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Early Adolescent Gender Development: The Differential Effects of Felt Pressure from Parents, Peers, and the Self

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Abstract

Most empirical research examining youth's gender development measures felt pressure to conform to gender norms using a composite value of felt pressure from multiple sources; however, because of the different socialization processes at work from parents, peers, and the self, analyzing these sources separately may elucidate different effects on gender development. Thus, the purpose of this study was to (a) differentiate the effects of perceived gender socialization pressure from parents, peers, and the self on early adolescents' own- and other-gender typicality, and (b) to examine whether a bi-directional relation between gender typicality and felt pressure is evident when distinguished across sources. With a sample of 212 early adolescents (54% girls; $M_{age} = 11.11$ years), felt pressure was found to be distinguishable by socialization source: adolescents' perceptions of parents, peers, and their own pressures were distinct, and each contributed differently to gender development. Pressure from self and peers were both found to relate concurrently to typicality (i.e., positively to own-gender typicality, negatively to other-gender typicality); only pressure from the self was found to have a longitudinal effect on adolescents' developing gender identity (i.e., an increase in own-gender typicality). Interestingly, other-gender typicality did not elicit higher felt pressure; in fact, it was negatively related to later felt pressure from the self, suggesting that adolescents may be developing self-acceptance of their levels of gender typicality. The findings suggest that the development of gender identity may involve a complex interplay with various sources of socialization pressures (e.g., parent, peers, self), and may further shift in relation to the adolescent's own levels of gender typicality.

Keywords Early adolescence · Gender development · Felt pressure · Gender typicality · Gender identity · Gender socialization

Introduction

Many theorists have sought to explain the development of an individual's gender identity. Explanations for how gender identity develops vary in their proposed causes, processes, and sources of change—(i.e., biological, cognitive, and social influences), but all theories agree that socialization is an influential and unavoidable part of this process (Leaper 2014). Individuals are socialized by a variety of sources throughout their lives (e.g., family members, peers, friends, the media, themselves) about the appropriate way to fulfill their gender role. Parents saying to "act more ladylike," peers making comments like "don't be a sissy," and hearing messages from the self like "I should really act more like a boy" are all examples of felt pressure. Although research has assessed these types of "objective" gendered messages from parents, peers, and the media, more research is needed on how adolescents' *perceptions* of these pressures from different sources might uniquely influence their gender development. Perceived pressure from parents, peers, and the self may place competing or complementary sources of pressure on individual gender typicality—a central gender identity construct that indicates how much an individual feels like a typical member of their gender group. Thus, it is important to distinguish among different socialization agents when examining gender identity development. The purpose of this study is to differentiate the effects of perceived gender socialization pressure from parents, peers, and oneself on early adolescents' perceived gender typicality.

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It is likely that individuals feel pressure to varying degrees from different sources (e.g., strong pressure from parents but low pressure from peers), which may differentially affect youth's gender typicality and adjustment. In addition, the relative influence of the sources of pressure likely varies developmentally; for example, children may respond more to parental pressure whereas adolescents may respond more strongly to feeling pressure from peers than from parents. It is also possible that felt pressure from different sources can differentially affect individuals' own- and other-gender typicality: pressure to conform to gender norms may reduce individuals' other-gender typicality while their own-gender typicality may remain unaffected. Thus, to fully understand the processes of gender socialization, felt pressure to conform to gender norms must be examined in more nuanced ways than has previously been done. The present study seeks to incorporate this nuance by assessing felt pressure from the self, parents, and peers separately and exploring their differential influence on adolescents' own- and other-gender typicality.

What is Felt Pressure and Why is it Important?

Children and adolescents around the world are aware of the existence of gender norms and experience pressure to fit into their gender role (Yu et al. 2017). For example, young American boys are aware that they *should* like the color blue, blocks, and sports. Felt pressure is the internalization of the *should*. According to Egan and Perry (2001, p. 453), felt pressure to conform to gender norms is the "pressure for sex typing from parents, peers, the media, and other socializing agents." Because of the salience of gender groups and gender norms, many individuals likely experience gender socialization pressures to some degree. In fact, most American adolescents experience pressure to conform to gender norms, even if they are gender typical (Pauletti et al. 2014). Tobin and colleagues (2010) hypothesize the more children identify with a gender collective, the more they will perceive in themselves the attributes they personally view as more typical of, or desirable for, persons of that collective. In other words, the more gender typical one *perceives* oneself, the more desirable typicality will be, and, thus, the more likely they are to feel pressure to conform to gender norms. Research regarding peer responses to gender atypicality, however, suggests that gender atypical youth are met with peer sanctions (Pascoe 2014), gender norm enforcement (Birkett and Espelage 2015), and lower peer acceptance (Jewell and Brown 2014), which likely relates to greater perceived pressure to conform from peers. Although these predictions may seem somewhat contradictory, it actually highlights the importance of distinguishing among sources of felt pressure: gender typical youth may experience greater pressure from the self, whereas gender atypical youth may experience greater pressure from peers.

