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'To serve and protect' when expecting to be seen negatively: The relation between

police officers' contact with citizens, meta-stereotyping, and work-related well-being

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Abstract

We examined the relationship between contact of police officers with citizens, their (meta-) stereotypes about citizens, and their work-related well-being. Ninety-three police officers from 4 police stations in low and high crime regions in France completed the questionnaire. As expected, negative well-being of police officers is predicted by negative contact with citizens and their belief that police officers are stereotyped negatively by citizens. Moreover, the relationship between negative contact and negative well-being was mediated by police officers' beliefs that police officers are perceived negatively by citizens, while their perceptions of citizens did not mediate this relationship. Interestingly, level of crime did not influence these relationships. Together, this research shows the important role of beliefs about how one's group is stereotyped when in contact with another group as it may have consequences for people's well-being.

Keywords: Intergroup contact, meta-stereotyping, work-related well-being, police officers

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Police officers, as representatives of the State, are expected 'to maintain public order,

to prevent and detect crime and to provide aid and assistance for people and communities in

need' (Human rights and humanitarian law for police and security forces, see De Rover, 2014,

p.31). Indeed, the police is often called on to protect and serve citizens, which indicates a

positive and trusting relationship. However, sometimes people feel attacked rather than

protected by the police, which can result in intense conflicts between police officers and

citizens. For example, many protests in the United-States started when unarmed black people

were killed by the police, after which many people accused the police of being racist and

violent. Citizens often perceive the behavior of police officers as overly aggressive and unjust.

Sometimes this results in protests that can totally escalate, especially if the police responds

with aggression, making citizens question the legitimacy of the police (Tyler, Goff, &

MacCoun, 2015). This suggests that during contact with citizens, police officers can be

perceived in a negative way, but other times they may also be seen as positive.

The question we address here is how such positive and negative perceptions of citizens

influence how police officers experience their work. If police officers expect that police

officers are seen in a negative way by citizens, we believe this could have a negative effect on

their work-related well-being. This is of importance as police offers are expected to be in

contact with citizens, and if this has negative consequences for their well-being, it could also

influence their behavior towards citizens (Manzoni & Eisner, 2006). Therefore, in the current

research we study to what extent contact between the police and citizens is related to police

officers' expectations that they are perceived negatively, and how this relates to their well-

being. In addition, we explored whether the level of crime that was present in the regions that we studied influenced this relationship, as higher crime levels may lead to more negative interactions between the police and citizens.

Contact with citizens and well-being

An important part of a police officer's job is to be in contact with citizens. Police officers meet citizens on the street every day and quite often this is not an easy task. Police work is among the most demanding and dangerous occupations of modern civil society (Manzoni & Eisner, 2006). According to Gershon, Barocas, Canton, Li, and Vlahov (2009) there are many sources of stress that are specific to working as a police officer, such as the risk of involvement in violence, threat of physical danger, exposure to disturbing events, the death or injury of a fellow officer in the line of duty, and the threat of terrorism. But also the everyday running of police operations and frequent interactions with citizens are a source of work stress.

The daily exposure to stressors can have physiological, psychological, and behavior repercussions. Manzoni and Eisner (2006) showed that police officers working in stressful situations could experience negative well-being, as evidenced by being more cynical, dissatisfied, exhausted, and a higher likelihood to suffer from high blood pressure. Moreover, they smoke and drink more, and are more likely to have marital problems. Gershon et al. (2009) argued that continued exposure to high work stress has negative effects on the police organization and their work quality. Officers who experience a lot of stress can show absenteeism and might receive more complaints from citizens. Some problems that may be a consequence of experiencing stress like aggression and violence can lead citizens to distrust the force, which can bring a lack of support for the law enforcement in general. Thus being exposed to many stressful situations may cause negative well-being in police officers, and in addition could have negative implications on public health and public safety.

As mentioned, there are many stressors that police officers can experience. However, one is of specific interest to the current research, which is *contact with citizens*. Research on intergroup contact (for an overview, see Pettigrew & Tropp, 2006) revealed that frequent exposure in intergroup contact leads to less prejudice. One reason for this is that contact increases familiarity, which reduces intergroup anxiety. In contrast to the findings by Gershon et al (2009), this suggests that interactions with citizens should actually have positive consequences. However, what if the interactions between the two groups are negative? Barlow, Paolini, and colleagues (2012) found that increased negative contact quantity predicted prejudice, while increased positive contact did not predict reduced prejudice. This implies that it is not only the frequency of contact that matters, but also the valence of this contact.

Police officers are quite likely to be insulted or even threatened in contact with citizens, as often the situations in which they engage with citizens are not the most pleasant ones. For example, as police officer Montrell Jackson wrote on facebook, only a few days before he and two other officers were killed in Baton Rouge by a gunman during protests against police shootings in Dallas: "I swear to God I love this city, but I wonder if this city loves me. In uniform, I get nasty hateful looks."[1] It is quite likely that such *negative* contact experiences do not have positive consequences at all. While Barlow and colleagues (2012) examined prejudice as a function of negative contact, we focus on negative work-related well-being in the current research. Given that police officers are likely to have quite some negative interactions with citizens, we think that contact with citizens could be stressful and reduce well-being as Gershon et al. (2009) argue, but only when experiencing a lot of negative contact. Indeed, as officer Jackson wrote when describing his experiences: "I'm tired physically and emotionally," The first hypothesis therefore is that a high level of *negative* contact with citizens is related to more negative well-being at work.

