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Socializing justice: The interface of just world beliefs and legal socialization

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Abstract

One of the pillars of legal socialization theory is how non-legal contexts shape the legitimacy of and compliance with laws. Yet there is little longitudinal evidence establishing the interface mechanism between these spheres. The purpose of this research was to demonstrate how youths' beliefs in a just world (BJW) can help explain the transmission between the justice of non-legal authorities (parents and schools) and law legitimacy and rule violating behavior (RVB). We utilized two waves of longitudinal data from adolescents at ages 13 and 14 ($N = 680$) in the São Paulo Legal Socialization Study. Structural equation modeling revealed a good fit to the tested model that parental procedural justice and school justice predict both personal and general BJW, and these predict law legitimacy evaluations 1 year later. General and personal BJW also had an indirect effect on RVB over the following year via law legitimacy. The results suggest that non-legal authorities may influence law legitimacy not through a direct projection (which was not significant), but through an indirect process of worldview construction. Legal socialization and just world belief research can converge to help explain the interface between non-legal and legal spheres of authority.

KEYWORDS
longitudinal analyses, social development, youth

SOCIALIZING JUSTICE: THE INTERFACE OF JUST WORLD BELIEFS AND LEGAL SOCIALIZATION

One of the pillars of legal socialization theory is how non-legal authorities and contexts shape the legitimacy of and compliance with the legal sphere (Tyler & Trinkner, 2018). The current understanding is that non-legal authorities serve as a blueprint for legal authorities. The manners by which parents exercise power in handling household rules and conflicts serve as a "framework" or a "working model" through which individuals will later interpret their interactions with other authorities (Tyler & Trinkner, 2018). However, most of the non-legal authority research (i.e., families, schools) is not longitudinal, nor does it adequately explain the transmission mechanisms to legal authorities. Parents and teachers are close personal contacts and are qualitatively different from impersonal conceptualizations of the law, particularly in childhood and adolescence. The site of the current study was São Paulo, the biggest, richest and one of the most socially unequal cities of Brazil. More detail on the cultural context is provided further in the paper, but its enduring authoritarian legacy (Adorno, 2013; Pereira, 2016; Pinheiro, 1994) and low levels of trust in public institutions (Adorno, 2013) provide an opportunity for legal socialization research to advance theoretically and empirically.

The purpose of this paper is to demonstrate how youths' just world beliefs can serve as an interface between non-legal authorities (e.g., parents and schools) and legal authorities (e.g., law), and be a precursor to adolescent rule violating behavior (RVB).

Legal socialization: procedural justice—legitimacy—rule compliance

Early in the literature, legal socialization was considered an outcome of a person's moral and rational development (Tapp & Kohlberg, 1971). Later studies broadened legal socialization beyond cognitive developmental theory to account for the contextual learning of power relations (Cohn & White, 1990). In the last two decades, studies have focused on the legitimation process as a crucial aspect of legal socialization and voluntary deference to authorities (Fagan & Tyler, 2005; Jackson, 2018; Piquero et al., 2005; Tyler, 1990). Research has consistently shown that, when authorities are viewed as legitimate, individuals sense a duty to obey rules and commands even when compliance goes against self-interests (Tyler & Trinkner, 2018). Perceiving authorities as legitimate is a strong predictor of cooperation and rule following behavior, evidenced in schools (Nivette et al., 2015; Trinkner & Cohn, 2014), families (Darling et al., 2007; Thomas et al., 2020; Trinkner et al., 2012), and law enforcement (Trinkner et al., 2018).

A central theme of contemporary legal socialization research is that procedural justice is a key predictor of authority legitimacy, which contributes to voluntary deference to rules (Tyler & Trinkner, 2018). The principles of procedural justice are neutrality, transparency, impartiality, and respect (Tyler & Trinkner, 2018). Many empirical studies on legal socialization have focused on law enforcement, and data show that systematic contacts with police may erode their perceived legitimacy (Fine & Cauffman, 2015; Tyler et al., 2014), particularly due to negative procedural justice evaluations (Fagan & Tyler, 2005; Fine & Cauffman, 2015; Kaiser & Reisig, 2019; Piquero et al., 2005; Trinkner & Cohn, 2014; Wolfe et al., 2017). These negative contacts, in turn, erode legitimacy, increasing RVB (Kaiser & Reisig, 2019; Trinkner et al., 2020). These findings have been replicated outside of Anglo-American societies (Akinlabi, 2017; Baz Cores & Fernández-Molina, 2020; Trinkner et al., 2020). However, little research on the procedural justice-legitimacy connection has been examined regarding the legitimacy of the law itself. Scholars have built a strong

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theoretical case that conceptualizations about the law depend on internalized values about authorities and power (Tyler & Trinkner, 2018). Further, legal socialization research in the United States has highlighted the reciprocal relationship between laws and police (Trinkner et al., 2018), viewing police legitimacy as the lynchpin of the legal socialization process since law enforcement acts as the embodiment of the values of the law (Tyler et al., 2014). However, it is also important to study the legitimacy of the law in its own right.

