

**Police Procedural Justice and Adolescents' Internalization of the Law:
Integrating Self-determination Theory into Legal Socialization Research**

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Abstract

The procedural justice model is a common framework for understanding how and why fair procedures conveyed by legal authorities (such as police officers) shape the legal socialization process. The present contribution draws upon self-determination theory (SDT) to advance the procedural justice model through its focus on internalization, in terms of identification and external regulation. Study 1 is a questionnaire-based study conducted among 268 Belgian adolescents that provides initial evidence for the incremental value of the SDT-based operationalization of internalization, above and beyond the classic operationalization (i.e., obligation to obey), for explaining why perceived procedural justice is linked to more compliance and less defiance. These results are corroborated in Study 2, which involves an experimental, vignette-based study ($N = 210$) contrasting a procedurally just vs. unjust situation. The discussion focuses on how SDT may inform the legal socialization literature.

KEYWORDS: procedural justice, autonomy, self-determination theory, internalization, adolescence

Introduction

Legal socialization involves the process through which people develop specific attitudes and beliefs about the law and rules in society, about the institutions that create these laws and rules, and about the legal authorities that enforce them (Fine & Trinkner, in press; Tapp & Levine, 1974). Recent work emphasizes how legal socialization is shaped by people's direct and indirect experiences with legal actors (such as the police and courts) and other authority figures more broadly (i.e., the authority relations approach; Fagan & Tyler, 2005; Trinkner & Cohn, 2014). The present contribution builds on this work by elucidating the motivational basis of people's legal behavior.

Contemporary models of legal socialization (e.g., the procedural justice model; Fagan & Tyler, 2005; Trinkner & Cohn, 2014) highlight that a deeper insight in the motivational underpinnings of legal behavior is critical to better understand why and how interactions with authority figures shape the legal socialization process. Whereas past motivational accounts primarily focused on relational and instrumental concerns (e.g., Fagan & Tyler, 2005; Lind & Tyler, 1988; Tyler, 1997; Tyler & Blader, 2003), the present contribution draws upon self-determination theory (SDT; Ryan & Deci, 2000, 2017), a broad theory on human motivation and socialization, to highlight the role of different types of internalization that vary in their level of autonomy (Vansteenkiste et al., 2018). Despite the importance of autonomy to human functioning, legal socialization scholars have largely ignored its role up to this point (but see Trinkner & Tyler, 2016; Trinkner et al., 2018).

Integrating SDT into the legal socialization field also allows us to address a prevailing operational problem within the literature on legitimacy. Perceived legitimacy of the law and legal authority is considered a key indicator of effective legal socialization as it leads to the self-regulation of behavior (Tyler, 2009; Tyler & Trinkner, 2018). Legitimacy is often conceptualized as an internalized willingness to obey the law whereby individuals voluntarily comply with the law because they choose to, not because they are forced to obey (Tyler, 2006). However, the measures of legitimacy rooted in this conceptualization often fail to differentiate between people who are motivated to voluntarily obey via norm internalization versus people who obey because of instrumental concerns, such as out of fear of punishment or oppression (Jackson & Bradford, 2019; Pösch et al., 2020; Trinkner, 2019). In drawing from the SDT literature, we utilized measures

specifically designed to differentiate between different motivational regulations, in particular identification and external regulation (Ryan & Connell, 1989; Ryan & Deci, 2000).

The purpose of the present contribution is to provide a more complete understanding of the motivational bases underlying the legal socialization process within the context of police-youth interactions by exploring potential benefits of SDT for an enrichment of the legal socialization literature, and procedural justice theory in particular (Fagan & Tyler, 2005; Kaiser & Reising, 2019). First, we address the role of legal authorities in the legal socialization process and how fair treatment fosters the development of legitimacy, and we discuss current conceptualizations of legitimacy, its measurement, and the limitations of those measures. Then, we provide an overview of SDT, highlighting its similarities with a procedural justice account of legitimacy development and extending that account with its conceptualization of internalization in terms of varying levels of autonomy. We then test our theoretical integration across two empirical studies involving Belgian youth. Finally, we close by discussing how SDT may further inform the legal socialization field, elaborating upon practical implications of our findings and providing avenues for future research.

Legal Socialization and Authority Relations

Throughout childhood and adolescence, young people start to develop their orientation towards the law through the acquisition of law-related values, attitudes, and reasoning capacities (Cohn & White, 1990; Tapp & Levine, 1974; Tyler & Trinkner, 2018). A key component of this legal socialization process involves the internalization of the social norms and morals underlying laws and legal authority (Fine & Trinkner, in press). Legal value transmission starts in early childhood and transpires across the lifespan as people come in contact with the legal system (Fagan & Tyler, 2005; Trinkner & Tyler, 2016). These values function as guiding principles about what is right and wrong, informing people about how both they and legal authorities ought to behave. The internalization of legal values provides a foundational basis for people's judgments about the legitimacy of the law and legal institutions (Bottoms & Tankebe, 2012; Jackson et al., 2013; Tyler, 2006).

The authority relations approach of legal socialization highlights that young people's personal and vicarious experiences with both legal and non-legal authority figures strongly shape their legal socialization (Tyler & Trinkner, 2018). The assumption is that such experiences are "teachable

moments” about the role and purpose of the law within society and about authority figures representing the law (Tyler et al., 2014). In other words, legal authorities serve as critical socializing agents that foster the internalization of legal values and subsequent compliance and cooperation. Herein, we drew upon the procedural justice model of legal socialization, as it is one of the most dominant approaches for understanding how interactions with authority figures, especially police officers, shape the legal socialization process (Fagan & Tyler, 2005; Tyler & Huo, 2002).

The procedural justice model. According to the procedural justice model of legal socialization (Fagan & Tyler, 2005; Trinkner & Cohn, 2014; Trinkner et al., 2018), individuals are more likely to view legal authorities as legitimate authorities entitled to obedience and deference when they act in a procedurally just manner. *Procedural justice* denotes the perception that the processes used to make a decision or enforce a rule are fair and just (Lind & Tyler, 1988). Police behaviors’ quality of decision-making and treatment of citizens typically contribute to citizens’ perceived procedural justice (Blader & Tyler, 2003; Reisig et al., 2007). High quality decision-making denotes decisions that are made in an impartial, transparent and interactive manner, where all parties are given a voice to express their ideas and concerns about the decision being made. Quality of treatment involves acting with dignity and respect throughout the interaction, showing care and concern, and treating the person as a valued member of society. A significant body of research shows that when citizens believe that the police act in a procedurally just way, they are more likely to experience interactions with the police as positive (Mazerolle et al., 2013), have more trust in the police (Nix et al., 2015), be inclined to cooperate with them (Tyler & Fagan, 2008), and abide by the law (Walters & Bolger, 2019). These findings have been replicated across a variety of diverse populations and methodologies (e.g., Murphy et al., 2014; Reisig & Lloyd, 2009; Reisig et al., 2018; Wolfe et al., 2016).

The underlying assumption of the procedural justice model is that people are generally motivated by *relational concerns*, that is, they are interested in establishing and maintaining memberships within valued groups (Lind & Tyler, 1988; Tyler, 1997; see also Baumeister & Leary, 1995). Within the law enforcement context, police officers’ procedurally just behavior conveys that youth are respected and valued members of the group the police represent (i.e., local community and

society at large). In contrast, disrespectful and biased treatment signals exclusion from the community (Lind & Tyler, 1988; Smith et al., 1998; Valcke et al., 2020). Conveying a sense of group inclusiveness encourages youth to feel accepted as valued group members, which, in turn, fosters the internalization of group norms and values concerning appropriate behavior. By extension, under procedurally just circumstances, individuals would come to see authority figures as legitimate representatives of the group, entitled to deference (Tyler, 1997; Tyler & Blader, 2003). Thus, procedural justice on the part of law enforcement would foster voluntary compliance from youth, with less need for the use of coercion and force. These relational concerns play an important role in the way people react to group authorities beyond instrumental concerns (e.g., fear of punishment, receipt of beneficial outcomes), especially when individuals value group membership (Huo et al., 1996; Tyler, 1997).

Conceptualization and operationalization of legitimacy. Paramount within this approach, and legal socialization more broadly, is the focus on legitimacy as a critical indicator to understand whether and why authority will be accepted or rejected. Legitimacy is defined as “a psychological property of an authority, institution, or social arrangement that leads those connected to it to believe it is appropriate, proper, and just” (Tyler, 2006, p. 375). In other words, when youth believe that the authority of a legal institution or actor is legitimate, they recognize the position of power of these authorities and accept their role as regulators of behavior. They would then more voluntarily adhere to their decisions, with their deference naturally flowing from their internalization of group norms and values rather than being driven by fear of the negative consequences from disobedience (Fine & Trinkner, in press; Tyler & Lind, 1992; Tyler, 2006).