Contact, meta-stereotyping, and police officers' well-being

One reason why frequent negative contact may increase negative well-being is that it could increase negative perceptions between groups. During contact, people are guided by how they perceive the other group, and how they think the other group perceives them. A lot of research on intergroup relations focused on perceptions that people have of other social groups. When interacting with people of other groups, the prejudices and stereotypes that people have about these groups are likely to influence how they feel, think and act towards them (Fiske, 1998). For example, police officers may think that citizens are aggressive and disrespectful, which could influence how they interact with these citizens, and how they feel about them. When police officers have many negative contacts with citizens they may be likely to develop prejudice and negative stereotypes of citizens. Indeed, this is in line with the findings of Barlow et al. (2012; see also Techakesari, Barlow, Hornsey, Sung, Thai and Chak (2015).

However, not only people's perceptions about other groups are likely to be influenced by social contact. People's concerns regarding how they are perceived by other groups have implications for their thoughts, feelings, and behaviors during every day social contacts (Vorauer, 2006; Vorauer, Hunter, Main & Roy, 2000). In the current research we were interested in how police officers think they are perceived by citizens. Beliefs about how one's group is stereotyped by people from other groups are called *meta-stereotypes* (Vorauer, Main, & O'Connell, 1998). These beliefs about stereotypes, which can be positive or negative, can be influenced by how contact is experienced. That is, the more negative one's experiences with the outgroup have been, the more likely it is that people believe to be negatively stereotyped by the outgroup.

Further, such negative meta-stereotypes could have consequences for how people feel after contact with the outgroup, because, in general, people want to be viewed positively by others, and want others to see them as they see themselves (Vorauer et al, 1998). According to Vorauer et al. (1998), feeling (negatively) stereotyped constitutes a threat to people's self-concept, because they sense that they are seen as having undesirable social traits, and because they are considering the possibility that they really possess these undesirable traits. In line with that, research revealed that negative meta-stereotypes may reduce self-esteem (Gordijn, 2010; Owuamalam & Zagefka, 2011; Vorauer et al., 1998).

Meta-stereotypes not only influence how people feel about themselves, but also feelings that are related to interactions with the outgroup: For example, negative meta-stereotypes, or more generally, group-based negative meta-perceptions (see Finchilsecu, 2010), are related to less happiness about interacting with the outgroup (Gordijn et al., 2008), and to intergroup anxiety (Finchilescu, 2010; Plant, 2004; Shelton, Richeson, & Vorauer, 2006). Intergroup anxiety can lead to increased hostility (e.g., Plant, 2004) and avoidance of contact (Stephan & Stephan, 1985). Meta-stereotypes have also been found to directly influence avoidance. For example, MacInnis and Hodson (2012) showed that people who believed they were negative stereotyped wanted to avoid further contact with people they expected to stereotype them. Moreover, Gordijn and Boven (2009) found that people with negative meta-stereotypes were more likely to be lonely, probably because they avoided contact. Thus research suggests avoidance is likely when negative meta-stereotypes are activated.

However, what if avoidance is not an option? Police officers cannot avoid citizens as it is part of their duty to be at their service. And at the same time, police officers are observed closely. Their actions are often transmitted through the media, and may lead to negative judgments and stereotyping. Research has found that when people feel evaluated, they

activate meta-stereotypes (Gordijn, 2010; Vorauer et al., 1998). Police officers are likely to feel evaluated and under pressure, because they know that mistakes may be reported. We presume that they are therefore likely to engage in meta-stereotyping when in contact with citizens. Some evidence for this is found by Techakesari et al. (2015), who showed that negative contact predicted negative meta-perceptions. The question is therefore to what extent meta-stereotyping relates to how police officers experience their work, especially if these meta-stereotypes are negative. Possibly such expected negativity is a source of stress. Research by Dickerson and colleagues (e.g., Dickerson, 2008; Dickerson, Gruenewald, & Kemeny, 2004) revealed that threats to the goal of maintaining the social self, that is, preserving one's social esteem, status, and acceptance, are very stressful, and could have damaging mental and physical health consequences. Therefore, our second hypothesis is that the belief that one's group is negatively perceived by an outgroup predicts negative well-being.

Moreover, we examined this in relation to how police officers perceive citizens. Given that meta-stereotypes focus on the self (i.e., the perceptions people believe others have about their ingroup) while perceptions of what others are like by definition focus on the other, we assume that when interacting with the outgroup negative meta-stereotypes are more stressful than negative stereotypes. Thus we expected that the extent to which police officers are in negative contact with citizens predicts negative well-being due to negative meta-stereotypes rather than negative stereotypes of citizen, which is our third hypothesis.

The current research

The purpose of this research is to test whether there is a relationship between negative contact with citizens, negative meta-stereotypes and the level of well-being among police officers. We hypothesized that both negative contact with citizens (H1) and negative meta-stereotypes (H2) predict negative well-being. Moreover, we hypothesized that the relation

between negative contact with citizens and negative well-being is mediated by negative *meta-*stereotypes rather than negative stereotypes of citizens (H3).