The law is theoretically a more impersonal and static authority, and it is yet unverified how justice practices in personal domains (such as families and schools) influence the legitimacy of impersonal laws. A recent review on legal socialization research with adolescents has called for investigations on legally relevant institutions outside of law enforcement contexts (Granot & Tyler, 2019). A recent cross-sectional study has demonstrated the intergenerational transmission, where parents' views of the law are a strong predictor of adolescents' views (Fine et al., 2020). However, there is also reason to believe that authorities shape a broader internal working model that influences how they perceive legal systems at large. The current study examines how justice experiences in the family and school can indirectly influence perceptions of law legitimacy through the development of just world beliefs. Developing a model that is sufficiently robust to explain personal and impersonal domains will advance the empirical reach of legal socialization research.

Legal socialization: ubiquitous and active

Legal socialization has long been described as a ubiquitous process (see Tapp & Levine, 1974; Trinkner & Cohn, 2014) where people gather information and experiences from various sources to build perceptions of legal authorities. The most notable non-legal sources mentioned in the literature are families and schools, but these contexts have been understudied in legal socialization research (Granot & Tyler, 2019; Tyler & Trinkner, 2018). Empirical studies have demonstrated that parenting and school variables are related to legal legitimacy and cynicism (Baz Cores & Fernández-Molina, 2020; Nivette et al., 2015; Trinkner & Cohn, 2014; Trinkner et al., 2012). However, longitudinal evidence is scant, and more studies are necessary to establish temporal precedence between the perceived justice of school and family authorities and the legitimacy of laws and RVB. Parents, teachers, and laws are qualitatively different kinds of authorities, with family and school authorities having a personal relationship and social and emotional presence. A child may choose to obey a parent because of a relational connection that would not transfer to their rationale to obey the law. If that internal working model is to transfer to impersonal authorities, there should be an additional mechanism that shapes their worldview and expectations of justice.

Robust research on parenting has revealed that high demandingness and responsiveness fosters the most adaptive outcomes in children (Baumrind, 1971, 1991; Steinberg et al., 1994). This kind of authoritative parenting also predicts higher evaluations of legitimacy among adolescents (Darling et al., 2005). However, research on adolescent socialization differentiates between parenting styles (such as authoritative) and parenting practices (Darling & Steinberg, 1993). Research on parental procedural justice has found these practices to be important in predicting legitimacy attributions (Trinkner & Cohn, 2014) and compliance with family rules (Thomas et al., 2020).

Building a flexible model

Legal socialization literature acknowledges that the individual is an active participant of the socialization process, but the current theoretical model does not show the personal level assimilation process between non-legal and legal constructs. Individuals do not simply project their perceptions of parents/teachers onto impersonal legal authorities. Adolescents' personal interactions with parents and teachers likely undergo an individual assimilation process where adolescents re-interpret events, or an accommodation process where individuals modify their expectations of justice based on their past experiences. Understanding this individual cognitive process can build flexibility into the contemporary procedural justice model. Research on just world beliefs (outlined in the next section) can help explain the individual worldview variable that is both shaped by context and projected onto contexts. People's experiences of justice in personal settings likely shape their expectations of justice more broadly, as if building a lens through which to interpret the world. Accounting for this lens can add flexibility to the model and elucidate the assimilation/accommodation cognitive process.

Current literature does not differentiate between processes of legitimization between different kinds of authority figures, but there is reason to believe the legitimacy process may diverge between authorities. Long before contemporary legal socialization research, classical social theorist Max Weber (1978) wrote on the importance of legitimacy for compliance with and deference to authorities. Weber described different bases for establishing legitimacy: *traditional, charismatic*, *rational-legal*. Current literature on procedural justice and legitimacy aligns more with the rational-legal base for legitimacy, where rules are enforced by appeals to rationality and legality, and authorities have specialized knowledge and specific domains. In contrast, patriarchal domination is based on more traditional claims to legitimacy where a child's compliance is based on strict loyalty to parents (Weber, 1978). Contemporary legal socialization models do not account for other values and motivators for legitimizing authorities. This may be due to an over-representation of WEIRD samples (Western, Educated, Industrialized, Rich, and Democratic; Arnett, 2008). Creating a model that is flexible to different kinds of legitimacy bases can be helpful to expand legal socialization research into samples that may be inconsistently democratic across schools, families, and legal systems (e.g., a more democratic/rational-legal family in a more authoritarian/traditional national context, or vice-versa).

Thus, familial and educational contexts may be legitimized for different reasons compared to societal laws. This does not mean that the legitimacy process between non-legal and legal authorities does not overlap, but it is important to build theoretical models that do not require all authorities to be legitimized in the same way. The interface between authority legitimation can be done by accounting for the worldview that individuals construct. Non-legal authorities still likely shape legal perceptions, even if they come from different bases of legitimacy, and this may be done through the more subjective lens of justice expectations. This paper posits that the justice people experience in their family and school environments shape individuals' expectations of justice, which are then projected onto society. When children do not believe they are treated fairly at home or at school, they will likely build a worldview that expects injustice which will then be used to interpret the legitimacy and purpose of the law. Likewise, if children are consistently given a chance to explain their perspective and be respected by the authorities they know, they may anticipate being given the same rights in the court system. Their positive experiences with personal authorities may build their confidence (accurately or inaccurately) in the effectiveness of legal systems.

Putting a worldview measure between non-legal and legal authorities is a recognition of the active role of the individual in the internalization process. Parents and schools act as a blueprint for justice expectations, and that worldview may help explain the assimilation process from non-legal to legal authorities. Just world beliefs are likely an outcome of both family and school experiences, and an important driver of legitimacy and rule compliance. The section below outlines some of the main findings and tenants of just world theory, and how adolescents' perceptions of justice can play an active and motivating role in the legal socialization process.