It is also interesting to consider gender differences in felt pressure. Boys often report feeling greater pressure to conform to gender norms than girls (Egan and Perry 2001; Smith and Leaper 2005). Although there are often mean-level differences, gender differences in correlations between felt pressure and gender typicality show mixed results. Perhaps there is a longitudinal aspect to this correlation that has not yet been tested: as an individual perceives pressure to conform to norms, they might attempt to lessen it by striving for greater typicality or by strengthening their resistance to norms and becoming less typical. Either way, it is hypothesized that this process should be the same for girls and for boys.

Distinguishing Sources of Felt Pressure

Embedded within the original description of felt pressure is the implication that gender socialization pressures stem from multiple sources: "Children who experience strong pressure are likely to internalize the prescriptive and proscriptive messages [about gender], coming to anticipate evaluative reactions not only from other people but also from themselves for sex-typed conduct" (Egan and Perry 2001, p. 453). Valuable information has been obtained using the felt pressure scale developed by Egan and Perry (2001) in which pressure from different sources is aggregated to create a generalized felt pressure score. For instance, felt pressure amplifies negative outcomes experienced by those who do not feel like they match gender norm expectations (Yunger et al. 2004). However, because it is plausible that there are mean-level and correlational differences in felt pressure from different sources (e.g., parents, peers, the self), disaggregating felt pressure into the separate sources of felt pressure may provide additional insights into our understanding of the gender socialization processes. Indeed, the unique relations and effects of different sources of pressure is noted in research on body image. The pressure that individuals feel to look a certain way is an important construct in body image literature (Thompson et al. 1999). Traditionally, research on the internalization of cultural body image ideals aggregated the pressure from family, friends, and the media, but when researchers later isolated the direct effect of particular sources of appearance-related pressure, they find that different sources yielded unique levels of pressure and unique influence on outcome variables of interest (Tylka 2011). However, this differentiation by source of pressure has not yet been extended to the literature on gender development.

Because gender typicality is susceptible to influence from multiple cultural systems, it is important to examine

more closely how the pressure individuals might feel from these different sources might vary and how it impacts gender typicality. It may be that the association of felt pressure with gender typicality varies by the source of pressure. For example, an adolescent could have parents who strictly enforce gender norms but peers who are quite accepting of gender non-conformity. Alternately, an adolescent could hold internal values for expressing their non-conformity but have peers that regularly sanction atypical gender expression. These varying patterns of pressure may influence adolescents' gender typicality in different ways. An aggregated felt pressure score, however, would not capture these nuances.

In addition, it is essential to study the perception of multiple sources of pressure during early adolescence because the relative salience and influence of felt pressure sources can vary developmentally. Peers become increasingly important for individuals' beliefs and behaviors during adolescence (Steinberg and Morris 2001). During this time adolescents strive for greater independence from their parents, and peer felt pressure may become as strong or more strongly related to gender typing than parental felt pressure. Alternately, an individual's drive to explore and develop their identity during adolescence may contribute to self pressure being more related to gender typicality than pressure from parents or peers. In addition, it is important examine these processes with early adolescents directly after their transition from elementary to middle school—a period marked by a disruption in social status and a heightened attention to pressures to attain peer acceptance. Thus, because of the different sources of felt pressure and gender typicality, it is important to examine various sources of felt pressure independently in order to more fully understand the gender socialization process during this critical developmental period.

Important Socialization Agents

The primary sources of felt pressure examined in this research are parents, peers, and the self. Although there are many sources of pressure socialization, including broad cultural forces such as media, these likely rely on different processes than do interpersonal relationships, and are beyond the scope of this work. Parents and peers were chosen as external sources of pressure because they are likely the strongest interpersonal sources (Leaper and Brown 2008), and to these we add the important aspect of pressure from the self. Although psychologists have theorized about the role of the self in children's gender identity development since Kohlberg (1966), studies seldom directly assess the self as a specific socialization source of felt pressure. One reason for this is that much of the interest in self-socialization has been on how children come to be specifically attentive to self-relevant gendered information but they are too young to ask them about how they feel about being pressured by their own beliefs.

During the adolescent years, it is possible to ask these questions. For them, studying self-socialization is particularly important because only then can one explore the *perceived* pressure, or the pressure to conform as experienced by the individual (Egan and Perry 2001). Although several studies have examined the types of gendered messages that adolescents may use or encounter, few studies explore perceptions of pressure. This is an important distinction, as the effect of an individual's perception or experience of a stimulus can be different from an "objective" or external measures of that stimulus (Spencer et al. 1997). Individuals also differ in gender schematicity – the extent to which they view the world through a gendered lens (Bem 1981; Martin and Halverson 1981); youth who are more gender schematic may be more likely to perceive these pressures from others or more likely to internalize external pressures as their own ideals. Thus, it is important to examine the *perceived* pressure from these sources, along with pressure from external sources such as parents or peers. Below, types of messages and effects of felt pressure from each of these sources are described.