Our hypotheses are focused on negative contact, negative (meta-) stereotyping and negative work related well-being. However, we also included measures of positive contact, positive (meta)-stereotypes, and positive work related well-being to explore the influence of valence. It is important to distinguish positive and negative concepts as they are not necessarily the opposite ends of dichotomous scales. For example, as mentioned before, Barlow, and colleagues (2012) found a differential influence of negative and positive contact quantity on prejudice (see also Techakesari et al., 2015). Similarly, it is important to distinguish between positive and negative meta-stereotypes, as people are likely to react differently to them (e.g., Klein & Azzi, 2001; Koudenburg & Gordijn, 2011). Further, with respect to well-being Widmer, Semmer, Kalin, Jaconshagen and Meier (2012) argued that positive and negative well-being may well co-occur, and therefore positive well-being deserves attention in its own right (see also, Huppert & Whittington, 2003). Further, Karademas (2007) found that stressful situations increased negative well-being, but they did not decrease positive well-being, which also indicates that they should be studied independently. Therefore in addition to studying the predicted relations between negative contact, negative (meta-) stereotypes and negative well-being, we also explored the relations between positive contact, positive (meta-) stereotypes with both positive and negative well-being.

We conducted this research in France, as there have been several conflicts between police officers and citizens (e.g., the riots in Clichy-sous-Bois in 2005, which started after two teenagers got electrocuted when hiding from the police, and the riots in Villiers-le-bel in 2007 that started after two teenagers on a motorcycle were run over by a police car). Interestingly, these cities are both located in high crime level regions. In France, crime rate is unequally

spread among the different regions (Bauer & Soullez, 2012). In order to explore the potential influence of crime level we tested our hypotheses with police officers from regions that differed in crime level.

Method

Participants and Design

One hundred and eight French police officers (79 males, 28 females, 1 not mentioned; Mage=36.19, SD=8.10) started with filling out the questionnaire. Based on a report by Bauer and Soullez (2012) concerning crime levels in France, we selected two police stations in *low crime regions* (N=57) and 2 police stations in *high crime regions* (N=51). On average the participants had worked about 13 years (SD=7.32) as a police officer. There were quite some missing values: 11 participants did not complete any of the measures (after completing the first part of the questionnaire about their personal information), and 4 participants stopped filling out the questionnaire after the measures of meta-perceptions or contact. Hence our final sample included 93 participants. The study consisted of a questionnaire developed by the researchers, which measured personal background information, meta-stereotypes and stereotypes of citizens, contact with citizens, and work related well-being. All items were written in French. The study was approved by the ethics committee of the University of Groningen.

Procedure

First, the second author went to the four participating police stations in different regions in France. These visits served different purposes, i.e., collecting consent forms from police officers that agreed to participate, explaining the goal of the study, and answering questions that the police officers had regarding the guarantee of anonymity and confidentiality of their responses. Many police officers expressed some concern that their superiors would

have access to their personal answers, which could put their job in jeopardy as one part of the study was about their level of well-being. It was explained to the participants that their superiors had no access to the data, and that no one had access to identifying information, except for the researchers. Police officers who agreed to participate gave their email address to the researcher, after which they received an individual and private link to the online questionnaire.

In the questionnaire, of which a translation from French can be found in the supplementary materials, we first asked participants about their age, gender, postal code of the police station, and in what year they joined the police force. After this, the participants were asked to indicate to what extent they agreed on a scale ranging from 1 (strongly disagree) through 7 (strongly agree) with 60 statements, which measured (meta-)stereotypes, contact and well-being. Our hypotheses focus on negative contact, negative (meta-)stereotypes and negative well-being. However, we also included positive measures of contact, (meta-) stereotypes and well-being, as well as positive and negative non-stereotypical (meta-) perceptions, in order to balance the questionnaire, and also to explore these relationships.

First, we measured police officers' *meta-stereotypes* of citizens. We determined stereotypic traits on the basis of a pilot study with 7 French police officers (5 males, 2 females). In this pilot study several open questions (see supplementary materials for an overview of these questions as well as the results) were asked regarding meta-stereotypes, stereotypes, contact with citizens, and (work-related) well-being in order to develop the questionnaire for the main study.

On the basis of this pilot study we used 7 items to measure negative meta-stereotypes (e.g., "I think citizens see the police as too repressive"), but one item ("I think citizens believe police officers are social workers") did not correlate with the overall and was dropped, leaving us with a scale of 6 items (Cronbach's alpha = .74.; $M= 4.71$, $SD= .98$). We used 5

items to measure positive meta-stereotypes (e.g., "I think citizens feel that police officers bring security", Cronbach's alpha = .82.; *M*= 3.97, *SD*= .97). Further, 4 negative and 4 positive meta-perceptions that were not specifically mentioned in the pilot study were included (e.g., "I think citizens believe police officers are pessimistic"; "I think citizens see police officers as independent"). These items were combined into a scale of negative non-stereotypical meta-perceptions (4 items, Cronbach's alpha = .54.; *M*= 4.19, *SD*= .96; please note that the reliability is low, which is to be expected as these items only share valence, but not stereotypicality) and positive non-stereotypical meta-perceptions (4 items, Cronbach's alpha = .54.; *M*= 3.04, *SD*= .80).

Then we measured police officers' *stereotypes* of citizens. On the basis of the pilot study, we included 3 items measuring negative stereotypes (e.g., "In general, I think that citizens are disrespectful", Cronbach's alpha = .71; *M*= 5.04, *SD*= 1.13). Also, we included two items that measured positive stereotypes of citizens (e.g., "In general, I find citizens understanding", Cronbach's alpha = .59.; *M*= 3.88, *SD*= .99). In addition, we included 2 negative and 3 positive items measuring perceptions of citizens that were not specifically mentioned in the pilot study. There were 3 positive non-stereotypical items (e.g., "In general, I find citizens smart", Cronbach's alpha = .64; *M*= 3.36, *SD*= .81). There were also 2 negative non-stereotypical items ("In general, I find citizens arrogant", and "In general, I find citizens disgusting") but combining them into a scale led to a very low Cronbach's alpha = .35, so we decided to use them as separate items in the analyses.

