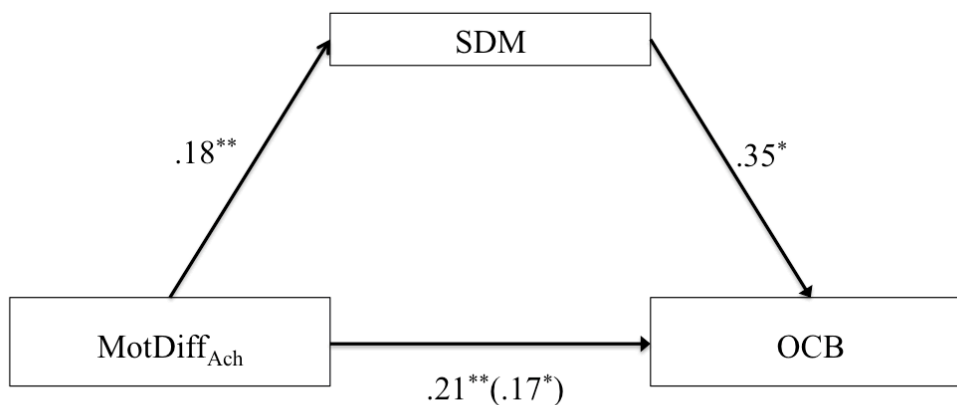
DV: SDM	<i>B</i>	SE	<i>R</i> ²
Constant	4.51	.09	.19**
Explicit achievement	.29	.07	
Implicit achievement	-.08	.07	
Explicit achievement squared	.06	.05	
Explicit power X Implicit power	-.02	.08	
Implicit achievement squared	-.03	.04	
	<i>Coefficient</i>	SE	<i>t</i> value
Surface value: <i>a</i> ₁	.21*	.10	2.16
Surface value: <i>a</i> ₂	.01	.09	.15
Surface value: <i>a</i> ₃	.37**	.1	3.88
Surface value: <i>a</i> ₄	.06	.09	.507

DV: OCB	<i>B</i>	SE	<i>R</i> ²
Constant	4.11	.11	.27
Explicit achievement	.45**	.08	
Implicit achievement	-.02	.08	
Explicit achievement squared	.08	.06	
Explicit power X Implicit power	.16	.05	
Implicit achievement squared	-.004	.05	
	<i>Coefficient</i>	SE	<i>t</i> value
Surface value: <i>a</i> ₁	.43**	.11	3.81
Surface value: <i>a</i> ₂	.23*	.11	2.12
Surface value: <i>a</i> ₃	.47**	.11	4.2
Surface value: <i>a</i> ₄	-.08	.11	-.745

N=102. For exact calculations of surface values and probability see Shanock et al. (2010). *B*=Unstandardized coefficients for variables. SE= standard error. *R*² is variance accounted for. **p* < .05 ** *p*<.002

Mediation analysis

Lastly, it was hypothesized that SDM mediates the relation between motive congruence and OCB. As the previous analysis highlighted the importance of the directionality of motive incongruence, for the mediation analysis the difference between MET_{Ach} and OMT_{Ach} (i.e., $MotDiff_{Ach}$) was used as predictor. Results suggest that the relationship between $MotDiff_{Ach}$ and OCB is indeed mediated by SDM. As depicted in Figure 4, the standardized regression coefficient between $MotDiff_{Ach}$ and OCB decreased substantially when controlling for SDM. The other conditions of mediation as suggested by Baron and Kenny (1986) were also met: $MotDiff_{Ach}$ was a significant predictor of OCB and SDM, and SDM was a significant predictor of OCB while controlling for $MotDiff_{Ach}$. Results from a Sobel test confirmed the significance of the mediation ($z = 2.31$, $p = .020$). An analogous mediation analysis with absolute motive congruence as mediator was not significant.



Note ** $p < .001$, * $p < .01$

Figure 4. Standardized regression coefficients for the relationship between directional motive incongruence (i.e., $MotDiff_{Ach}$) and organizational citizenship behavior (i.e., OCB) as mediated by self-determined motivation (i.e., SDM). The standardized regression coefficient between $MotDiff_{Ach}$ and OCB while controlling for SDM is indicated in parentheses. A Sobel test confirmed the significance of the mediation ($z = 2.37$, $p = .020$).

In summary, results show that the intervention reduced achievement motive incongruence for individuals who had initial significant achievement motive

incongruence and who chose a duty in the intervention that was thematically related to achievement. Contrary to what was expected, the intervention did not increase SDM or OCB for this sample. This finding was supported by the results from the correlational data of the baseline measure, in which there also was no relation between absolute achievement motive congruence scores and SDM and OCB (see Table 3). However, when taking the directionality of achievement motive incongruence into account, achievement motive incongruence was significantly related to SDM and OCB. Nevertheless, contrary to the hypothesis, when incongruence was derived from implicit dominance, SDM and OCB suffered more from incongruence than when incongruence derived from explicit dominance. Furthermore, SDM was shown to mediate the relation between directional achievement motive incongruence and OCB. In an explorative analysis, we found that when explicit and implicit achievement motives were congruent and increased, SDM and OCB also increased. For OCB, this relation was curvilinear.