BJW origins, associations, and trajectories

People have a worldview of justice and this lens helps them make sense of reality and guide expectations for their future (Lerner, 1975; Rubin & Peplau, 1975). Originating in the 1960s, just world theory demonstrated the human tendency to see winners as hard working (Lerner, 1965) and losers as undeserving (Lerner & Simmons, 1966). However, more recent research has focused on its adaptive functions (Dalbert, 2009). Belief in a just world (BJW) likely develops from Piaget's immanent justice that people outgrow to some extent (Rubin & Peplau, 1975). However, immanent justice evaluations may linger into adulthood (Barreiro, 2013; Callan et al., 2006) when individuals use contextual cues to determine culpability or deservingness. As children mature, they can cognitively rehearse and symbolically represent the world they witness and experience, which guides their expectations of future justice or injustice (Lerner, 1975). In other words, when people experience stability and expect justice, it makes sense to adhere to a social contract and delay gratification. In the 1990s, BJW was separated into two constructs, general BJW (how fair the world is) and personal BJW (how fair my life is) (Dalbert, 1999; Lipkus et al., 1996). Some research has suggested that these constructs differentiate in adolescence with the increased ability to think abstractly and the differentiation of self (Dalbert, 2009; Dalbert & Sallay, 2004).

General belief in a just world (G-BJW)

Those who have a high General BJW (G-BJW; also called Global BJW or BJW-others) tend to have positive evaluations of legal authorities (Rubin & Peplau, 1975; Thomas & Mucherah, 2018), attitudes towards the law (Thomas & Rodrigues, 2020), and institutions such as large corporations, health-care systems, and global political establishments (Correia & Vala, 2004). In contrast, experiencing and perceiving the world as unfair makes it much harder to motivate rule compliance and social contract development. Hence, a lower G-BJW is linked to higher delinquent intentions (Sutton & Winnard, 2007) and disruptive behavior (Thomas & Mucherah, 2018).

Personal belief in a just world (P-BJW)

Personal BJW (P-BJW) reflects people's confidence that they will be treated fairly and get what they deserve (Donat et al., 2012). P-BJW is an adaptive coping mechanism that is related to various positive behavioral and psychological outcomes, such as life satisfaction, less school distress, increased long-term motivation, and decreased negative affect (for a review, see Bartholomaeus & Strelan, 2019). High personal expectations of justice provide a worldview of stability and predictability, which discourages delinquency and encourages hard work (Bartholomaeus & Strelan,

2019; Dalbert, 2001). People can have a high P-BJW even if they acknowledge that the world is unfair, that is, even if they are lower in G-BJW (Thomas & Rodrigues, 2020).

BJW as a predictor and as an outcome

Because of the broad understanding of its assimilation function, BJW is often studied as a predictor. Research among adolescents has successfully used it to predict teacher justice (Donat et al., 2018), perceptions of victimization (Donat et al., 2018), and cheating and delinquency (Donat et al., 2014). Although it certainly plays a predictive/assimilative function, one's expectations of justice are undoubtedly also shaped by life experience and should also be studied as a created lens. For example, adolescents are more likely to believe in a just society if they perceive a sense of democracy and inclusion in the schools (Flanagan et al., 2007). A cross-sectional study of Brazilian adolescents determined that the school's rule fairness, relationships with teachers, and teacher behavior modification techniques significantly predicted P-BJW, and were most influential in early adolescence (Thomas, Rodrigues, et al., 2019; Thomas, Santo, et al., 2019).

One of the few longitudinal BJW studies followed adolescents for only 8 months and concluded that justice in the family predicted P-BJW (Dalbert & Stoeber, 2006). However, that study did not look at specific parental practices, only at broad perceptions of justice in the familial context. Parental warmth assessments at age 13 have also been found to predict P-BJW at age 15 (Umemura & Serek, 2016), though that study did not provide longitudinal measurements for BJW and has not been replicated in other cultures or age groups.

BJW theory explains that schemas created in family and school contexts abstractly build a broad lens through which to interpret the world. The current study sees personal and general BJW as indicators of justice expectations that are socialized by the family and the school and frame adolescents' legitimacy of and compliance with the law. This view acknowledges that BJW serves both an accommodative function (e.g., justice beliefs are shaped by experiences) and an assimilative function (e.g., interpreting events based on justice beliefs/expectations). Adolescence is a time of increased identity development and sensitivity to threats, which makes it a particularly sensitive period for legal socialization (Granot & Tyler, 2019). Injustice is an acute threat to adolescents' sense of value to the group (Emler & Reicher, 2005), and could prompt re-evaluations of justice expectations as youth engage in the broader legal system. The current study acknowledges the inherent paradox in just world belief research: there is a psychological need and benefit to believing the world is fair (for reassurance and motivation), yet any strong adherence to BJW is a logical fallacy and can sustain harsh social attitudes (such as victim blaming). Research should investigate its assimilative and accommodative functions in order to stimulate understanding of this complex socialization process.

Brazilian context

To understand the legal socialization process in a particular setting, it is useful to draw from a *sociological imagination* (Mills, 1959), and recognize the broad social and historical context of authority legitimacy. Brazil's relatively recent democratization, history of authoritarianism, and traditional appeals to legitimacy, make Brazil a relevant context to search for a flexible model that explains the transmission mechanisms between non-legal and legal authorities. The section below provides a brief background on these topics to add sociological context to this study.