After this we measured *negative and positive contact with citizens*. On the basis of the pilot study in which police officers were asked about the kinds of negative and positive contacts they have with citizens (see supplementary materials), we created 3 items for negative contact (e.g., "I'm often insulted by citizens", Cronbach's alpha = .87, *M*= 3.90, *SD*=

1.66), and 3 items for positive contact (e.g., "I often have a good laugh with citizens",

Cronbach's alpha = .67, *M*= 4.31, *SD*= 1.20).

Finally, we measured the police officers' *negative and positive well-being at work* by

means of 24 items that were French translations of items taken from a questionnaire by Quinn

and Staines (1979), from a questionnaire by van Veldhoven and Meijman (1994), and from

the participants' answers in the pilot study. The items concerned job-related features,

organization-related features and or concerned more general well-being at work, and were

either positively framed or negatively. Negative well-being was measured with 12 items (e.g.,

"I find my work emotionally demanding; "Lately, I am tired at work"; Cronbach's alpha =

.75, *M*= 4.11, *SD*= .93). We dropped 1 item that had low, non-significant correlations with the

overall scale ("The risk in my profession is high"), hence the final scale included 11 items.

Positive well-being was measured with 12 items (e.g., "I love my work" and "My supervisor

is very concerned about the welfare of his/her subordinates", Cronbach's alpha = .81.; *M*=

3.90, *SD*= 1.06). We dropped 1 item that had a low correlation with the overall scale ("The

most important things that happen in my life involve my work"), hence the scale included 11

items.

Results

Table 1 shows the bivariate correlations among the variables. Our hypotheses focus on

negative contact, negative (meta-)stereotypes and negative well-being, but we include and

analyze positive contact, positive (meta-)stereotypes, positive well-being, and positive and

negative non-stereotypical (meta-) perceptions, as well.

As expected, there were correlations between contact and well-being. We used

regression analyses to assess which form of contact was related to which form of well-being.

In these analyses we used negative contact and positive contact simultaneously as predictors

of negative and positive well-being (see Tables 2 and 3). In these models (and all subsequent

models) we also control for the region from which the respondents were sampled (using three contrast-coded variables to code for the four regions). This is necessary because of the possible clustering of values within regions (Snijders & Bosker, 2012). In line with Hypothesis 1, negative contact predicted negative well-being ($B = .19$, $SE = .06$, $p = .002$). Interestingly, positive contact did not predict negative well-being ($B = -.06$, $SE = .08$, $p = .49$). We also explored relations with positive well-being, and found that positive contact showed a positive relation ($B = .20$, $SE = .09$, $p = .03$), but negative contact did not ($B = -.11$, $SE = .07$, $p = .10$). Thus, when police officers had more negative contact with citizens, they were also more likely to report more negative well-being, and police officers with more positive contact experiences reported more positive well-being.

Further, and consistent with hypothesis 2, negative meta-stereotypes ($B = .26$, $SE = .10$, $p = .01$) predicted negative well-being, while negative stereotypes did not ($B = .08$, $SE = .09$, $p = .39$). Unexpectedly, negative well-being was also predicted by negative non-stereotypical meta-perceptions ($B = .25$, $SE = .10$, $p = .02$). Moreover, positive (stereotypical and non-stereotypical) perceptions or meta-perceptions did not predict negative well-being (see Table 2). However, interestingly, for positive well-being the results were different in that positive well-being was predicted by positive stereotypes, positive non-stereotypical perceptions, and positive non-stereotypical meta-perceptions, but not by meta-stereotypes (see Table 3).

In order to test Hypothesis 3 on the mediation of the effect of negative contact with citizens on negative well-being at work by negative meta-stereotypes rather than negative stereotypes of citizens, we used regression analyses to test the predicted indirect effects of contact on well-beings through stereotypes, meta-stereotypes, non-stereotypical perceptions and non-stereotypical meta-perceptions. In these analyses, results are consistent with mediation if the indirect effect from contact on well-being through one of the mediators is

significant. We test the significance of the indirect effect using a bootstrapping procedure to establish a 95% percentile bootstrap confidence interval around the estimate of the indirect effect (the SPSS macro PROCESS for performing indirect effect analysis by Hayes (2013) was used, model 4). We assess the effects of positive and negative contact in the same model. Each model contains two mediators. For example, in the model investigating stereotypes both positive stereotypes and negative stereotypes are simultaneously added as mediators in the same model. We assessed mediation by stereotypes, meta-stereotypes, perceptions, and meta-perceptions in four different models in order to avoid problems of multicollinearity as a consequence of the correlations between all these variables (Fox, 2008). Because previous analyses had already shown that negative contact is related to negative well-being and positive contact is related to positive well-being, we restrict the reporting of the mediation analyses to indirect effects regarding these two relations (see Tables 4 and 5).

For negative contact and well-being, all the indirect effects are presented in Table 4. In line with hypothesis 3, the effect of negative contact on negative well-being was indeed mediated by negative meta-stereotypes (see Figure 1 and Table 4), but also by negative non-stereotypical meta-perceptions (see Figure 2 and Table 4). There was no mediation by stereotypical or non-stereotypical perceptions or positive stereotypical or non-stereotypical meta-perceptions.

Regarding positive contact and well-being, all the indirect effects are presented in Table 5. Interestingly, the effect of positive contact on positive well-being was mediated by positive stereotypes (see Figure 3 and Table 5) and positive non-stereotypical perceptions (see Figure 4 and Table 5). There was no mediation by meta-stereotypes or non-stereotypical meta-perceptions.