Although conceptually clear, a highly debated issue involves the operationalization of legitimacy (e.g., Jackson & Bradford, 2019; Tankebe, 2013; Trinkner, 2019). Often-used indicators of legitimacy involve citizen’s trust in the law and legal actors (e.g., Sunshine & Tyler, 2003), their normative alignment (i.e., the general belief that the legal actors act according to societal expectations about appropriate and desirable behavior; e.g., Jackson et al., 2012), and citizen’s felt obligation to obey the law and legal actors (e.g., Huq et al., 2017). In the present contribution we focused on the indicator of legitimacy that is historically most commonly used, that is, one’s felt *obligation to obey*.

If youth have internalized the values that justify the position of the police, then they will feel an internal duty or obligation to obey the law because it is the right thing to do as a group member (Tyler & Trinkner, 2018). Importantly, that felt obligation is independent from obedience that is motivated by instrumental reasons (e.g., out of fear for punishments, or because they have no other choice) because it results from the internalization of values rather than the threat or actual use of force (Trinkner, 2019). Obligation-based measures of legitimacy often include items such as “You should do what the police tell you to do, even if you disagree with their decisions”. The problem with such items is that they fail to properly distinguish between the two motivational states that undergird legitimacy in the procedural justice model (Pósch et al., 2020; Tankebe, 2013). An individual may agree with the item above because s/he has internalized the legal values justifying the normative position of police as a legitimate authority, but s/he could equally agree with the item because s/he is afraid of the consequences of disobedience or has no alternative but to obey.

The lack of operational differentiation in popular legitimacy measures is problematic as these different motivational forces may have different (potentially even contradictory) correlates, and may bring about different policy prescriptions (Trinkner & Tyler, 2016). Indeed, although some studies indicate that obligation is linked to favorable outcomes, including compliance and cooperation (e.g., Trinkner et al., 2018; Tyler & Jackson, 2014), other studies found no evidence for such relations (e.g., Hamm et al., 2017; Reisig et al., 2007; Tankebe, 2009). From a policy point of view, legitimacy is often positioned as a means to gain voluntary compliance without the need for coercion and force (Tyler, 2009). However, if the “legitimacy” measures used in those studies simply reflect individuals’ rational calculation of the costs associated with disobedience (i.e., an instrumental motivation), then the assumption that legitimacy promotes voluntary compliance is moot and policies should rather focus on increasing the costs individuals associate with disobedience. Given that police legitimacy scholars have historically used police legitimacy as a counterpoint to such strategies (Tyler et al., 2015), it is imperative to gain clarity on this ambiguity. To do so, the present contribution draws upon SDT (Ryan & Deci, 2017).

Self-Determination Theory and Human Motivation

Buttressed by an impressive body of empirical research, SDT has become a major paradigm for understanding human motivation and development over the past few decades. According to SDT, together with relatedness and competence, *autonomy* is a universal psychological need which plays a fundamental role in understanding human functioning and optimal development (Ryan & Deci, 2017; Vansteenkiste et al., 2020). Autonomy refers to the degree to which one experiences a sense of volition, personal choice, and psychological freedom in one's actions (Ryan & Deci, 2000; Soenens et al., 2018; Van Petegem et al., 2013). Previous research provides evidence that, when satisfied, the need for autonomy fosters well-being and optimal development; by contrast, the frustration of the need for autonomy (as manifested through experiences of coercion and pressure) has been linked to maladjustment, including defiant behavior and externalizing problems (e.g., Van Petegem et al., 2015a). Such findings were established using a variety of methodologies, across different cultures and ages, and across different domains of functioning (for a review, see e.g., Ryan et al., 2016).

Internalization within SDT. To achieve a sense of autonomy and volition, it is important for individuals to internalize the norms, guidelines, and values that are offered by authority figures (Ryan & Connell, 1989; Ryan & Deci, 2000). To operationalize internalization, SDT distinguishes between different motives for enacting a behavior, some of which exemplify successful internalization and are accompanied with a sense of autonomy, and others denoting a lack of internalization and autonomy. *External regulation* reflects a complete absence of internalization as one acts to avoid criticism or punishments or to obtain contingent rewards or praise. When youngsters abide by the law out of fear for being sanctioned or to avoid trouble with the police or other legal actors, their reason for following the law lies completely outside themselves (Soenens et al., 2009; Vansteenkiste et al., 2014). Because youth compliance in this case is dependent upon the presence of external forces and reflects a lack of autonomy, youth will fail to self-regulate their behavior once these forces are removed or are no longer operative (e.g., Joussemet et al., 2008).

By contrast, *identification* reflects a high degree of internalization and autonomy, as one fully endorses and understands the importance of the behavior. For instance, youth may adhere to the law because they understand their relevance, necessity, and importance for themselves and/or for ensuring a well-organized and safe public life. Because their behavior, then, is congruent with their personal

values and goals and reflects a high degree of autonomy, following the law does not feel like an externally imposed burden but instead as a personal choice to which one is committed (Ryan & Deci, 2017). Consequently, youth are more likely to persist voluntarily and their behavior may transfer to other situations, even in the absence of authority figures (Grolnick et al., 1997; Ryan & Connell, 1989; see also Hoffman, 1977; Kochanska, 2002).¹

Comparison of SDT with the procedural justice model. The SDT-grounded conceptualization of internalization maps well onto the corresponding notion in the procedural justice model. Both models stress how successful internalization promotes voluntary compliance with rules and regulations, as internalization entails the personal endorsement of the values and norms underlying these rules and regulations. Thus, one may willfully consent to an external obligation and accept authority without feeling threatened in one's need for autonomy (Van Petegem et al., 2012; Vansteenkiste et al., 2014). Indeed, in highly constrained situations, true autonomy lies exactly in the willing endorsement of the legitimacy of an authority (Deci & Ryan, 2012; Ryan & Deci, 2017; see also Ricoeur, 1966). Both literatures also emphasize that internalization promotes self-regulation in the absence of authority (Laurin & Joussemet, 2017; Sunshine & Tyler, 2003). Further, external regulation in SDT shows considerable overlap with the concept of instrumentality prevalent in the procedural justice model, where external force and coercion are a motivating force behind behavior (e.g., Pósch et al., 2020; Tyler 2006).² Interestingly, both models also recognize the importance of relational concerns for understanding the conditions that facilitate internalization: similar to the procedural justice model, SDT identifies relatedness as a fundamental psychological need that promotes the acceptance and internalization of norms and guidelines (e.g., Niemiec et al., 2006; Vansteenkiste et al., 2010). At the same time, SDT goes beyond the classic procedural justice model by considering the role of autonomy-related dynamics as an additional factor underlying the process of internalization.

Another point of congruence between SDT and the procedural justice model pertains to the social contexts that promote internalization. According to SDT, the internalization of rules and behavioral regulations depends upon the *communication style*, which involves the way in which rules and regulations are conveyed and enforced (Koestner et al., 1984; Soenens & Vansteenkiste, 2010;

Vansteenkiste et al., 2018). Specifically, internalization would be facilitated by an autonomy-supportive communication style (Deci et al., 1994; Grolnick et al., 1997), which involves showing empathy and acknowledging the other person's perspective, offering a meaningful explanation for a rule or expectation, and the use of respectful, non-threatening language (e.g., Mageau et al., 2015; Soenens et al., 2007). Thus, SDT's conceptualization of autonomy-supportive communication is akin to the principles of procedural justice, as it particularly focuses on the way in which rules and regulations are designed, promoted, and enforced (Ryan & Deci, 2017; see also DeCaro et al., 2015). In addition, both frameworks converge in their claims that the quality of communication is of critical importance for understanding whether and when people will internalize and endorse the value of rules and regulations, and whether they will act upon them voluntarily (Ryan & Deci, 2017). In line with this, autonomy-supportive strategies have been shown to promote the internalization of rules and norms across different contexts, including the family context (e.g., internalization of parental prohibitions; Van Petegem et al., 2017a) and the legal context (e.g., internalization of prison rules; Van der Kaap-Deeder et al., 2019), thereby using longitudinal (Vansteenkiste et al., 2014), observational (e.g., Laurin & Joussemet, 2017), and vignette-based designs (e.g., Van Petegem et al., 2019).