Brazilian sociologists have extensively written that the understanding of the state should not be a broadening of the family conceptualization, but belong to a different order all together to avoid the pitfalls of favoritism and personal power negotiations which plague Brazilian civil society (Holanda, 2012; Pinheiro, 1994; Schwarcz, 2019; Willems, 1953). The state should be an impersonal authority in order for it to be objective and democratic, but blurring the lines between the family and the state only perpetuates nepotism and partiality.

Throughout the 20th century, Brazil alternated between dictatorial and democratic regimes and then established a more authoritative and democratic authority structure. While there is still a traditional legitimacy structure of patrimonialism in Brazil, there is also evidence of much objective bureaucracy in civic life (Pereira, 2016). The lasting patrimonialism of Brazilian politics demonstrates the mix of traditional and rational-legal bases of legitimacy in the state and in the family (Schwarcz, 2019). Not only are there different legitimacy structures in Brazilian authority systems, but across the socio-economic spectrum, there are low levels of trust in the criminal justice system and other public institutions, and high levels of crime and impunity (Adorno, 2013).

In recent history, Brazilian households and schools are reportedly giving more autonomy to children and adolescents (Dessen & Torres, 2019), and authoritative parenting is becoming more common (Martinez et al., 2014). Brazilian legal socialization studies have also supported the procedural justice model in families (Thomas et al., 2020), in law enforcement (Jackson et al., 2020; Piccirillo et al., 2021; Trinkner et al., 2020) and in the laws (Komatsu & Gomes, 2020). Thus, there is empirical support for the procedural justice model of legal socialization in Brazil, but researchers have suggested that the socialization process may differ in Brazil compared to the models developed in liberal democracies (Jackson et al., 2020). We do not propose a different model for the Brazilian context, but suggest a model that accounts for the individual assimilation/accommodation processes, particularly between non-legal authorities such as family and schools (which are more personal), and legal authorities (which are more impersonal). The inclusion of a lens of justice in the model may be the important individual filter that helps explain how the non-legal to legal authority transmission works, even in a society with a complex history of legitimizing authorities.

Current study

Utilizing longitudinal data from young adolescents (ages 13–14), this study tracked their perceptions of procedural justice in their families, their perceptions of school justice, their just world beliefs, attitudes towards the law and rule violating behaviors. The longitudinal design and early adolescent period are particularly suited to address the research gaps highlighted in the review above. The goal of the study was to analyze a theoretical model where procedural justice parenting practices and school justice shape adolescents' P-BJW and G-BJW, which in turn influences their attitudes towards the law and rule-violating-behavior (RVB) 1 year later. It is hypothesized that procedurally fair interactions at home, along with perceptions of school justice construct positive personal and general perceptions of justice. When people believe they are living in just and fair context, they are more willing to recognize the legitimate role of laws and comply with societal rules

METHOD

Participants and procedure

We analyzed data from São Paulo Legal Socialization Study (SPLSS), a longitudinal cohort study developed by the Center for the Study of Violence of the University of São Paulo (NEV-USP). We included only the third and fourth waves of the study, comprising ages 13 and 14 of the sample, since all the variables of interest were only included in these waves. The SPLSS utilized proportional sampling methods, and the original sample met strict criteria for participant recruitment. Every participant had to be born in the year of 2005. Second, the sample would include both public and private schools, in line with the populations' distribution at the last Brazilian School Census available at the time (60% of participants registered in public schools). The third criterion was equal representation of sex (50% female). Finally, considering that São Paulo is the most populous city of Brazil (approximately 12 million residents) dispersed over a large area, SPLSS sample participants were proportionally distributed across the five city regions.

The SPLSS sample loosely follows the São Paulo general distribution of ethnicity. The Brazilian society does not have a straightforward criterion of racial classification (Da Silva, 1998), given a more pronounced race mixture and intermarriage (Monk, 2016). The most common Brazilian ethno-racial classification follows individuals' appearances, based on self-identified phenotype or skin color (Bailey et al., 2013; Da Silva, 1998; Guimarães, 2012; Monk, 2016). Scholars have long used the census categories developed by Brazilian Institute of Geography and Statistics, based on self-classification (Bailey et al., 2013; Guimarães, 2012; Monk, 2016) into five categories, roughly translated as: White, Mixed Race, Black, Indigenous, and Asian. The original SPLSS sample comprises 45.14% of White individuals (the most recent census was 53.8% White), 10.83% Black (6.1% in census), 30.86% for Mixed Race (38.8 in the census), 2.63% Asian (1.2% in the census), 3.31% Indigenous (0.1% in the census), and 6.94% participants who could not or did not want to identify themselves with the five categories.

Considering that the city of São Paulo has a wide income inequality (Un-Habitat, 2010), SPLSS measured participants' economic status in monthly household income and split into six different income groups as defined by IBGE. These monthly income levels were based on the proportion of minimum wages the family earned per month. Income questions were addressed to participants' parents or guardians attached with consent forms. From all participants attending to relevant waves of the SPLSS ($n = 680$), the distribution from lowest income bracket to highest income bracket was: 21.0% participants were in families earning up to one minimum wage (MW), 29.73% between one and two times the MW, 26.62% between two and five MW, 14.49% between five and 10 MW, 5.91% between 10 and 20 MW, and 2.21% more than 20 times the minimum wage. At the time of the final data collection point, the minimum wage was equivalent to $243 USD.