Additional analyses

We explored whether the relations between negative contact, negative meta-stereotypes, and negative well-being are different in high and low crime regions. Working in a high crime region did not predict negative contact ($B = .11$, $SE = .34$, $p = .74$) or positive contact ($B = .08$, $SE = .25$, $p = .74$). Thus crime level does not influence the kind of contact that police officers have with citizens. However, interestingly, the results showed *less negative* well-being and *more positive* well-being in *high crime regions* compared to low crime regions (see effect of Crime in Model 1 in Tables 2 and 3). Moreover, high crime was related to less negative meta-stereotypes ($B = -.27$, $SE = .20$, $p = .18$), and less negative meta-perceptions ($B = -.42$, $SE = .20$, $p = .04$), and to more positive meta-stereotypes ($B = .43$, $SE = .20$, $p = .03$), marginally more positive meta-perceptions ($B = .29$, $SE = .16$, $p = .07$), although not all relations were significant.

General Discussion

In the current research we examined the relationships between the experiences of positive and negative contact of police officers with citizens, their (meta-) stereotypes about citizens and their work-related well-being. As expected, we found that negative well-being of police officers is predicted by negative contact and the extent to which they expected that police officers are stereotyped negatively by citizens. Moreover, we found that the relationship between negative contact and negative well-being is mediated by the extent to which they expected that police officers are stereotyped negatively by citizens, while the negative stereotypes that they have of citizens did not mediate this relationship. Thus in support of our hypotheses this research reveals that how police officers believe that police officers are stereotyped by citizens is important. This is important, because police offers have to interact a lot with citizens, and when such interaction is linked to negative well-being, this could have negative consequences for themselves as well as for their behavior towards

citizens (Manzoni & Eisner, 2006). Further, even though the extent to which police officers have negative stereotypes of citizens is related to negative well-being as well, this did not mediate the relationship between negative contact with citizens and negative well-being. This suggests that when people have negative interactions with members of the outgroup, their negative expectations about how their group is viewed by the outgroup are more likely to negatively impact their well-being at work than the extent to which they have negative perceptions of the outgroup.

Interestingly, we found that the relationship between negative contact and negative well-being was not only mediated by negative meta-stereotypes, but also by negative non-stereotypic meta-perceptions. Our data do not allow us to say whether meta-stereotypes or meta-perceptions are more strongly related to negative well-being. When both negative meta-stereotypes and negative meta-perceptions were in the same model, neither was significantly associated with negative well-being. That both meta-stereotypes and meta-perceptions are mediators suggests that the valence of the meta-perceptions may have been more relevant than the specific stereotypic content of the associations. Many studies on meta-stereotyping focus on the relevance of specific traits that are part of the stereotypes of groups (see Gordijn, 2010; Vorauer et al., 1998). However, other research focused on the valence of the stereotypes (Owuamalam, Issmer, Zagefka, Klaßen, &Wagner, 2014), and some research even suggested that it is the valence rather than the specific content of the traits that is of primary importance (Gordijn, Finchilescu, Brix, Wijnants, & Koomen, 2008). In the current research we found that both stereotypical and non-stereotypical meta-perceptions mediate the relation between negative contact and negative well-being. One reason for this may be that the traits that we found in the pilot study were not presenting an accurate image of the meta-stereotypes that police officers have of citizens. However, it should be noted that the meta-stereotypic items were indeed perceived as more meta-stereotypic than the non-meta-stereotypic items (see

footnote 2), and the reliability of the meta-stereotype scales was considerably higher than of the non-meta-stereotypic items, suggesting that this concept was measured well.

Another, perhaps more plausible explanation could be that specific traits are more relevant when specific behaviors are predicted, while valence is more predictive when affective reactions (such as anxiety or well-being) are concerned. Indeed, in line with the idea that specific traits can predict specific behaviors, research has shown that people sometimes try their best not to confirm a specific meta-stereotypic trait, even at their own cost (Hopkins, Reicher, Harrison, et al., 2007). Moreover, other research indicated that people sometimes intend to behave in line with specific meta-stereotypic traits, probably in order to distance themselves from an outgroup they feel negative about (Kamans, Gordijn, Otten, & Oldenhuis, 2007). Further, in line with the idea that valence of meta-stereotypes predicts affective reactions, Gordijn et al. (2008) found that the valence rather than the specific traits of meta-stereotypes predicted whether people felt happy about an interaction with the outgroup. Future research could further explore this idea by examining the influence of valence and specific traits in meta-stereotypes on emotions and behavior.

We further explored relations between positive contact and positive and negative well-being. Interestingly, positive contact predicted positive but not negative work-related well-being, and this relationship was mediated by positive perceptions of citizens, but not by (positive) meta-perceptions. Thus when police officers had more positive interactions with citizens, they thought more positive of them, and hence, felt better at work. Moreover, negative contact had no effect on positive work-related well-being. This differential effect of positive and negative contact supports the argument of Barlow et al. (2012; see also Techakesari et al., 2015) to distinguish its effects. Barlow et al. found that both quantity of positive and negative contact predicted prejudice, but that negative contact was the stronger predictor, as positive contact did not clearly reduce prejudice. In the current research we also

found that negative contact increased negative perceptions ($B = .34$, $SE = .07$, $p < .001$),

suggesting increased prejudice, but positive contact did not decrease *negative* perceptions ($B = -.05$, $SE = .10$, $p = .61$). Interestingly however, positive contact did increase *positive* perceptions of citizens ($B = .39$, $SE = .07$, $p < .001$), and positive well-being at work,

indicating that it might have some positive effects on intergroup relations. These findings

further suggest that not only positive and negative contact should be distinguished. The

current results also support the argument of Huppert and Whittington (2003), Karademas

(2007) and Widmer et al. (2012) to distinguish positive and negative well-being, as the

current findings show they are predicted by different variables.