Discussion

In the present study, we examined a psychological mechanism by which incongruence between the two motive systems may exert an influence on OCB. For students whose explicit achievement orientation differed from their implicit motive disposition, less ‘OCB at university’ was expected. As self-determined motivation also requires access to one’s implicit self-representational network in order to be able to align (i.e., ‘internalize’) extrinsic goals/behaviors with one’s values, wishes and needs (which are presumably represented in that experiential network called the “self”), SDM was expected to occur less often for individuals with incongruent motives, that is with a poor alignment between extrinsic goals and the self. Being a prime example for a behavior motivated by self-generated reasons, which should

reduce the impact of self-alien extrinsic incentives (Piccolo & Colquitt, 2006), OCB was expected to be associated with SDM. Accordingly, our mediational model tested the hypothesis that SDM mediates the relation between motive incongruence and OCB. Secondary hypotheses were that SDM is more severely reduced when incongruence derived from explicit dominance than when incongruence derived from implicit dominance. In addition, we examined the effectiveness of a new online intervention, which aims at reducing motive incongruence.

The present study suggests that the intervention effectively increased motive congruence. Specifically, students in the intervention group who had a significant achievement motive incongruence at the baseline measure and who chose an achievement related duty in the intervention, which ensured that they had the achievement motive active on their mind, had less incongruent motives at the post-measure than the control participants. However, students exposed to our intervention did not report higher SDM or OCB than controls. This unexpected finding might be explained in terms of the dynamic nature of motivation (Beltman & Volet, 2006) and the trait-like nature of SDM and OCB (e.g., Guay, Mageau, & Vallerand, 2003): Motivational states may be more malleable than SDM or OCB. Further analysis of the correlational data at the baseline measure also discredits the importance of absolute motive congruence for SDM and OCB in favor of a more precise predictor of these variables:

The main finding of the present study is that the specific direction of motive incongruence matters to SDM and OCB. Opposite to what was expected, “a lack of striving for goals which would give rise to positive affect” (incongruence derived from implicit dominance) was more detrimental than “striving for goals without gaining pleasure from doing so” (incongruence derived from explicit dominance;

Langens & McClelland, 1997) for SDM as well as for OCB. Furthermore, we found that SDM mediated the relation between directional motive incongruence and OCB.

Our directional hypothesis can be contrasted with an observation by Kazen and Kuhl (2011), who found that incongruence derived from explicit dominance was more detrimental to managers' well-being than incongruence derived from implicit dominance. In contrast, the present research suggests that well-being and SDM/ OCB are differentially affected by the direction of motive incongruence. Well-being is a state of optimal psychological functioning and experience (Ryan & Deci, 2001), which should be impaired by striving for goals without gaining pleasure from doing so and the resulting missing affective support (i.e., incongruence derived from explicit dominance; Kazen & Kuhl, 2011).

In contrast, the present research suggests that SDM and OCB depend more on explicit intentions and plans than on affective support through an implicit motive. To the extent that some forms of OCB are typically elicited by specific situational cues (e.g., 'Oh, my boss is watching, I want to leave a good impression'), the greater relevance of explicit compared to implicit motives can be explained: As mentioned earlier in this paper (pp. 5-6), explicit motives predict behavior when behavior is guided by explicit cues whereas implicit motives predict spontaneous behavior in less explicit contexts (e.g., Schultheiss & Strasser, 2012). Support for the notion that OCB may often be guided by explicit cues, rather than solely being an expression of one's self-related prosocial values (e.g., Finkelstein & Penner, 2004; Rioux & Penner, 2001), comes from authors questioning OCB as being a performance of the "good soldier" acting selflessly on behalf of the organization (Bolino, 1999). Impression management reasons have been proposed to drive certain occasions of OCB (Bolino, 1999). Also, a recent functional account of OCB proposed that not only value

expression, but also social and career-related motives underlie OCB (Lavelle, 2010). Most fitting with the present findings, a recent study proposed that prosocial and impression management ‘motives’ interact to positively predict citizenship behaviors (Grant & Mayer, 2009).

Adding to the notion that OCB appears to be a multifaceted phenomenon motivated by more than solely prosocial reasons, our findings suggest that the explicit *achievement* motive predicts OCB. The explicit achievement motive assesses a personal concern with excellence and achievement (Schultheiss & Brunstein, 2005). This relation between the explicit achievement motive and OCB may suggest that OCB is also motivated out of appreciation of excellence and achievement, which can also be expressed by helping others to achieve excellence. Future research should follow up on this interesting path and identify conditions that predict differentially motivated OC behaviors, for instance by including behavioral measures, which are more likely to assess spontaneous prosocial behaviors guided by implicit motives than are self-report measures (see limitations).