The first wave collected data from 800 participants between August and November 2016 ($M_{age} = 11.15$). The second wave took place from August to December 2017 and interviewed 742 individuals, attaining an attrition rate of 7.12% ($M_{age} = 12.44$). The third wave occurred between August and November 2018 and interviewed 724 participants, resulting in an attrition of 9.5% compared to the first wave ($M_{age} = 13.42$). A total of 87.75% adolescents from the original sample completed the fourth wave between August and November of 2019 (attrition rate of 12.25%; $M_{age} = 14.47$, 49.29% female). Those who dropped out were not significantly different in income or ethnicity from those who participated in all waves. The average time between waves was 1.11 years (for further information on sampling design and data collection methods, see Center for The Study

of Violence, 2017, 2018; Thomas et al., 2018; Trinkner et al., 2020). Data were included from 680 (49% female) participants who completed the last two waves (age 13 and 14). The determination to use 2 years of longitudinal data was done because the measure of School justice was completed only at ages 13 and 14. The decision to put school, family, and BJW at age 13, and Law legitimacy and RVB in the following year, was because that is the main gap in literature, demonstrating the temporal precedence of non-legal to legal contexts.

The Brazilian Institute of Public Opinion and Statistics (IBOPE) was hired to conduct data collection procedures. Parents had to complete consent forms approved by the National Ethics Committee and participants also signed assent forms. Interviews took place mainly at participants' schools, but if participants had withdrawn from or moved schools, interviews were conducted at their houses. Face-to-face interviews were administered using Survey-To-Go software (see Dooblo.net for description). Every participant received a gift card equivalent to US$ 12.

Measures

Parental procedural justice

Parental procedural justice measured adolescents' perceptions about how their parents managed conflicts at home. It was captured in four items; each one mirrored a procedural justice dimension as originally defined by Fagan and Tyler (2005) and later reproduced by legal socialization studies (Trinkner & Cohn, 2014): voice, fairness, neutrality, respect (i.e., "Would your parents talk to you politely if they discovered you did something wrong?"). At all waves, participants' answers were assessed on a scale of 1 (*Completely disagree*) to 4 (*Completely agree*) and had adequate internal reliability (age 13 $\alpha = .69$).

School justice

This variable assesses perceptions of school justice through eight items, tapping into two dimensions (adapted from Vieno et al., 2005, and Lenzi et al., 2014): how much students believed their schools made decisions that were fair (i.e., "When school rules are disobeyed, the consequences are fair") and how much schools encouraged democratic behaviors (i.e., "Students have opportunities to discuss school rules"). These were measured on a scale of 1 (*Completely disagree*) to 4 (*Completely agree*) and had adequate internal consistency (age 13 $\alpha = .77$).

Belief in a just world (BJW)

This construct was measured based on Dalbert's (1999) assessment which had been previously translated and utilized in a Brazilian sample (Thomas & Napolitano, 2017) G-BJW consisted of five items (e.g., "I think basically the world is a just place.") and P-BJW was measured through six items (e.g., "Overall, events in my life are just"). All items were measured on a scale of 1 (*Completely disagree*) to 4 (*Completely agree*) and had adequate internal reliability in both P-BJW (age 13 $\alpha = .74$) and G-BJW (age 13 $\alpha = .69$).

Law legitimacy

There were six items based on the New Hampshire Youth Study (NHYS) survey (for NHYS, see Trinkner et al., 2012) (i.e., "laws exist to protect people") along with traditional aspects of legitimacy of laws such as felt obligation to obey the law (i.e., "laws must be obeyed even if people do not agree with them") and moral alignment (i.e., "laws are good for the country"). Items were measured on a scale of 1 to (*Completely disagree*) to 4 (*Completely agree*) and had adequate internal reliability (age 14 α = .64).

Rule-violating behavior (RVB)

The SPLSS questionnaire presented six types of rule-violating behaviors (theft, vandalism, violence, drugs, buying counterfeit goods, and cheating). The behaviors were adapted from legal socialization literature (Trinkner & Cohn, 2014) and also defined through a pilot study conducted by SPLSS researchers among early adolescents in São Paulo (see Center for the Study of Violence, 2017, 2018; Thomas et al., 2018 for information on the pilot study). In the first wave, participants were asked if they had ever engaged in any of those behaviors. From the second wave onwards, participants were asked to consider only their behaviors that occured since their previous interview (see average time between waves above). The interviewer said to participants, "Please tell me if you have been involved in any of these situations since I last interviewed you (…) have you taken anything from anyone or any store without paying?"). At every wave, the RVB items were measured on a four-point scale of frequency (0 = *No*; 3 = *Many Times*). For analytical purposes, we dichotomized the responses (0 = *no*, 1 = *yes*). Then, the total RVB items were compiled as a count variable and the sum of the number of items was used ranging from 0 to 6. Thus, the RVB measure at age 14 encompassed the total kinds of RVB they engaged in during the past year (out of six possible kinds). It is important to note that this measure had a strong positive skew, with very few participants recording multiple RVB.