We also explored whether differences in crime levels between regions influences the

relation between negative contact, negative meta-stereotypes, and negative well-being. One

thought could be that when there is a lot of crime police officers are more likely to have

negative interactions with citizens. However, we did not find evidence for this idea. The

extent to which police officers had negative contact with citizens did not differ between

regions with high and low levels of crime. Further, we found that police officers were less

likely to expect that police officers are perceived negatively by citizens, and work-related

well-being was less negative in regions with high crime levels rather than low crime levels.

One possible explanation for this finding may be that the high level of crime within a region

has a positive influence on the relationships between police officers within the police station

as well as with citizens who feel protected by the police. Due to the threats that could be

present, police officers may show more closeness and solidarity with their colleagues and may

feel somewhat more appreciation of their work by citizens in high rather than low crime

regions. This could result in less negative well-being. However, so far we have no evidence

for this explanation. More research is needed to investigate this interesting issue.

The main limitation of the current research is that this is a correlational study, so the direction of the findings cannot be determined. It is likely that the relationships are bi-directional such that police officers who believe that police officers are negatively perceived by citizens experience lower levels of well-being, and police officers who experience lower levels of well-being believe that police officers are more negatively perceived by citizens. So it is important for future research to examine the causality of these relationships. However, even though we cannot be conclusive about the direction of the relationships, it should be noted that the fact that contact, meta-perceptions and stress are related is interesting in its own right and relevant both for theory on intergroup context, social perception and stress, as well as for practitioners trying to increase well-being.

Another limitation concerns the fact that we did not take any measures to differentiate between police officers with and without uniforms, although it may have a strong influence on our findings: In police rescue (i.e., the uniform unit), the work is at the police officers' initiative on the street, and their main mission is to serve citizens. They do not have personal offices and mostly spend their days on the street among citizens. Police officers in uniforms are more on the street and more visible so they are more likely to meta-stereotype citizens. The non-uniformed unit (i.e., investigation units and anti-crime units) are specialized units. Investigation units have the mission to examine law-breaking, gather evidence, and identify the person responsible of law-breaking. They have an office in the police station and go on the street only when it is necessary. So it is likely that the hypotheses apply more to uniform rather than non-uniform units, but we cannot test this on the basis of the current data. More research is needed to investigate this issue.

To conclude, the current research revealed that police officers who are expected 'to maintain public order, to prevent and detect crime and to provide aid and assistance for people and communities in need' (see De Rover, 2014, p.31) are likely to experience higher levels of

negative well-being after negative contact with citizens. One reason for this could be that interactions with citizens may create negative expectancies about how they, as police officers, are perceived by citizens, which is stressful. Stress can reduce well-being as it can have negative physiological, psychological, and behavior consequences, such as high blood pressure, feeling dissatisfied and cynical, and sometimes even aggression (Gershon et al., 2009; Manzoni & Eisner, 2006). If stressed police officers behave aggressively this can lead citizens to distrust the force and become less supportive of the police, which may increase negative contacts and hence the negative meta-perceptions that police officers have. Perhaps one way to break this vicious cycle is to make police officers aware of how these expected rather than (necessarily) real perceptions that citizens may have of police officers can influence how they feel. If so, they could try to deal with this before it increases their negative well-being.

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Footnotes

1. This quote is taken from http://www.nytimes.com/live/police-shooting-in-baton-rouge/i-
   got-you/

2. We included non-stereotypic items to examine whether there were different relations with
   stress and contact between positive and negative meta-stereotypic items and positive and
   negative non-meta-stereotypic items. In support of the pilot study the stereotypic items
   were perceived as more meta-stereotypic than the non-stereotypic items (Mpositive meta-
   stereotypic items = 3.97 (SD=.97) versus Mpositive non-meta-stereotypic items = 3.04
   (SD=.80), t (96)=11.09, p <.0001; Mnegative meta-stereotypic items = 4.75 (SD=.89)
   versus Mnegative non-meta-stereotypic items = 4.19 (SD=.96), t (96)=6.84, p <.0001).
   Please note that all items were measured using 7-point Likert scales (7= strongly agree)

3. In support of the pilot study the stereotypic items were perceived as more stereotypic than
   the non-stereotypic items (Mpositive stereotypic items = 3.88 (SD=.99) versus Mpositive
   non-stereotypic items = 3.36 (SD=.81), t (93)=5.24, p <.0001; Mnegative stereotypic items
   = 5.04 (SD=1.13) versus Mnegative non-stereotypic items = 3.54 (SD=1.06), t (93)=14.35,
   p <.0001). Please note that all items were measured using 7-point Likert scales
   (7=strongly agree).