In addition to these similarities between SDT and procedural justice model, the present theoretical development suggests that SDT may complement the procedural justice model in at least two ways as well. First, SDT provides a more fine-grained understanding of the motivational underpinnings underlying human behavior. We expected that the SDT-based notions of identification and external regulation as motivational factors for obeying the law would help account for the hypothesized effects of procedural justice on youth compliance and defiance, above and beyond their felt obligation to obey. Further, SDT's differentiation between identification and external regulation may help addressing the methodological problems associated with legitimacy measures rooted in an 'obligation to obey' (e.g., Trinkner, 2019). We expected that felt obligation would relate positively to both identification and external regulation, as people may feel obliged to obey the law for normatively-grounded reasons (which is akin to identification) but also for instrumental reasons (which is similar to external regulation). Such a pattern of correlates would highlight the ambiguous

nature of the obligation measure, as it would indicate that it assesses a mixture of different motivational underpinnings; further, this would explain why previous research yielded inconsistent results regarding the correlations between obligation and outcome variables (e.g., Hamm et al., 2017).

The Present Study

The overall goal of the present contribution was to integrate SDT into the field of legal socialization. Specifically, we sought to integrate the SDT-based notions of identification and external regulation into the traditional procedural justice model, by considering their incremental explanatory value for understanding why perceived police procedural justice fosters compliance (rather than defiance). In addition, we aimed to examine whether the inclusion of SDT helps to address the methodological problems linked to obligation measures of legitimacy. This was tested through a cross-sectional, survey-based study (Study 1) and an experimental, vignette-based study (Study 2).

Across both studies, we focused on the developmental period of adolescence, as young people begin to develop their orientation towards the law during childhood that further unfolds throughout adolescence and young adulthood (Tapp & Levine, 1974; Fagan & Tyler, 2005). Indeed, adolescence has been identified as a critical period in the legal socialization process where value acquisition is particularly malleable (Fine & Trinkner, in press; Tyler & Trinkner, 2018). As they enter adolescence, young people increasingly come in contact with the law and legal authority through both personal and vicarious encounters (Fine et al., 2016, 2017). As a consequence, the quality of these interactions is particularly important for their legal socialization (Tyler et al., 2014; Tyler & Trinkner, 2018). In line with this, a recent meta-analysis indicated that young people benefit more from police efforts to increase legitimacy (as compared to older participants), and cooperate more when they perceive the police as acting with greater procedural justice (Bolger & Walters, 2019).

Study 1

Study 1 involved a combined consideration of an obligation-based measure typical in police legitimacy scholarship and a measure of identification and external regulation drawn from the SDT-literature. We used a two-step analysis. Following the procedural justice model of legal socialization, we first examined a model where youths' perceived police procedural justice predicted their felt obligation to obey the law, which in turn predicted their self-reported compliance and defiance

behaviors toward the police. In a second step, following the SDT-literature, we included youths' external regulation and identification with the law as additional mediators between procedural justice and the two outcome measures.

Our purpose here was three-fold. First, we wanted to assess the interrelations among obligation to obey the law, identification, and external regulation. Given that the measures of external regulation and identification are designed to clearly delineate between two different motivational states, exploring their relations with obligation would indicate if obligation measures adequately distinguish between instrumentally-grounded obedience (i.e., external regulation) and normatively-ground obedience (i.e., identification; Pósch et al., 2020). Second, we wanted to assess if procedural justice predicted identification and external regulation given its similarity to the autonomy-supportive communication strategies emphasized in SDT (Ryan & Deci, 2017). On this account, we expected that procedural justice would predict more identification and less external regulation. Finally, we wanted to assess the relations among the three mediators (obligation, identification, and external regulation) with the two outcomes of interest (oppositional defiance and compliance). With respect to identification and external regulation, we expected that the former would be associated with less defiance and more compliance, while the latter would show no or the opposite pattern of associations. While we expected that obligation would be negatively related with oppositional defiance and positively related to compliance at the bivariate level, we had no expectations of its associations once identification and external regulation were accounted for, given the lack of previous work integrating these fields.

Method

Sample and Procedure

The sample of Study 1 consisted of 268 Belgian adolescents, aged between 13 and 19 years ($M = 15.7$ years, $SD = 1.2$). There were somewhat more girls (66%) than boys, and the majority of the participants followed general secondary education (i.e., a broad education, preparing for higher education; 85%). The large majority of the sample had a Belgian nationality (95%), and had both parents born in Belgium (84%). About half of the sample reported having had a contact with the police during the last year (53%). This was mostly for a preventive control (e.g., verification of bike lights; 40% of the total sample), and/or a minor offense (e.g., broken bike light; 30% of the total sample). For

a smaller number of participants, the reason was a moderate offense (e.g., vandalism; 8%) or a great offense (e.g., burglary; 3%). Data collection took place at school during a class period. Prior to participation, participants were informed about the anonymous treatment of the data and the voluntary nature of participation through an informed consent. This procedure was in line with the ethical guidelines formulated by the ethical board of the host institution where the study was conducted.

Measures

All items are available in the online supplementary material. Participants completed Dutch versions of the questionnaires (translated through a back-translation procedure; Brislin, 1970), answering all items on a 5-point Likert-type scale ranging from 1 (*Not at all true*) to 5 (*Completely true*).

Procedural justice. We assessed adolescents' general perceptions of police procedural justice using an 11-item measure (Sunshine & Tyler, 2003). Sample items include « *Most police officers take citizens' opinions into account when making decisions* » and « *Most police officers give a clear explanation for why someone is fined or punished* ». As in previous research, the scale had good reliability ($\alpha = .84$).

Obligation to obey. We assessed adolescents' felt obligation to obey police authority using four items that were drawn from Sunshine and Tyler (2003). An example item reads « *You should do what the police tell you to do, even if you disagree with their decisions* ». The scale had good reliability ($\alpha = .87$).

Identification and external regulation. We measured both adolescents' identification with the law and their external regulation using a slightly adapted version of the Self-Regulation Questionnaire-Rules (Soenens et al., 2009). Specifically, items were rephrased to have them refer to the law, instead of referring to parental rules. The questionnaire started with the stem « *I obey the law because...* », which was followed by 13 items that assess adolescents' motives for obeying the law. Six items assessed adolescents' identification with the law (e.g., « *... I understand why this is important* »), whereas seven items assessed external regulation (e.g., « *... otherwise I am punished* »). Both subscales were reliable ($\alpha = .83$, for identification; $\alpha = .80$, for external regulation).

Compliance. Adolescents' compliance with the police was assessed using a 1-item measure: « *I usually obey the police* ».

Oppositional defiance. Finally, we assessed adolescents' tendency to reject and oppose the law. This was done through the Oppositional Defiance Scale (Vansteenkiste et al., 2014), which was also slightly adapted to have items refer to the law (e.g., « *I rebel against the law* »). The scale had good reliability as well ($\alpha = .86$).

Data Analysis

We started by evaluating the measures of obligation to obey, identification, and external regulation. This was done through a confirmatory factor analysis (CFA), where the items of the measures were modeled as indicators of three underlying latent factors (obligation to obey, identification and external regulation; see online supplementary material for the theoretical model). We also examined overlap between these variables, by inspecting their mutual correlations. Then, we tested our main hypotheses using a structural equation modeling (SEM) framework. Latent variables were estimated to take into account potential measurement error. These latent variables were represented by three parcels that were created through a random selection of items of the respective scales (Little et al., 2002). Parceling was used because it reduces the chance of spuriously significant correlations caused by Type 1-error, reduces unwanted sources of specific shared variance by a subset of items, and also circumvents the typically poor psychometric qualities of items allowing for a more stable model (Little et al., 2002). Moreover, aggregate-level data typically has higher reliability, higher communality, a higher ratio of common-to-unique variance, and a lower likelihood of distributional violations when compared with item-level data. Further, we controlled for sex, education, and previous contact throughout our analyses, at places where preliminary analyses indicated significant associations between these variables and the variables of interest (see online supplementary material).

We first estimated a structural model representing the procedural justice model of legal socialization. Specifically, perceived procedural justice was modeled as a predictor of felt obligation to obey, which in turn predicted both compliance and oppositional defiance. Thereby, compliance and oppositional defiance were allowed to correlate (see online supplementary material, for the theoretical model). Next, we examined the value of including external regulation and identification as concurrent

mediators alongside obligation. Specifically, we modeled perceived procedural justice as a predictor of obligation to obey, identification, and external regulation. Each of these three variables, in turn, were modeled as predictors of compliance and oppositional defiance. Thereby, the intervening variables were allowed to correlate among themselves, as were the outcome variables (see online supplementary material). Finally, we examined the indirect effect of procedural justice through the intervening variables on the outcome variables, using bootstrap analysis with 10,000 draws.