School type

For this study, the variable type of school (public or private school) was used as a proxy of socioeconomic status. Studies show that families with higher income are more likely to send their children to the private school system (Altafim et al., 2018; Curi & Menezes Filho, 2010). The correlation between social deprivation and enrollment in public school is so strong in the Brazilian context that affirmative action policies are in place to assist students from public schools (Perosa & Dantas, 2017). As mentioned in the Participants section, approximately 60% of children in São Paulo and in the SPLSS sample attended public schools. Students from public schools are less privileged in socioeconomic status than their counterparts in private schools, and this variable was included in the analysis to help account for the diversity of socioeconomic privilege in the sample.

RESULTS

Descriptive statistics

Correlations among the variables, means, and standard deviations are shown in Table 1. Overall, P-BJW averages slightly increased and G-BJW slightly decreased, with standard deviations marginally increasing across time, suggesting greater variability in BJW scores with age. Most participants perceived their parents and schools to be just environments. Parental procedural justice was consistently high, and higher than school justice across all years. Law legitimacy was consistently lower than the perceived justice of their immediate contexts, but did not vary much between years. RVB averages increased from year to year, as did the standard deviations, indicating amplified differentiation between adolescents as they aged.

Structural equation modeling (SEM)

SEM was conducted to test the hypothesis that parental procedural justice and school justice would predict P-BJW and G-BJW which would in turn predict perceived legitimacy of the law and RVB in the following year. Participant sex and type of school (private or public) were also included as predictors. The model tested direct and indirect effects. See Table 1 for all relationships tested.

To examine the significance of the mediating effect, the SEM utilized a bootstrapping method adjusting the bootstrap percentile for a correction bias. Significant mediating effect is identified when the 95% confidence interval (CI) from bootstrap examination does not include zero. We controlled the baseline levels (age 13) of RVB and law legitimacy. All constructs employed in the model were latent variables, except for RVB, which was a count variable (explained in the Measures section) that was positively skewed (skewness = 1.2). Thus, following previous research (Cohn et al., 2012; Trinkner et al., 2012), we estimated model coefficients using the weighted-least-squares algorithm (Browne, 1984), which assumes the normality of the latent processes underlying ordinal indicators. We used the values of the comparative fit index (CFI), the adjusted goodness of fit (AGFI), the root mean square of approximation (RMSEA), and standardized root mean square of residual (SRMR) to evaluate model fit, with a RMSEA and SRMR below .08, and CFI and AGFI above .95 indicating good model fit (Hu & Bentler, 1999).

Based on these standards, the final model revealed a good fit $X^2(565) = 1218.6$; CFI = 0.97; TLI = 0.97; AGFI = 0.95; RMSEA = 0.04; SRMR = 0.07. Parental procedural justice and school justice significantly predicted both P-BJW (βs = .35 and .45, respectively) and G-BJW (βs = .41 and .55, respectively). Both G-BJW (β = 0.41) and P-BJW (β = .16) went on to predict law legitimacy, but G-BJW was the stronger predictor. Law legitimacy significantly and negatively predicted RVB (β = -.29). P-BJW and G-BJW indirectly predicted RVB, βs = -.03 and -.09., respectively. Parental procedural justice and school justice did not directly predict law legitimacy. The model explained 47% of the variance in P-BJW, 68 % of G-BJW, 70% of law legitimacy, and 37% of RVB. Attending a private school was a significant predictor of having a higher P-BJW (β = -.15), a lower G-BJW (β = .21), and a lower RVB (β = -.10). Girls reported lower evaluations of law legitimacy compared to boys (β = -.10). See Figure 1 and Table 2 for all parameter estimates. All factor loadings are available as supplemental material online.

TABLE 1 Descriptive statistics and correlations between measures

	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13
1 RVB age 14	.986 (.939)													
2 Law Legitimacy age 13	3.305 (.489)	−.23**												
3 Law Legitimacy age 14	3.274 (.547)	−.30**	.59**											
4 General BJW age 12	2.954 (.660)	−.19**	.28**	.27**										
5 General BJW age 13	2.902 (.672)	−.22**	.42**	.39**	.49**									
6 General BJW age 14	2.736 (.722)	−.27**	.35**	.48**	.48**	.60**								
7 Personal BJW age 12	2.745 (.422)	−.19**	.10*	.18**	.28**	.20**	.18**							
8 Personal BJW age 13	3.169 (.590)	−.18**	.32**	.31**	.20**	.36**	.19**	.19**						
9 Personal BJW age 14	3.110 (.608)	−.24**	.30**	.43**	.18**	.30**	.42**	.19**	.51**					
10 Parental PJ age 12	3.829 (.360)	−.15**	.22**	.11*	.13**	.07**	.07	.14**	.21**	.16**				
11 Parental PJ age 13	3.854 (.336)	−.16**	.27**	.19**	.13**	.19**	.18**	.08*	.24**	.23**	.38**			
12 Parental PJ age 14	3.784 (.452)	−.22**	.21**	.22**	.13*	.21**	.24**	.12*	.23**	.32**	.37**	.59**		
13 School justice age 13	3.401 (.494)	−.26**	.32**	.30**	.23**	.41**	.29**	.12*	.38**	.30**	.15**	.25**	.18**	
14 School Justice age 14	3.284 (.578)	−.30**	.32**	.45**	.26**	.39**	.45**	.15**	.33**	.39**	.10*	.19**	.25**	.53**

*Note. N range = 680–690. *P < .05. **P < .001.*

TABLE 2 Parameter estimates, standard errors, and confidence intervals of the SEM