Table 1: Correlations between all measures

	1	2	3	4	5	6	7	8	9	10	11	12
1 Positive contact	1											
2 Negative contact	-.47***	1										
3 Positive well-being	.33**	-.28**	1									
4 Negative well-being	-.20	.30**	-.47***	1								
5 Positive stereotypes	.62***	-.56***	.40***	-.22*	1							
6 Negative stereotypes	-.27**	.50***	-.22*	.25*	-.40***	1						
7 Postive meta-stereotypes	.47**	-.38***	.38***	-.29**	.55**	-.33**	1					
8 Negative meta-stereotypes	-.19	.47***	-.15	.43***	-.19	.47***	-.41***	1				
9 Nst positive perceptions	.29**	-.20	.37***	-.14	.44***	-.22*	.28**	-.04	1			
10 Nst perception (arrogant)	-.19	.26*	-.08	.13	-.25*	.59***	-.23*	.31**	-.32**	1		
11 Nst perception (disgusting)	-.23*	.38***	-.15	.05	-.20	.32**	-.17	.24*	-.28**	.21*	1	
12 Nst positive meta-perceptions	.23*	-.11	.38***	-.25*	.35***	-.13	.59***	-.20*	.36***	-.08	-.07	1
13 Nst negative meta-perceptions	-.13	.36***	-.24*	.42***	-.21*	.34***	-.42***	.69***	.10	.22*	.28**	-.33***

Note. Nst refers to non-stereotypic traits. *$p<05$.**$p<01$. ***$p<001$.

Table 2: Regression analyses for negative well-being

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Crime (high versus low)	-0.47*	-0.48**	-0.48**	-0.49**	-0.38	-0.32
	(0.18)	(0.17)	(0.17)	(0.17)	(0.17)	(0.17)
(Contrast low crime regions)	-0.30	-0.46	-0.49	-0.49	-0.43	-0.49
	(0.28)	(0.26)	(0.28)	(0.27)	(0.26)	(0.25)
(Contrast high crime regions)	0.47	0.63*	0.61	0.60*	0.55	0.62*
	(0.27)	(0.26)	(0.26)	(0.26)	(0.25)	(0.24)
Positive contact		-0.06	-0.08	-0.04	-0.05	-0.05
		(0.08)	(0.10)	(0.09)	(0.09)	(0.08)
Negative contact		0.19**	0.17*	0.20*	0.10	0.13*
		(0.06)	(0.07)	(0.06)	(0.07)	(0.06)
Positive stereotypes			0.06			
			(0.13)			
Negative stereotypes			0.08			
			(0.09)			
Nst positive perceptions				-0.11		
				(0.12)		
Nst perception (arrogant)				-0.02		
				(0.07)		
Nst perception (disgusting)				-0.04		
				(0.07)		
Positive meta-stereotypes					-0.06	
					(0.11)	
Negative meta-stereotypes					0.26*	
					(0.10)	
Nst positive metaperceptions						-0.16
						(0.12)
Nst negative metaperceptions						0.25*
						(0.10)

Note. Unstandardized regression coefficients are reported, standard errors between brackets.

*p<05.**p<01. Nst refers to non-stereotypic traits.

Table 3: Regression analyses for positive well-being

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Crime (high versus low)	0.85***	0.85***	0.84***	0.84***	0.80***	0.77***
	(0.20)	(0.19)	(0.18)	(0.18)	(0.20)	(0.19)
(Contrast low crime regions)	-0.42	-0.27	-0.48	-0.15	-0.28	-0.20
	(0.31)	(0.29)	(0.29)	(0.28)	(0.29)	(0.28)
(Contrast high crime regions)	0.18	0.02	0.08	0.06	-0.03	-0.03
	(0.30)	(0.28)	(0.27)	(0.28)	(0.28)	(0.27)
Positive contact		0.20*	0.06	0.14	0.13	0.15
		(0.09)	(0.10)	(0.09)	(0.10)	(0.09)
Negative contact		-0.11	-0.02	-0.12	-0.12	-0.12
		(0.07)	(0.08)	(0.07)	(0.07)	(0.07)
Positive stereotypes			0.36**			
			(0.13)			
Negative stereotypes			-0.03			
			(0.10)			
Nst positive perceptions				0.39**		
				(0.13)		
Nst perception (arrogant)				0.07		
				(0.08)		
Nst perception (disgusting)				0.04		
				(0.07)		
Positive meta-stereotypes					0.21	
					(0.12)	
Negative meta-stereotypes					0.11	
					(0.12)	
Nst positive metaperceptions						0.35**
						(0.13)
Nst negative metaperceptions						0.03
						(0.11)

Note. Unstandardized regression coefficients are reported, standard errors between brackets.

*p<05.**p<01. ***p<001. Nst refers to non-stereotypic traits.

Table 4: Indirect effects of negative contact on negative well-being

	Indirect effect estimate	95% CI LLCI	ULCI
Stereotypes			
Positive stereotypes	-0.01	-0.07	0.04
Negative stereotypes	0.03	-0.03	0.1
Meta-stereotypes			
Positive meta-stereotypes	0.01	-0.03	0.04
Negative meta-stereotypes	0.08	0.02	0.16
Non-stereotypic perceptions			
Positive perceptions	0.004	-0.01	0.03
Arrogant	-0.003	-0.03	0.03
Disgusting	-0.01	-0.06	0.03
Non-stereotypic meta-perceptions			
Positive meta-perceptions	-0.0001	-0.02	0.03
Negative meta-perceptions	0.06	0.02	0.11

Note. Number of bootstrap samples for bootstrap CIs= 5000. Observed *N*= 93. Findings were comparable when controlled for age, gender, and number of years in the police force. CI= confidence interval; LLCI=lower limit confidence interval; ULCI=upper limit confidence interval