We performed all analyses in R 3.5.3, using the lavaan package (R Development Core Team, 2016). Across all path models, we used robust ML estimation (MLR) to deal with non-normality observed in some of our variables (Finney & DiStefano, 2006). Model fit was evaluated on the basis of a combined consideration of the comparative fit index (CFI), standardized root-mean-square residual (SRMR) and the root-mean-square error of approximation (RMSEA). A cut-off of .90 for CFI, .08 for RMSEA, and .10 for SRMR indicate a reasonable fit, whereas a CFI higher than .95, RMSEA below .06 and SRMR lower than .08 would indicate a good fit (Hu & Bentler, 1999).

Results

Descriptive Analyses

Means and standard deviations, and correlations between the variables of interest are presented in Table 1. The CFA, which simultaneously examined the factor structures of the questionnaires assessing obligation to obey, identification, and external regulation, yielded an acceptable fit [$\chi^2(113) = 254.18, p < .001, CFI = .92, RMSEA = .07, SRMR = .09$], after allowing three correlations between error variances (see the online supplementary material for the detailed results). Further, it was found that obligation to obey related positively to both identification ($r = .30, p < .001$) and external regulation ($r = .31, p < .001$); the relation between identification and external regulation was not significant ($r = .02, p = .79$).

SEM Analyses

Before testing our main hypotheses, we first estimated our measurement model, which yielded a good fit [$\chi^2(90) = 167.81, p < .001, CFI = .95, RMSEA = .06, SRMR = .06$]. The measurement model is presented in detail in the online supplementary material. Then, we estimated a structural model where perceived procedural justice was modeled as a predictor of felt obligation to obey, which

in turn was modeled as a predictor of both compliance and oppositional defiance. We also allowed direct paths between procedural justice and the outcome variables, as this model fitted the data significantly better in comparison with a model without direct paths [$\Delta\chi^2(2) = 14.44, p < .001, \Delta CFI = .014, \Delta RMSEA = .035$]³. The final model fitted the data well [$\chi^2(52) = 51.79, p = .48, CFI = 1.00, RMSEA = .00, SRMR = .04$], and is graphically displayed in Figure 1 (see online supplementary material for estimates from the full model, including indicators and control variables). Higher levels of perceived procedural justice predicted more felt obligation to obey. Obligation to obey, in turn, predicted more compliance, but was not significantly related to adolescents' oppositional defiance to the law. In addition, there were significant direct effects of procedural justice, with higher levels of procedural justice predicting more compliance and less defiance.

In a second model, we added adolescent identification and external regulation as additional intervening variables between procedural justice and the outcome variables. We did not add direct paths between procedural justice and compliance or defiance, as doing so did not ameliorate the model fit significantly [$\Delta\chi^2(2) = 6.79, p = .03, \Delta CFI = .004, \Delta RMSEA = .001$]³. The model yielded a good fit [$\chi^2(129) = 231.95, p < .001, CFI = .94, RMSEA = .06, SRMR = .06$], and is graphically depicted in Figure 2. Procedural justice, again, significantly predicted more obligation to obey, and also predicted more identification. The relation with external regulation was not significant. In looking at the relations among the mediators, obligation to obey was positively correlated with both external regulation and identification, whereas identification was unrelated to external regulation. In other words, adolescents who scored high on following the law for instrumental reasons (i.e., external regulation) also scored high on the measure of felt obligation to obey the law. Similarly, adolescents that reported high scores of identification also scored high on obligation to obey.

Turning to the prediction of compliance and defiance, obligation to obey was no longer a unique predictor of compliance (nor of defiance). Identification predicted more compliance and less defiance, whereas external regulation was only predictive of more compliance; the relation between external regulation and defiance was non-significant. As a follow-up analysis, we examined the indirect effects of procedural justice through the intervening variables on the outcome variables. As is

summarized in Table 2, there were significant indirect effects of procedural justice on both compliance and defiance. In both cases, this indirect effect went through adolescents' identification with the law; the indirect effects through obligation and external regulation were not significant.

Discussion

Study 1 yields a number of important insights. First, with respect to the first goal of this research, Study 1 offers evidence for the incremental value of the motivation variables for understanding why perceived procedural justice brings about positive outcomes, above and beyond the role of felt obligation to obey. Indeed, when entering identification and external regulation in the model, the relation between felt obligation and compliance was no longer significant, indicating that distinguishing between different underlying motivations is critical for understanding why procedural justice is linked to adolescents' law-related behavior. Moreover, the indirect effect of procedural justice through adolescents' identification with the law on their compliance and defiance was significant as well. This is consistent with the claims of both procedural justice theory (Tyler, 2006) and SDT (Ryan & Deci, 2017) concerning the importance of individuals' internalization and acquisition of underlying values and norms as a key component of people's legal socialization, and how this is shaped through the quality of previous exposure to legal authorities (Fagan & Tyler, 2005). Finally, it should be noted that external regulation was unrelated to adolescents' perceptions of procedural justice, and only related to their compliance with the police. An instrumental orientation, thus, may be particularly rooted in coercive authority relations, built on power and dominance, and where people only comply with the law insofar as it yields personal gains (Trinkner & Tyler, 2016).

Further, in regards to the second goal of this research, we found that felt obligation to obey is associated positively with both identification and external regulation. Thus, these results confirm the previously formulated critique about the problematic nature of the obligation measures as they tap into a mix of motivational underpinnings (e.g., Pósch et al., 2020; Trinkner, 2019). That is, individuals may agree with statements assessing felt obligation to obey because they identify with the law, which would represent true legitimacy, as it would flow from their internalization of the law (Tyler, 2006). However, they also may agree with the obligation statements because of an externally imposed pressure, such as to avoid a punishment. This is troublesome, as such an instrumental orientation does

not necessarily imply a voluntary deference to authorities, which is an essential element of legitimacy perceptions (Trinkner, 2019; Tyler, 2006).

Study 2

Study 2 involved a vignette-based study aimed at replicating the results of Study 1 using an experimental design. Specifically, we tested whether the manipulation of procedural justice in a hypothetical vignette influenced adolescents' identification and external regulation and whether this, in turn, was associated with compliance and defiance. We expected that when adolescents are confronted with a situation where a police officer interacts in a procedurally just way, they would be more likely to identify with the police officer's request (and less likely to report an external regulation), which would then be associated with more compliance and less defiance to the officer's request. The present vignette-based approach has the important advantage of allowing for the standardization and manipulation of our independent variable (Aguinis & Bradley, 2014).

The use of vignettes allows for the examination of whether adolescents' responses in the specific depicted situation are determined by the officer's situational use of procedural justice, and/or rather by adolescents' general perceptions of police procedural justice. Based on the procedural justice model (Tyler, 2006), an officer's situation-specific behavior is expected to directly affect citizen's behavior within a specific police encounter (see e.g., Johnson et al., 2017). However, their behavior is likely to be, in part, also shaped by previous experiences and more general perceptions of the police as well (Nagin & Telep, 2017; Trinkner et al., 2018). For instance, past research among young urban men suggests that their previous experiences of police injustice have a corrosive influence upon their future experiences with the police and their behavior within new police encounters (Tyler et al., 2014; see Baker & Gau, 2018, for a similar study among serious female offenders). As a consequence, we expected that adolescents' situation-specific responses are shaped by both their immediate experiences and by their general perceptions of the police. Finally, we did not include a measure of obligation in this study, as Study 1 indicated that this measure does not adequately distinguish between the different motivational underpinnings (i.e., identification and external regulation) and blurs rather than clarifies the relations among procedural justice, legitimacy, and compliance.

Method

Sample

Study 2 made use of a new sample, which was composed of 210 Belgian adolescents, aged between 14 and 19 years ($M = 16.1$ years, $SD = 1.2$). There were more girls (72%) than boys, and the majority followed general secondary education (73%). Most participants had a Belgian nationality (93%), and had both parents born in Belgium (77%). As for previous contact with the police, about half of the sample (54%) reported having had contact during the last year. As in Study 1, this was most often in the context of a preventive control (36% of the total sample), and/or a minor offense (32% of the total sample). The cause was a moderate offense for 4% of the participants; no great offenses were reported. As in Study 1, data collection took place at school, and participants were informed about the anonymous data treatment and the voluntary nature of participation through an informed consent.