Paths	β	S.E.	CI lower	CI upper
Predicting personal BJW (age 13)				
Parental procedural justice (age 13)	.35***	.03	.29	.42
School justice (age 13)	.45***	.03	.40	.50
Sex (*female = 1*)	−.06	.03	−.11	−.00
School type (*public = 1*)	−.15***	.03	−.21	−.10
Predicting general BJW (age 13)				
Parental procedural justice (age 13)	.40***	.04	.33	.48
School justice (age 13)	.55***	.03	.49	.61
Sex	−.06	.03	−.12	.00
School type	.21***	.03	.15	.27
Predicting law legitimacy (age 14)				
Law legitimacy (age 13)	.91***	.14	.65	1.18
Personal BJW (age 13)	.16***	.05	.07	.25
General BJW (age 13)	.41***	.09	.23	.58
Parental procedural justice (age 13)	.04	.06	−.08	.15
School justice (age 13)	.11	.08	−.05	.26
Sex	−.10**	.03	−.16	−.03
School type	.03	.04	−.04	.11
Predicting RVB (age 14)				
RVB (age 13)	.52***	.05	.43	.61
Law legitimacy (age 14)	−.21***	.08	−.38	−.05
Personal BJW (direct) (age 13)	−.07	.05	−.18	.03
Personal BJW (indirect – via Laws) (age 13)	−.03*	.02	−.07	−.00
General BJW (direct) (age 13)	−.02	.07	−.16	.12
General BJW (indirect – via Laws) (age 13)	−.09*	.04	−.21	−.00
Sex	−.07	.04	−.16	.01
School type	−.10*	.05	−.19	−.01

*Note. N = 680; β = standardized estimates. *P < .05. **P < .01. ***P < .001.*
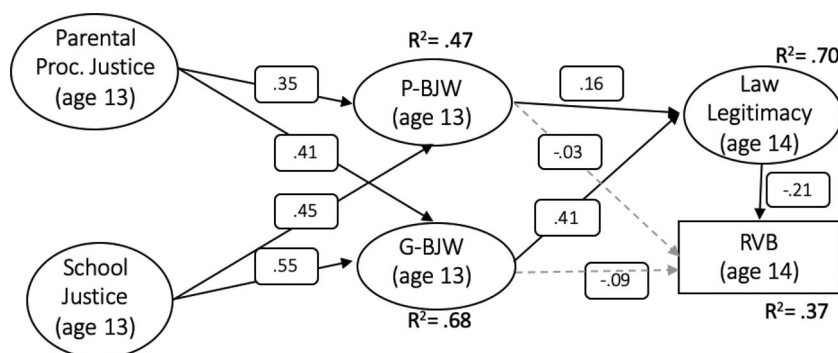
FIGURE 1 Structural equation model predicting BJW, Law legitimacy, and RVB
Note: Dashed lines indicate significant indirect effects. Non-significant relationships have been omitted. Control variables have been omitted (see Table 1)

It is worth noting that we tested alternative models utilizing the negative binomial estimator instead of the DSLW but this analysis failed to converge. We also tested a model that included time lags between legitimacy (at age 13) and RVB at age 14 but it also failed to converge.

DISCUSSION

The split interface between non-legal and legal authorities

This study suggests that adolescents build separate frameworks (P-BJW and G-BJW) based on justice experiences in the home and school, and G-BJW becomes the predominant one that goes on to apply to societal laws. Just world beliefs serve as filters in the legal socialization process, framing past experiences and driving expectations about the society at large. Both family and school justice are highly influential in shaping adolescent worldviews of justice, but there is a differentiation that occurs before this worldview is applied broadly. This personal/general split model is helpful to comprehend how parents and schools shape worldviews without necessitating an immediate projection from non-legal to legal authorities. This model highlights the active role of the individual in transferring perceptions of authorities and allows for adolescents to differentiate between authority domains while still being influenced by personal contexts.

Past research has demonstrated that parenting and school variables do influence legal legitimacy variables across cultural contexts (Akinlabi, 2017; Baz Cores & Fernández-Molina, 2020; Nivette et al., 2015; Trinkner & Cohn, 2014; Trinkner et al., 2012). However, legal and non-legal authorities are qualitatively different relationships, so the current study suggests that non-legal authorities may influence Law legitimacy not through a direct projection (which was not significant), but through an indirect process of worldview construction. Parental procedural justice and school justice simultaneously mold two frameworks, and adolescents filter the extent to which these are applied broadly. We suggest that, even if non-legal and legal authorities have different bases of legitimacy (Weber, 1978), or if cultural contexts vary in distinguishing between authority types, past experiences still generate expectations of justice, which influence perceptions of law legitimacy and RVB. Putting a worldview measure such as BJW between non-legal and legal

authorities helps make the procedural justice model of legal socialization more flexible to different contexts and legitimacy bases. Adolescents seemed to generalize the justice in the world based on their perceptions of school and family. This indicates that, even if families operate on a different legitimacy base from legal authorities, adolescents are still crafting their worldview of justice based on their experiences of justice in the family setting.

The structural equation model revealed that family and school predict both G-BJW and P-BJW, but school is a bit stronger, at least at this age level. G-BJW is what goes on to predict legitimacy of laws and RVB. These findings are in line with BJW research, which points to G-BJW as a predictor of perceptions of authorities and delinquency (Correia & Vala, 2004; Suttton & Winnard, 2007; Thomas & Mucherah, 2018), while P-BJW is often used to predict well-being measures and individual differences (Bartholomaeus & Strelan, 2019). These results suggest that school may be an even stronger predictor in the legal socialization process, since it helps shape the more generalized sphere that is then applied to Law legitimacy and used as a motivator against RVB. However, there is comparatively little research on normative school samples in current legal socialization literature (Granot & Tyler, 2019), and more attention should be devoted to the role of the school in shaping legitimacy of legal institutions.