Our findings are also relevant for SDM. Self-determination theory posits that extrinsic goals/behavior need to be internalized (i.e., taking in a behavioral regulation and the value that underlies it) to become self-determinedly motivated (Gagne & Deci, 2005). The present study found support for what Thrash and Elliot (2002) already proposed: The experience of self-determination may reflect, at least in part, the integration of explicit values with one’s preexisting and deep-seated implicit motivational tendencies, as opposed to the internalization of arbitrary explicit values from the environment without any regard to their fit with one’s implicit motives (Thrash et al., 2012).

The finding that SDM also depends more on explicit intentions and plans than on affective support through an implicit motive is in accordance with SDT theory, which attributes an important role to goals (i.e., SDM relates to forming and implementing goals that represent the interests of one's self; Deci & Ryan, 1991). Nevertheless, caution is warranted with regard to interpretation of this finding: It is likely that there generally is a stronger relation between self-reported constructs (here explicitly reported motivation) and explicit motives, than between self-reported constructs and implicit motives. It is worth questioning if SDM as measured by self-report (e.g., item 2: "I study because I experience pleasure and satisfaction while learning new things) truly measures a deeper form of self-congruence, or if it is rather influenced by conscious beliefs about oneself (e.g., "I am the kind of person that enjoys learning new things"). Future studies should measure SDM in new ways (e.g., asking the teacher about the importance of extrinsic incentives to the student, taking behavioral measures such as number of voluntarily courses chosen, etc.) to circumvent the bias of self-reports (see limitations).

Another finding of the present study is the effectiveness of the intervention to reduce motive incongruence. The intervention was tested in a powerful mixed factorial design. The post hoc analysis of the mixed analysis of variance calculated a power of .98 and an effect size of $\eta^2 = .23$. This finding has different implications: First, empirical practice will benefit from this intervention as, so far, demonstrating causal effects of motive congruence has been difficult, because motives (as aspects of personality) and the incongruence between them, were not readily amenable to experimental control (Thrash et al., 2012). Goal imagery is the only other technique, at least that we are aware of, hypothesized to reduce motive incongruence, as well (Schultheiss & Brunstein, 1999). The findings' second implication is that this

intervention bears a great, applied value to clinical practice as it offers quick help to people suffering from motive incongruence and is very convenient to administer. Future studies should aim to scrutinize these findings for different samples and for incongruence related to other motives than achievement. Further, it should be tested if the intervention is also effective when a duty is *assigned* to participants. According to the our theorizing, as long as the participant has a motive incongruence related to the topic of the duty, the intervention should reduce motive incongruence independent of whether the duty is freely chosen or not. However, this claim remains to be settled in future studies.

Noteworthy, the present findings were established using response surface analysis, a sophisticated variant of the explicit x implicit interaction approach (Edwards, 1995) and were confirmed by a mediation analysis with the directional motive difference score. The measure to assess implicit motives, the OMT (Kuhl & Scheffer, 2002), has successfully been used in a variety of settings and its validity has been supported by behavioral correlates (e.g., Heckhausen & Tomasik, 2002). Another strong point is the study's generalizability due to its diverse sample, which consists of students of different ages from different Dutch and German universities who participated either in English or in German. In addition, conscientious responding by the participants was promoted by the prospect of receiving additional individual feedback on their results, instead of only receiving extrinsic reward in form of participation points.

Limitations of the present study

The present study is limited to the extent that all data came from one source and might be subject to same-source bias. In addition, all variables were assessed in questionnaire format. Questionnaires are more likely to measure cognitive

preferences, choices, and goals than affective preferences or spontaneous behavioral trends over time (for instance see item 4 measuring SDM: “I study because I think that a college education will help me better prepare for the career I have chosen” or item 6 measuring OCB: “I was willing to take time out of my own busy schedule to help students with their schoolwork”). Behavioral measures are more likely to measure long-term behavioral trends. These should be of interest for future research.

Further, one of the main measures was imprecise: The internal consistency of the MET_{Ach} scale, which assesses explicit motives, was .58 for the baseline and .52 for the post-measure. For the same scale, Kuhl (1999) reported an internal consistency of .82 and Baumann et al. (2005) an internal consistency of .64. Future research should measure explicit achievement orientation in different ways (e.g., in number of self-generated achievement goals, and goal commitment as in Baumann et al., 2005). Further, the coding of the OMT was only done by a single coder.