Procedure

The study made use of a within-subject design, where the order of the hypothetical vignettes was randomly counter-balanced. This approach reduces possible error caused by naturally occurring variance between groups, and potential order effects can be accounted for (Charness et al., 2012). All participants first filled out a number of general questionnaires, including their general perceptions of police procedural justice. Then they read a hypothetical vignette depicting a police interaction where they were told to imagine they were stopped by a police officer for a minor offense (i.e., riding a bike with a broken light while it is dark). For half of the sample, the situation continued with the officer responding in a procedurally just way (e.g., allowing voice, offering an explanation), then giving a fine and requesting the participant to continue by foot. After having read this situation, participants filled out the situation-specific measures described below. Then, they read the description of the same situation (i.e., being stopped for a broken light), but with the officer responding in a procedurally unjust way (e.g., not allowing voice, not offering an explanation). Afterwards, participants completed the same situation-specific measures. For the other half of the sample, the order was counter-balanced so that they first read the procedurally unfair situation followed by the procedurally just situation. Participants were randomly assigned to the order condition. All vignettes and measures were pilot-tested to ensure they functioned as intended and were realistic, credible, clearly described, and occurred with some frequency (see online supplementary material for details on the pilot testing).

The final vignettes are presented in Table 3. To examine whether the manipulation was successful, the participants of Study 2 completed a 4-item measure of perceived situational procedural justice (e.g., « *If the officer would react this way, I would feel like I am being treated with respect and dignity* », $\alpha = .81$) on a 5-point scale, ranging from 1 (*Not at all true*) to 5 (*Completely true*). A repeated measures ANOVA indicated a highly significant difference [$F(1,202) = 402.69, p < .001, \eta^2 = .67$], with adolescents perceiving more procedural justice after having read the procedurally just reaction ($M = 3.92; SD = .70$) as compared to the procedurally unjust reaction ($M = 2.45; SD = .87$). Further, participants evaluated both the situation as such (i.e., being stopped for a broken bike light) as well as the police officer's (procedurally just and procedurally unjust) reactions in terms of realism and credibility. Participants evaluated the situation as realistic ($M = 4.25; SD = .80$) and credible ($M = 4.19; SD = .92$). In addition, both the procedurally just and unjust reactions were rated as realistic ($M_{PJ} = 3.87, SD = 1.01; M_{PU} = 3.40, SD = 1.10$) and credible ($M_{PJ} = 3.77, SD = 1.02; M_{PU} = 3.51, SD = 1.00$). These results attest to the overall validity of the vignettes.

Measures

All items are presented in the online supplementary material. Participants completed the questionnaires in Dutch and answered on a 5-point Likert-type scale, ranging from 1 (*Not at all true*) to 5 (*Completely true*). We created scale scores by averaging across the items.

General perceived procedural justice. Participants completed the same 11-item questionnaire as in Study 1 to assess their general perceptions of police procedural justice. The measure had a good reliability ($\alpha = .86$).

Identification and external regulation. After having read each vignette, participants reported upon their identification with the officer's request, and their external regulation. This was done through a situational adaptation of the questionnaire of Study 1. Specifically, participants first read the stem « *If the officer would react this way, I would do what the officer asks (i.e., continue on foot), because...* », followed by three items assessing their identification with the request (e.g., « ... *I understand the importance of this* ») and three items assessing an external regulation for complying with the officer's request (e.g., « ... *I feel compelled to do so* »). Both subscales were reliable ($\alpha = .82$,

for identification; $\alpha = .82$, for external regulation).

Compliance. Further, participants reported upon their intention to comply with the officer's request. This was assessed using two items (e.g., « *If the police officer would react like this, I would do what the officer expects from me, and continue on foot* »). The reliability of the scale was $\alpha = .65$.

Oppositional defiance. Finally, adolescents also reported upon their intention to reject the officer's request. This was done through a 4-item situational adaptation (see e.g., Van Petegem et al., 2017b) of the Oppositional Defiance Scale used in Study 1. A sample item reads « *I would do exactly the opposite of what is asked* ». This scale was reliable as well ($\alpha = .78$).

Data Analysis

As a preliminary test, we examined mean level differences in response to the first randomly presented scenario (procedurally just vs. procedurally unjust) in terms of adolescents' identification, external regulation, defiance and compliance. This preliminary between-group test was done to exclude potential order effects, by only focusing on adolescents' responses to the first scenario. To do so, we conducted a MANCOVA with condition as independent variable, and identification, external regulation, defiance and compliance as dependent variables.

For our main analyses, we relied upon the full dataset. We first examined whether adolescents reported higher levels of identification and compliance and lower levels of external regulation and defiance in response to the procedurally just situation, as compared to the procedurally unjust situation. Due to the experimental within-subject design, the present data are hierarchically structured, with condition (procedurally just vs. procedurally unjust; Level 1) being nested within participants (i.e., Level 2), which necessitates multilevel modelling (Kenny & Kashy, 2011). Therefore, we modeled the data using a Generalized Least Square (GLS) framework, which is a likelihood-based approach that allows for the modeling of the non-independence within the error covariance matrix due to the nested nature of our data (Heagerty & Zeger, 2000; Kenny & Kashy, 2011). We performed four separate regression analyses (one for each dependent variable), with condition as a Level 1 predictor and order as a Level 2 predictor, thereby including the condition x order interaction and controlling for

significant background variables (see online supplementary material, for the analyses examining the effects of background variables).

In a next step, we relied upon a structural equation framework (Ledermann & Kenny, 2017) to estimate a path model with identification and external regulation modeled as predictors of compliance and defiance. The path model made use of manifest variables (instead of latent variables) to avoid problems with over-identification of the model. Variables were modeled separately for the procedurally just and unjust situation (in order to consider the nested nature of the data), correlations were allowed between identification and external regulation, and between compliance and defiance, and we controlled for significant effects of background variables (see online supplementary material, for the full theoretical model). Further, we examined whether the structural paths could be fixed (a) across the two groups with different orders of presentation, and (b) across the procedurally just condition and the procedurally unjust condition. As in Study 1, we used MLR estimation to deal with non-normality, and fit was evaluated on the basis of a combined consideration of CFI, SRMR, and RMSEA. In a last step, we estimated a model where we also included adolescents' general perceptions of police procedural justice as a predictor of adolescents' situational responses (i.e., as a predictor of their identification, external regulation, compliance and oppositional defiance; see online supplementary material, for the full theoretical model). For this model as well, we examined whether the effects of procedural justice could be fixed (a) across the two groups with different orders of presentation, and (b) across the procedurally just condition and the procedurally unjust condition.

Results

Preliminary Analyses

As a preliminary test, we performed a MANCOVA to examine between-group differences in terms of identification, external regulation, defiance and compliance, in response to the first randomly presented scenario (procedurally just vs. procedurally unjust). This multivariate effect was significant [$F(4, 205) = 4.11, p = .003$]. Subsequent univariate analyses indicated that adolescents reported higher levels of identification [$F(1, 208) = 8.30, p = .004, M_{PJ} = 3.38$ vs. $M_{PU} = 2.99$] and compliance [$F(1, 208) = 5.33, p = .02, M_{PJ} = 3.78$ vs. $M_{PU} = 3.50$] and lower levels of defiance [$F(1, 208) = 9.45, p =$

.002, $M_{PJ} = 1.79$ vs. $M_{PU} = 2.13$] in response to the procedurally just situation, relative to the unjust situation. The effect did not reach significance for external regulation [$F(1, 208) = 2.77, p = .09$].

Main Analyses

Using the full data set, we then tested whether adolescents would report higher levels of identification and compliance and lower levels of external regulation and defiance in the procedurally just situation vs. the procedurally unjust situation. The results of the regression analyses are presented in Table 4. Overall, we found consistent evidence for our hypotheses regarding the effects of situational procedural justice. Specifically, adolescents were more likely to internalize the request when the officer communicated in a procedurally just way, as adolescents reported more identification and less external regulation in the procedurally just condition. In addition, adolescents also reported more compliance and less defiance in response to the procedurally just situation, further corroborating the beneficial effects of procedural justice. Two main effects of order were significant: adolescents reported more external regulation and defiance when they first read the procedurally just situation. For identification and compliance, the main effect of order was not significant, but the order x condition interaction was. Specifically, the effects of procedural justice on identification and compliance were somewhat more pronounced when adolescents first had read the procedurally unjust situation.

Our next set of analyses involved testing a path model, with identification and external regulation modeled as predictors of compliance and defiance. We used multigroup analyses to examine whether we could constrain the structural paths across the two groups with different orders of presentation, and across the procedurally just and unjust condition. Constraining these paths did not change the fit significantly [$\Delta\chi^2(8) = 7.72, p = .46, \Delta CFI = .001, \Delta RMSEA = .002$, for order; $\Delta\chi^2(4) = 7.14, p = .13, \Delta CFI = .009, \Delta RMSEA = .003$, for condition]³, which indicates that the associations are similar across conditions and across order of presentations. The final model had an acceptable fit [$\chi^2(56) = 93.29, p = .001, CFI = .91, RMSEA = .08, SRMR = .08$]. It was found that identification was significantly related to more compliance ($b = .48, SE = .04, p < .001$) and less oppositional defiance ($b = -.30, SE = .04, p < .001$), regardless of condition or order. The associations of external regulation were non-significant for both compliance ($b = .05, SE = .04, p = .19$) and defiance ($b = .01, SE = .03, p$

= .77). The detailed results are presented in the supplementary online material.