Table 5: Indirect effects of positive contact on positive well-being

	Indirect effect estimate	95% CI LLCI	ULCI
Stereotypes			
Positive stereotypes	0.14	0.03	0.26
Negative stereotypes	0.002	-0.02	0.02
Meta-stereotypes			
Positive meta-stereotypes	0.06	-0.01	0.14
Negative meta-stereotypes	0.004	-0.02	0.03
Non-stereotypic perceptions			
Positive perceptions	0.07	0.01	0.15
Arrogant	-0.01	-0.05	0.02
Disgusting	-0..003	-0.03	0.02
Non-stereotypic meta-perceptions			
Positive meta-perceptions	0.05	-0.02	0.13
Negative meta-perceptions	0.001	-0.02	0.02

Note. Number of bootstrap samples for bootstrap CIs= 5000. Observed *N*= 93. Findings were comparable when controlled for age, gender, and number of years in the police force. CI= confidence interval; LLCI=lower limit confidence interval; ULCI=upper limit confidence interval

Figure 1: Mediation of negative contact on negative well-being by meta-stereotypes (analyses control for region, see Table 2)
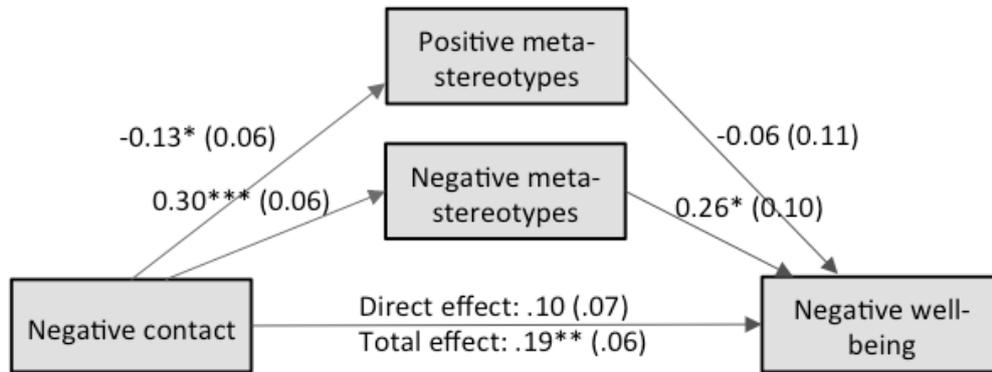

Positive meta-stereotypes

Negative meta-stereotypes

Negative contact

Negative well-being

-0.13* (0.06)

0.30*** (0.06)

-0.06 (0.11)

0.26* (0.10)

Direct effect: .10 (.07)
Total effect: .19** (.06)

Figure 2: Mediation of negative contact on negative well-being by non-stereotypical meta-perceptions (analyses control for region, see Table 2)
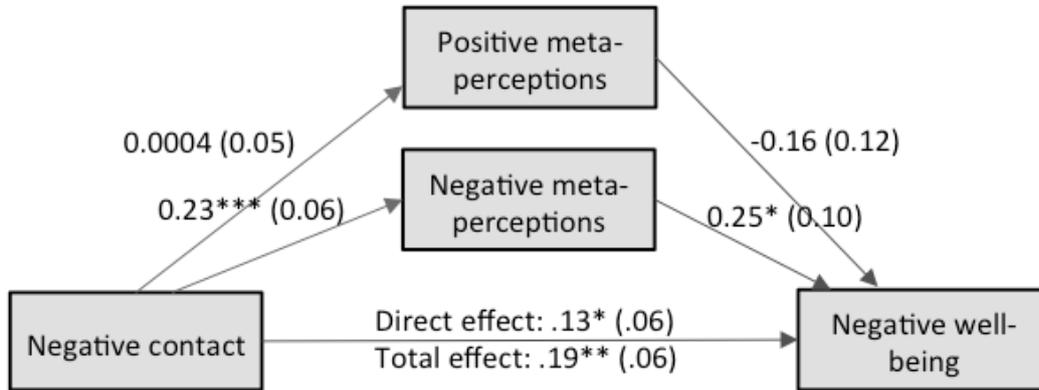
Figure 3: Mediation of positive contact on positive well-being by stereotypes of citizens
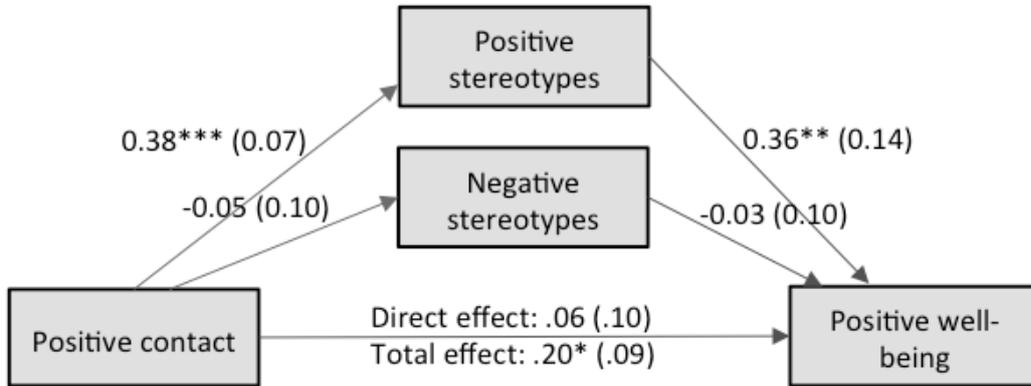
(analyses control for region, see Table 3)

Figure 4: Mediation of positive contact on positive well-being by non-stereotypical

perceptions of citizens (analyses control for region, see Table 3)