Regarding the intervention, we cannot make claims about the exact mechanisms underlying the functioning of the intervention. Theoretically, we expected that the intervention increases referential competence and enhances intention memory’s access to extension memory. However, as we only measured one outcome of this process (i.e., motive congruence), future studies need to verify if this intervention truly increases referential competence (for ways to assess referential competence see Schultheiss & Strasser, 2012).

Conclusion

Motive incongruence is a state of bad fit between one’s deeply rooted motivational tendencies with one’s conscious goals. It is highly desirable to achieve motive congruence as it promotes health (Baumann et al., 2005), identity status (Hofer, Busch, Chasiotis, & Kiessling, 2006), volitional strength (Kehr, 2004a), flow

(Schüler, 2010), and relationship satisfaction (Hagemeyer et al., 2013). In addition, the present paper shows that directional motive incongruence is not only harmful for the person's flourishing of self-determined motivation, but also spreads to the individual's environment by influencing prosocial behavior. As recent research shows that acting prosocially also gives something back to the giver (Grant, 2008; Weinstein & Ryan, 2010), we are tempted to happily look back to Kempis' wisdom from the beginning and conclude that once the peace is within yourself, the prosocial fireball can start rolling.

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Appendix A

10 pictures used in the intervention



Appendix B

Intervention instructions

(1)

**** Resource-activating exercise ****

Please name an unpleasant duty that is personally important for you and that you encounter in your everyday life. Please also describe how you feel when you are confronted with this duty.

Text Entry

(2)

Please select a picture based on your feeling

In the following, you will see different pictures. The picture of your choice will function as resource when dealing with your unpleasant duty in the future. Now, please send your rationality on holidays. For the next working step, it is not needed. In the following, please select the picture that triggers a strong positive feeling in you (happy, relaxing, makes you smile, ...). You don't have to understand why this picture triggers such a good feeling in you.

In the first round you see one picture after the other. You only have to pay attention to which of the pictures triggers a good feeling in you. After this round, all pictures will be shown to you again in an overview compare them once more and decide which one is your favorite.

10 pictures were shown to the participant (e.g., one shows an eagle circling in the clouds)

(3)

Ideas on 'Your' Picture:

Now you will see several positive ideas on your selected picture. Please mark all the ideas, that spontaneously trigger a good feeling in you. You don't have to understand why these ideas trigger a good feeling.

Please mark all the ideas that spontaneously trigger a good feeling in you:

Participants can select from approximately 30 ideas related to the chosen picture (e.g. an idea related to the eagle picture is: 'freedom')

(4)

Ideas on your picture:

Below the ideas that you liked are displayed. Please have a second look at your selected ideas and mark spontaneously and only based on your feeling those ideas that you like a lot. That is, you select from your favorite ideas. If you realize that you like all of the ideas a lot, you can also mark all of them. If you realize that there only is one favorite idea in the list, this is also fine. It is not about the number of ideas, but rather about the quality of positive feeling spontaneously triggered by the idea.

Please decide quickly, based on your gut feeling.

(5)

**** Reassessment of your unpleasant duty ****

Please formulate with your favorite ideas a new attitude towards life.

To do that, you can use the following beginnings of sentences or invent one yourself.

• I want to feel like ... • I want to act like ... • I want to be like ...

* EXAMPLES OF NEW ATTITUDES TOWARDS LIFE • I want to feel like a bear

having a thick fur. • I want to act like the young lady on the Vespa, daring and full steam ahead! • I want to be like the Lotus growing in my own speed. • I want to walk on step by step in my own pace.

**** Your new attitude towards life**:**

Text entry

(6)

My unpleasant duty and earlier situation:

Here the text entry indicated at step 1 is displayed

(7)

Change of my situation:

Please consider: What will change in how you feel about your unpleasant duty and your earlier situation when you approach life with your new attitude?

Here the text entry indicated at step 5 is displayed

Consequences of my new attitude towards life:

Please note down the results of your considerations

Text entry

(8)

I wish you a lot of joy and pleasure with your new attitude towards life!

The selected picture and the text entry indicated at step 5 are displayed

Note: The *cursive* written was not displayed to the participant

Appendix C

Control task instructions

(1)

**** Exercise ****

Please name an unpleasant duty that is personally important for you and that you encounter in your everyday life. Please also describe how you feel when you are confronted with this duty.

(2)

Please consider ...

Now please consider how you could change the way of dealing with your unpleasant duty to make it more pleasant for you (e.g., to concentrate on the task's positive sides, not contemplating too much about it). Please note down the results of your considerations:

(3)

My unpleasant duty and my earlier situation:

Text entry indicated at step 1 is displayed

(4)

Change of my situation

Please consider: What will change in how you feel about your unpleasant duty when you do the following:

Text entry indicated at step 2 is displayed

Please note down the results of your considerations:

(5)

I wish you a lot of pleasure with your new attitude towards your duty!

Text entry indicated at step 2 is displayed

Note: The *cursive* written was not displayed to the participant