The last set of analyses involved adding adolescents' general perceptions of police procedural justice in the previously presented path model as a predictor of adolescents' identification, external regulation, compliance and defiance. Through multigroup analyses, we examined whether structural paths could be constrained across the two groups with different orders of presentation, and across the procedurally just and unjust conditions. However, these analyses indicated that the path between procedural justice and compliance should be freely estimated (across conditions and across order of presentation). Constraining the other effects of procedural justice did not change the fit significantly [$\Delta\chi^2(7) = 6.82, p = .45, \Delta CFI = .000, \Delta RMSEA = .005$, for order; $\Delta\chi^2(4) = 7.21, p = .13, \Delta CFI = .007, \Delta RMSEA = .001$, for condition]³. The final model fitted the data well [$\chi^2(67) = 102.92, p = .003, CFI = .92, RMSEA = .08, SRMR = .07$], and is graphically displayed in Figure 3 (see online supplementary material for complete results). It was found that higher scores for perceived general procedural justice related to more identification with the officer's request (regardless of condition or order). The association between procedural justice and external regulation was not significant. Further, general perceptions of procedural justice related to lower scores on oppositional defiance (regardless of condition or order). Finally, perceived general procedural justice also predicted more compliance with the officer's request; however, this association was not significant in response to the procedurally unjust situation among adolescents who first got to read the procedurally unjust situation.

Discussion

Taken together, Study 2 replicated the findings of Study 1 using an experimental vignette methodology. Specifically, the first set of analyses, particularly focusing on the effects of situational procedural justice, indicated that adolescents reported more identification and less external regulation, more compliance and less defiance, in response to the procedurally just condition. Corroborating the results of Study 1, the second set of analyses suggest that the beneficial effects of procedural justice on compliance and defiance are particularly explained by adolescents' identification with the officer's request, as identification was predictive of more compliance and less defiance, whereas external regulation was unrelated. The third set of analyses particularly focused on the role of adolescents' perceptions of police procedural justice. These results suggest that, as adolescents generally perceived

police as procedurally just, they were more likely to identify with the officer's request (in the specific situation), they were more likely to comply, and less likely to defy. These effects generalized across both the procedurally just and unjust situation (except for compliance, where a non-significant effect was found in response to the procedurally unjust situation among adolescents who first got to read the procedurally unjust situation). Thus, Study 2 offers incremental evidence that police procedural justice relates to adolescents' legal socialization.

Two particular findings should be highlighted. First, we found one difference between the effects of situational vs. general procedural justice. Whereas general perceived procedural justice was unrelated to external regulation (as in Study 1), situational procedural justice was predictive of less external regulation. The absence of an effect of general procedural justice could be due to the measure's focus on the presence (vs. absence) of procedurally just behaviors, and not so much on the presence (vs. absence) of coercive police behaviors, such as verbal or physical threats. The procedurally unjust vignette, by contrast, made reference to coercive strategies, such as threatening language and shaming. Past work suggests that a coercive approach to legal socialization, in particular, may elicit an instrumental motivation and an external regulation for obeying the law (e.g., McCluskey et al., 1999; Trinkner & Tyler, 2016). This may explain the significant effect of the vignettes on external regulation, as opposed to the non-significant effect of general procedural justice. However, to test this more explicitly, future research focusing on general police perceptions should also assess perceptions of police coercion, whereas vignette-based research should include a neutral condition (e.g., Johnson et al., 2017). This would allow explicitly disentangling the effects of the presence (vs. absence) of procedurally just behavior, and of the presence (vs. absence) of coercive behaviors.

Second, a number of order effects also emerged. Specifically, when adolescents first read the procedurally just situation, followed by the procedurally unjust situation, they reported more external regulation and more defiance across the two situations (i.e., main effects), and the effects of procedural justice on identification and compliance were less strong (i.e., interaction effects). Further, in the model focusing on adolescents' general perceptions of procedural justice, we found evidence for one moderation effect of order and condition in the prediction of compliance, where the effect of general perceived procedural justice was non-significant in response to the procedurally unjust

situation among adolescents who first read the procedurally unjust situation. These order effects are an important observation because through their development, children and adolescents may be exposed to conflicting messages and encounter contradictory experiences with legal authorities (Trinkner & Tyler, 2016). However, little is known about how mixed experiences affect youth's legitimacy perceptions and their legal socialization. Past research of Skogan (2006) provided evidence for an asymmetry in the impact of positive and negative experiences with the police, with negative experiences having a particularly corrosive impact on people's perceptions and beliefs about the police. However, future research explicitly focusing on mixed and contradictory messages is needed to better understand its effects on children's and adolescents' legal socialization.

General Discussion

The present two-study contribution drew upon the procedural justice model (Lind & Tyler, 1988) and self-determination theory (SDT; Ryan & Deci, 2000) for understanding how authority figures, and police officers in particular, shape adolescents' legal socialization. In general, the present studies confirm the tenet that the type of authority relations is fundamental for understanding their legal socialization (Fagan & Tyler, 2005; Trinkner & Cohn, 2014). The results of both studies indicated that, when adolescents feel that legal authorities treat them in a fair and just manner, they are more likely to internalize the law and identify with the underlying norms and values, which is in turn positively linked to their law-adherent behavior. By contrast, an instrumental orientation, where one only complies for external reasons (such as fear of punishment), was elicited by a more coercive approach (Study 2) and yielded a mixed pattern of correlates, being either slightly positively (Study 1) or unrelated (Study 2) to law-related behavior. In addition, as Study 2 suggests, adolescents' orientation towards the law seems to be shaped by both their immediate experiences with legal authority as well as by their general perceptions of the legal authority (which are shaped by their previous personal and vicarious experiences; Harris & Jones, 2020; Tyler & Trinkner, 2018).

How SDT may Inform the Legal Socialization Field

Autonomy as a basic psychological need. The present contribution is, as far as we are aware, the first empirical study that considers police-citizen interactions through the lens of SDT. Integrating SDT into the legal socialization field yields important advantages for at least two reasons. First, it

offers a strong theoretical framework for why it is important to consider autonomy-related dynamics in the context of police-citizen interactions. Traditionally, the procedural justice model proposes that relational concerns are a primary motivational force for explaining why procedural justice is conducive to the legal socialization process (Tyler & Lind, 1992), whereas SDT draws attention to the notion of autonomy as a motivational force, by conceiving motivation in terms of different types of internalization that reflect varying levels of autonomy. As the present study suggests, when adolescents willingly identify with the law, they are more likely to voluntarily defer, whereas an external regulation was predictive of a rejection of the law and its embodying institutions. Thereby, it should be noted that autonomy does not involve an absence of any type of rules and regulations or any form of authority (Vansteenkiste et al., 2012). Instead, autonomy manifest through the degree to which one's behavior is congruent with one's personal values, goals, and interests (Ryan, 1995; Soenens et al., 2018; Van Petegem et al., 2015b). In fact, voluntarily conferring legitimacy to an authority constitutes true autonomy (Deci & Ryan, 2012; Ryan & Deci, 2017).

In addition, SDT's focus on autonomy as a basic psychological need may help scholars to further delineate the boundaries of appropriate authority, which is currently lacking in procedural justice theory. Given its focus on *how* police interact with citizens once contact is made, procedural justice theory provides little guidance about where and when police authority begins and ends, and how violations of these boundaries can undermine perceptions of fairness and legitimacy. Indeed, recent work highlights that these boundary concerns play an important role in understanding why police authority is perceived as appropriate, above and beyond concerns over interpersonal treatment and decision-making (Trinkner et al., 2018; Trinkner & Tyler, 2016). This is to be expected from a SDT point of view: due to their very content itself, certain laws may threaten people's need for autonomy and may be experienced as intruding one's personal domain, and therefore are more likely to undermine the legitimacy of authority figures and institutions (Ryan & Deci, 2017). In line with this, past parenting research (e.g., Van Petegem et al., 2017a; Vansteenkiste et al., 2014) has shown that rules and regulations in a domain that is perceived to fall under youngsters' personal jurisdiction (e.g., friendships) are experienced as intrusive and autonomy-frustrating, thereby eliciting reactance (i.e., a tendency to reject the rules and do the opposite of what is expected; Brehm, 1966). Thus, SDT

may help gain insight into the reasons why certain laws and police behaviors are potentially counterproductive and may undermine legitimacy perceptions, regardless of the procedural fairness with which those laws are enforced.