Parents and schools are important justice gate-keepers of adolescents' lives; they oversee setting and enforcing rules to guide behavior. Non-legal authorities build adolescents' justice expectations, and in doing so, craft the lenses through which adolescents legitimize societal rules. Adolescents differentiate between authority domains, but they still construct expectations of justice based on past experiences, and this broader framework of justice (G-BJW) is what can give adolescents security to grant legitimacy to societal laws, which may then set the stage for rule compliance. In line with previous research, legitimacy is a predictor of RVB. Perceptions of justice (personal and general) were indirect predictors of RVB which indicates that they play a meaningful role in the cognitive process. Overall, the results supported the RVB hypothesis, but the effect size reveals there is much more to the story, not accounted for in this study.

It is worth noting that there is no direct relationship between P-BJW/G-BJW and RVB. Instead, personal and general BJW only had indirect effects through law legitimacy. This is important because prior BJW literature has documented the role of BJW to motivate rule compliance (see Donat et al., 2014; Thomas & Mucherah, 2018). The results of this study indicate the importance of legitimacy as foundational in understanding the transmission mechanism between BJW and RVB. When people perceive injustice, they tend to de-legitimize, which in turn prompts non-compliance. Thus, not only could BJW help legal socialization research understand the interface between non-legal and legal authorities, but legal socialization research can help BJW research understand the relationship between BJW and RVB. Understanding the interplay between legal socialization and just world belief research can be a fruitful scholarship endeavor that merits further investigation.

Theory expansion

Any model that explains how non-legal authorities influence perceptions of legal authorities should put the individual's interpretations and assimilations at its center. The results of our research highlight the active and motivating role of adolescents' expectations of justice. It is an active role because people do not simply project their experiences from one authority to another; they develop internalized frameworks (both personal and general). It is a motivating role because

that expectation of justice guides their legitimization of the law, and their drive to adhere to a social contract.

The expectations people construct about the justice and fairness of their realities are both an outcome of their environment and a predictor of their legitimacy evaluations and compliance behaviors. It is time that just world belief research be integrated with legal socialization research. BJW helps explain the assimilation process between non-legal and legal authorities, and legal socialization research explains the indirect connection between BJW and RVB via legitimacy. Just world beliefs play a central role in the legitimacy of institutions, and likely originate from non-legal contexts. The personal and general differentiation of BJW that occurs in adolescence is a key component in explaining how adolescents filter personal and impersonal expectations of justice into legitimacy endorsements. The combination of both lines of research help account for the formal and informal processes of legitimization and rule compliance.

Limitations and future research

All measures were self-reported and therefore are confined to these inherent limitations. However, the model puts the adolescents' worldview at the center of the model, so participants' perceptions are germane to the research question. The limitations of self-reported data are most applicable to the RVB measure. By and large, the sample had very low RVB, so there was limited variance to measure.

The measure used for RVB was not specific to different domains of authority, and compliance in adolescence is known to be domain-specific (Smetana, 2000; Thomas et al., 2020). That was beyond the scope of the study. Additionally, legitimacy beliefs predict voluntary deference to authority (Fagan & Tyler, 2005; Tyler, 1990), and there are various coercive or conventional reasons people may comply even if they do not legitimize. This study also only follows adolescents until age 14, so it is unclear whether less legitimacy at age 14 would go on to predict RVB later in adolescence. Future research should seek to create more domain-specific measures of RVB and include other predictors of complying, such as coercion or convention.

The current study shows a complex model with multiple predictors, but it cannot establish causality nor rule out all confounding variables. Since it is expected that these measures change rapidly throughout early adolescence, this study builds a strong theoretical case for temporal precedence and directionality, but it cannot establish causality. BJW can theoretically play both an assimilation and accommodation role, being influenced by injustice experiences and also changing the interpretation of events to fit a particular worldview. This study suggests that home and school justice experiences play a foundational role in shaping BJW (accommodation), which is then projected onto law legitimacy (assimilation). However, this study cannot rule out other explanations and to some extent adolescents' worldviews of justice likely also influence how they interpret their family and school interactions. Future studies should examine the construction of P-BJW and G-BJW and what events, contexts or relationships help adolescents differentiate between the two worldview constructions. It is yet unclear what kind of experiences would lead an adolescent to change one kind of BJW but not the other.

CONCLUSION

Justice expectations serve as an interface between non-legal and legal authorities and are malleable in early adolescence based on justice practices in the home and school. Parental procedural justice and school justice evaluations predict how fair adolescents think their personal lives and worlds are, which shape their evaluations of law legitimacy and compliance with rules. Adolescents actively create different frameworks for their personal lives and the world in general and apply them differently when thinking about legitimacy of and compliance with the laws.

CONFLICTS OF INTEREST
The authors have no known conflict of interest to disclose.

OPEN SCIENCE PRACTICES

Raw data, materials, code, and supplementary information reported in this paper are publicly available at the open science framework platform: https://osf.io/tv7en/?view_only= a7781755bf944e81baff4b6f408e5c0f

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