Operationalizing legitimacy. SDT also enriches the legal socialization field through its more differentiated assessment of the motivational regulations to abide the law. Scholars critiqued traditional ‘obligation to obey’ measures as a too homogeneous operationalization of legitimacy that does not distinguish between different motivational underpinnings (e.g., Pósch et al., 2020; Trinkner, 2019). Our study corroborates this critique, as adolescents’ high scores on the obligation measure may stem either from their identification with the law or an external regulation to abide by the law (e.g., fear of punishment). The current pattern of findings suggests that such differentiation is critical as only identification with the law was fostered by a just approach and yielded the most consistent associations with outcomes. This suggests that identified regulation potentially may represent a more valid operationalization of legitimacy (Tyler, 2006).

In recent years, legitimacy scholars in the legal socialization field increasingly moved away from the traditional obligation items by proposing alternative assessments of how legitimacy ought to be measured. A first set of studies focus on a conceptualization of legitimacy as rooted in a normative alignment, that is, a sense of shared norms and underlying values between an authority and citizen (e.g., Jackson et al., 2012; Tyler & Jackson, 2014). Thus, authority would be perceived as legitimate and normatively justified when it is exercised in ways that are congruent with one’s normative expectations. Although this conceptualization of legitimacy may overlap to some extent with the SDT-based assessment of internalization, they differ along at least two dimensions. First, in terms of level of focus, normative alignment involves the degree to which there is congruence between one’s personal moral values and the law (or the actions of those who represent the law), whereas identification involves citizen’s underlying motivation for complying with the law. Thus, it assesses the very reasons why one complies with the law, with normative alignment likely serving as an important predictor of identification. Second, they differ in terms of breadth, as the SDT-based assessment of internalization also assesses citizen’s external regulation for complying with the law. In addition to this conceptualization of legitimacy as normative alignment, other scholars aimed at

creating more face valid items for assessing participants' felt moral obligation to obey, by explicitly integrating the idea of moral duty within the items of obligation to obey (e.g., Pósch et al., 2020).

Importantly, in order to avoid a proliferation of legitimacy measures, future research would do well to examine explicitly to what degree these different assessments coincide in theoretical expected ways, and how they complement each other.

Limitations and Avenues for Future Research

The present study does not come without limitations. First, although the vignette-based design of Study 2 offers some insights into the direction of effects, longitudinal research is needed to understand how perceptions of police behavior and legal socialization unfold over time (Nagin & Telep, 2017). Indeed, past research found that delinquency also influences judgments about procedural justice to a certain degree (Trinkner et al., 2019). Only longitudinal research can truly consider such transactional dynamics. Second, the procedural justice model identifies relational concerns as important motivational dynamics for understanding why procedural justice brings about law-abiding behavior (Lind & Tyler, 1992). Future research could explicitly assess relational motives for abiding by the law, in order to fully understand the interplay among autonomy, relatedness, and instrumentality as motivational forces that explain deference to the law. Third, the present investigation particularly focused on adolescents' reasons for obeying the law. Future studies also could focus more explicitly on their reasons for non-compliance. To illustrate, some youngsters may disobey the law out of peer pressure, for instance to impress their peers (Aelterman et al., 2016). In addition, the procedural justice literature typically focuses on *how* legal authorities exert their power. However, recent work on bounded authority (Trinkner et al., 2018; See also Tyler & Trinkner, 2018) as well as research drawing upon social domain theory (Smetana, 2010, 2018; Van Petegem et al., 2017a) suggests that it is important to also consider *what* authority is being exerted and under which circumstances. Legal actions that do not respect the boundaries of authority, such as when they interfere with one's private life (i.e., the personal domain), are expected to yield more non-compliance. Thus, future research would benefit from an in-depth examination of the reasons why youth disobey the law. Further, Study 1 relied upon a single-item measure of compliance. Future research would do well making use of a questionnaire that consists of multiple items for assessing

compliance. Finally, future research would do well to focus on different samples with different demographic characteristics (e.g., in terms of age and ethnic composition) in order to examine the generalizability of the present findings. In addition, our samples reported relatively limited experiences of interactions with the police (i.e., in both studies, about half of the sample reported having had contact with the police during last year), and mostly for minor reasons. Future research could also examine whether these dynamics generalize to samples of youth with more significant histories of rule violation, such as delinquent offenders. Such histories may lead to the internalization of a completely different set of values that undermine the law rather than bolster it (Moule et al., 2019). However, past SDT-based research suggests that autonomy support (which is akin to procedural justice) is linked to greater internalization in samples of adolescents with severe emotional and behavioral problems (Savard et al., 2013) and among prisoners (Van der Kaap-Deeder et al., 2019).

Conclusion

By relying upon self-determination theory (Ryan & Deci, 2017), the present investigation sought to push the legal socialization field forward in two ways. First, by conceiving internalization in terms of varying degrees of autonomy, it introduces the notion of autonomy as a critical motivational force that helps to explain why adolescents abide by the law, and how this, in part, is shaped by police officers' procedurally just behaviors. Second, it offers a fine-grained assessment of law internalization, thereby differentiating identification (i.e., an endorsement of underlying norms and values) from external regulation (i.e., an instrumental orientation). This enhanced operational clarity may help to surmount problems related to traditional 'obligation to obey' measures. We hope that the present contribution inspires scholars to consider self-determination theory as a framework to further advance our knowledge on legal socialization.

Footnotes

¹ SDT distinguishes other types of motivation as well, such as introjection (i.e., a partial internalization), but we focused on external regulation and identification as they represent two more extreme forms of regulation on the internalization continuum, and because they correspond strongly with the motivations identified within the procedural justice literature (e.g., Trinkner, 2019).

² In SDT, instrumental motivation refers to the broader category of extrinsic motivation, that is, an activity is extrinsically motivated when it is instrumental for reaching a goal that is not inherent to the activity as such (Lens et al., 2009). Within extrinsic motivation, SDT distinguishes between different types of motivation that vary in their degree of autonomy (Ryan & Deci, 2017; Vansteenkiste et al., 2006).

³ We used ΔCFI and ΔRMSEA for comparing the two nested models, with $\Delta\text{CFI} > .010$ and $\Delta\text{RMSEA} > .015$ as criteria. We did not rely upon the $\Delta\chi^2$ -statistic, as it is sensitive to sample size (Chen, 2007; Cheung & Rensvold, 2002).

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Tables

Table 1

Means, Standard Deviations and Correlations among the Study Variables (Study 1)

	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Procedural justice	3.39	0.53					
2. Obligation to obey	3.20	0.88	.29***				
3. Identification	3.12	0.70	.39***	.26***			
4. External regulation	3.36	0.69	.04	.25***	.02		
5. Compliance	3.96	0.84	.33***	.28***	.29***	.28***	
6. Oppositional defiance	1.82	0.85	-.29***	-.18**	-.26***	-.10	-.53***

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

Table 2

Overview of Indirect Effects of Procedural Justice on Outcome Variables (Study 1)

	β	<i>b</i>	<i>SE</i>	Bias-corrected 95% CI
Procedural justice → compliance				
Total indirect effect	.18	.31	.08	[.15, .47]
Through obligation	.04	.07	.05	[-.02, .19]
Through identification	.13	.22	.07	[.09, .38]
Through external regulation	.01	.02	.04	[-.04, .12]
Procedural justice → oppositional defiance				
Total indirect effect	-.16	-.28	.09	[-.47, -.13]
Through obligation	-.02	-.04	.05	[-.14, .06]
Through identification	-.13	-.24	.09	[-.44, -.10]
Through external regulation	.00	.00	.01	[-.06, .02]

Table 3

*Hypothetical Vignettes (Study 2)***Description of Situation**

Imagine the following situation: It's dark and you're on your way home with your bike. Your light is broken, but you don't have to go that far, so you took your bike anyway. You meet a police officer who makes you stop, because your light is not on.

Procedurally Just Reaction

You explain to the officer why your light is not on. He listens to you and then says: "I understand that, but as police, we are concerned about the safety of all road users, and of the vulnerable road user in particular. I know it's not fun, but I'll still have to fine you. For your safety, it is important that your lights are on when you cycle in the dark. That is why I would like to ask you to continue on foot from here."

Procedurally Unjust Reaction

When you want to explain why your light is not on, the officer interrupts you immediately and says, "Stop it, I've heard enough. Traffic rules apply to everyone, so I don't know why I should make an exception especially for you. The law is the law, and a fine will make you think twice in the future, if you want to go back on the road without lights. And you can walk the rest of the way!"

Table 4

Results of Regression Analyses and Estimated Marginal Means (Study 2)

	Identification	External regulation	Compliance	Oppositional defiance
Regression analyses	<i>t</i> (415)	<i>t</i> (415)	<i>t</i> (414)	<i>t</i> (415)
Condition	9.26***	-6.13***	9.22***	-5.11***
Order	-0.53	4.65***	-1.59	2.39*
Condition x order	-3.12**	-0.95	-2.53*	-1.43
Estimated marginal means:	<i>M (SE)</i>	<i>M (SE)</i>	<i>M (SE)</i>	<i>M (SE)</i>
Condition				
PJ situation	3.66 (0.06)	2.85 (0.07)	4.02 (0.06)	1.72 (0.05)
PU situation	2.95 (0.07)	3.66 (0.07)	3.33 (0.07)	2.28 (0.06)
Estimated marginal means:				
Order				
First PJ situation	3.15 (0.08)	3.54 (0.08)	3.48 (0.08)	2.10 (0.06)
First PU situation	3.46 (0.08)	2.97 (0.08)	3.87 (0.08)	1.90 (0.06)
Estimated marginal means:				
Condition x Order				
First PJ: PJ situation	3.40 (0.09)	3.09 (0.10)	3.74 (0.08)	1.78 (0.07)
First PJ: PU situation	2.91 (0.10)	3.98 (0.10)	3.22 (0.10)	2.42 (0.09)
First PU: PJ situation	3.92 (0.09)	2.61 (0.10)	4.29 (0.08)	1.67 (0.07)
First PU: PU situation	2.99 (0.10)	3.34 (0.10)	3.44 (0.10)	2.13 (0.09)

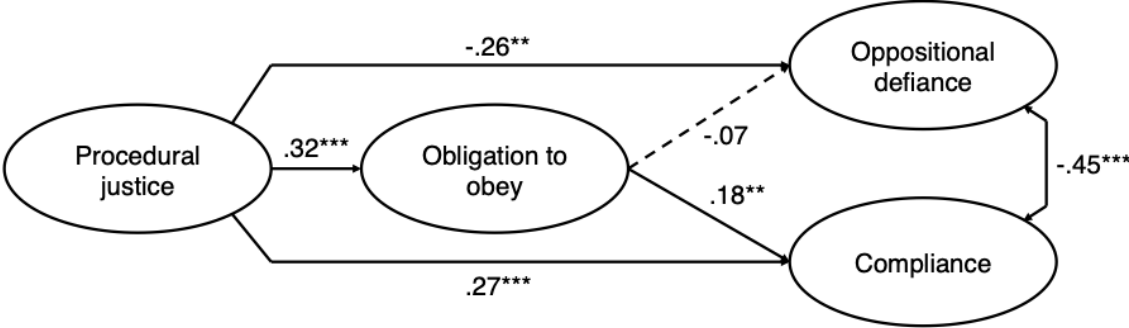
Note. Effects of the control variables are not presented. PJ = procedurally just, PU = procedurally

unjust. * $p < .05$. ** $p < .01$. *** $p < .001$.

Figures

Figure 1

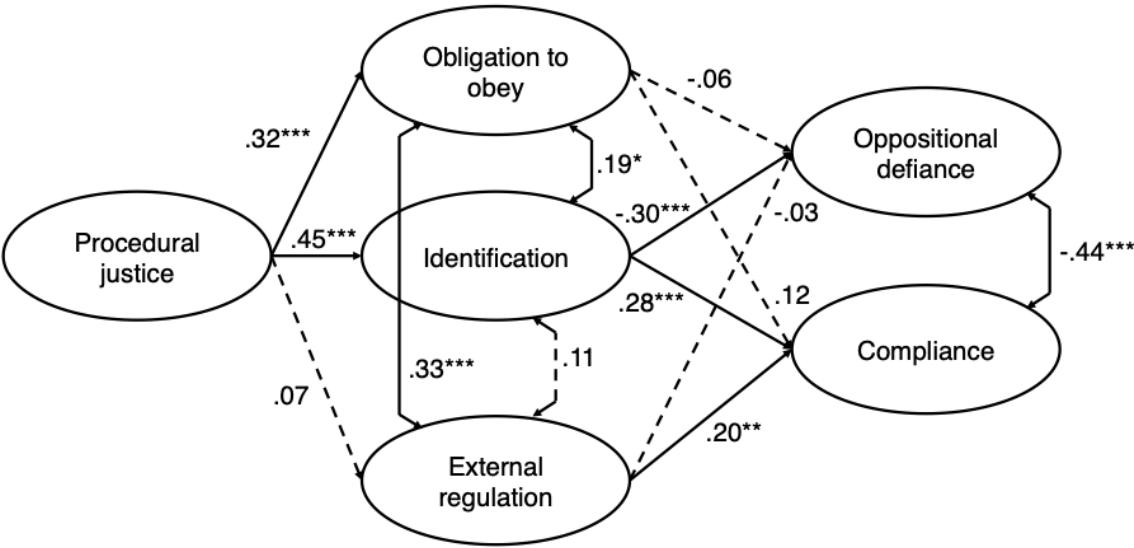
Structural model examining the procedural justice model (Study 1)



Note. Standardized path estimates are presented. For the sake of clarity, indicator variables and effects of the control variables are not depicted (see online supplementary material for the full model including all details). ** $p < .01$. *** $p < .001$.

Figure 2.

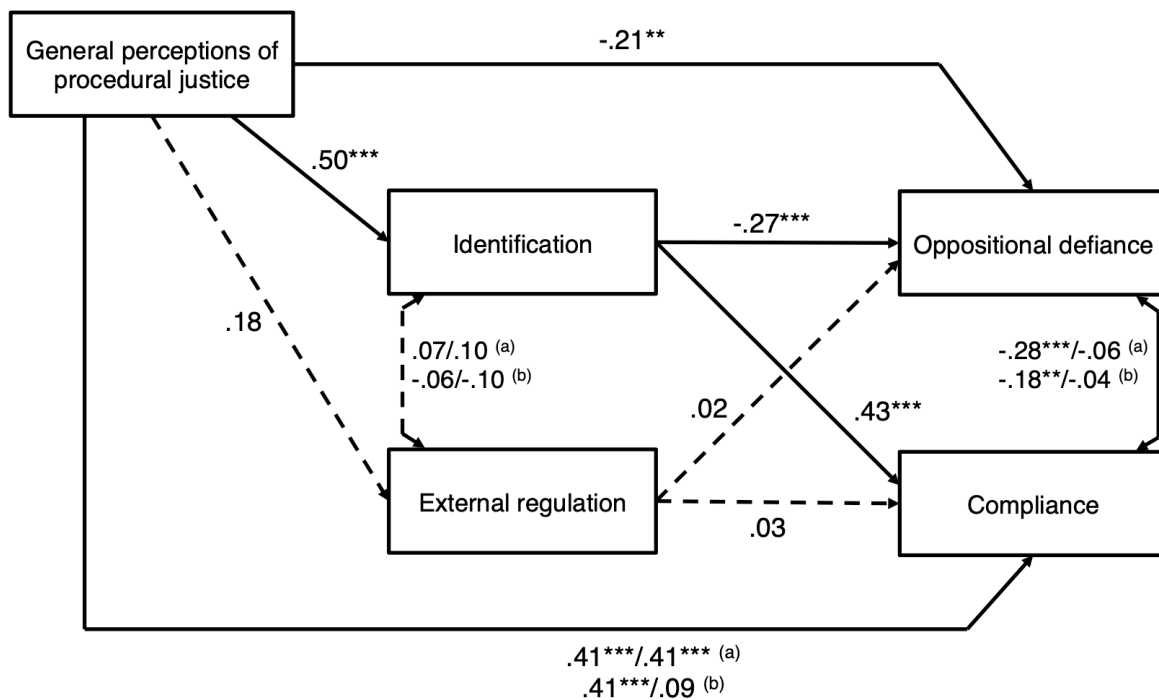
Structural model examining the integrated model (Study 1)



Note. Standardized path estimates are presented. For the sake of clarity, indicator variables and effects of the control variables are not depicted (see online supplementary material for the full model including all details). * $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 3.

Integrated structural model (Study 2)



Note. (a) path estimate for the adolescents having first read the procedurally just condition, with the first coefficient representing the estimate in the procedural just condition, and the second coefficient representing the estimate in the procedural unjust condition; (b) path estimates for the adolescents having first read the procedurally unjust condition, with the first coefficient representing the estimate in the procedural just condition, and the second coefficient representing the estimate in the procedural unjust condition. Standardized path estimates are presented. For the sake of clarity, effects of the control variables are not depicted (see online supplementary material for the full model including all details). $** p < .01$. $*** p < .001$.