Parents

Parents are an important source of gender socialization. They provide multiple forms of messages designed to influence their children's gender typicality. Although there is variation in parents' acceptance of gender non-conforming characteristics in their children, most parents enforce conformity to gender norms in implicit and explicit ways. For example, parents send implicit messages about gender roles, such as gendered familial responsibilities (e.g., having the father provide financial support for the household and the mother performing the majority of childcare and housework; McHale et al. 2003). They can also explicitly instruct children (through discussion and direct teaching) about the proper roles of boys and girls (Gelman et al. 2004). Parents enforce adherence to gender norms in many domains such as emotional expressiveness and in toy or activity choice (Kane 2006); for example, boys are often chastised for showing too much emotion (e.g., sadness or fear; Way 2011) or for showing interest in feminine activities like ballet or playing with dolls (Thomas and Blakemore 2013).

Peers

Because the desire to be accepted and rewarded by peers is heightened during adolescence (Steinberg and Monahan

2007), peers are an important source of pressure to conform to gender norms to examine when studying adolescents' gender identity (Ewing Lee and Troop-Gordon 2011). Adolescents often sanction others who express gender non-conformity; these sanctions can range from disapproving looks in the school hallway to physical violence (Pascoe 2014). For example, peers can ridicule an adolescent for joining a gender-atypical extra-curricular activity or showing too much interest in a gender atypical academic subject (Toomey et al. 2014), or peers may engage in homophobic name-calling to enforce adherence to gender norms (Birkett and Espelage 2015). There are also peer rewards and increased acceptance for adopting gender-typed behaviors. For example, gender typical adolescents (e.g., head cheerleader or captain of the football team) are often the most popular and have the highest social status in the peer group (Jewell and Brown 2014).

Self

Individuals also socialize themselves about gender roles. For example, there are social cognitive mechanisms such as gender schemas that motivate gendered behavior (Martin and Halverson 1981). Gendered messages from others, combined with one's gender identity, prompt individuals to become particularly attentive to gender roles, allowing for the development of internal rules (i.e., gender schemas) for how to "appropriately" be a member of their gender group (Liben and Bigler 2002; Martin and Halverson 1981). These gender schemas then provide guides for behavior (Martin et al. 2002) by encouraging behaviors that align with their conceptualization of their gender role. For example, children act as gender detectives—they actively seek out information about gender-appropriate characteristics (Martin and Ruble 2004) and many (but not all) children show strong consistency between their beliefs and their behaviors (Martin and Dinella 2012). It is also possible that not all self-socialization is aimed at producing more typicality; children intently cultivate non-conforming identities and behaviors, even in the face of strong pressure to conform to norms (Rogers 2018).

Felt Pressure and Gender Typicality

Although most cross-sectional studies note the relation (or lack of relation) between felt pressure and gender typicality (Egan and Perry 2001; Leaper and Brown 2008; Menon et al. 2017), the patterns are mixed; sometimes the relation is negative and sometimes it is positive. In addition, the relation of felt pressure to gender typicality changes when considering similarity to the other gender along with own-gender typicality (Martin et al. 2017; Pauletti et al. 2017). It is also important to examine the *longitudinal* relation of felt pressure to gender typicality. It is unclear whether individuals who feel pressure strive to increase typicality as a result of that pressure; are socialization efforts successful in promoting gender typicality or decreasing gender atypicality? This potential longitudinal relation is important because it can provide more information about the process of gender development; does gender atypicality elicit felt pressure, does felt pressure affect gender typicality, or is there a bi-directional relation?

It is also possible that, because perceptions of typicality vary developmentally and have been shown to predict different outcomes (Pauletti et al. 2017), the various sources of felt pressure might affect own- and other-gender typicality differently. Generally, if pressure to conform to gender norms is fulfilling its purpose, it might be expected that individuals would increase in own-gender typicality and decrease in other-gender typicality. Previous research has shown that gendered peer policing (through homophobic name calling) leads to a decrease in own-gender typicality (DeLay et al. 2017). Another study showed that gender-based peer harassment led to greater gender typicality, but only for some people under certain circumstances (Ewing Lee and Troop-Gordon 2011); in addition, this study only examined own-gender typicality, not other-gender typicality. It is possible that, because performing other-gender-typed behaviors or appearing similar to the other gender is more salient and more policed (Xiao et al. 2019) than performing fewer own-gender-typical behaviors, pressure to conform may affect the expression of other-gender typicality more than own-gender typicality.

It is especially important to longitudinally examine these nuances of gender typicality and felt pressure during early adolescence because of the complex and dynamic identity development and socialization agents present at this time. Although adolescence is generally known to be a time for identity exploration, research on this topic is usually focused on other domains such as sexual (O'Sullivan and Thompson 2014) and ethnic-racial identities (Umaña-Taylor et al. 2004); however, gender identity is also still developing during this time (Crouter et al. 2007). For many youth, gender identity is relatively stable throughout childhood and adolescence (Clemans et al. 2010), but others may shift specific aspects of gender expression (i.e., clothes, activities, peer group) as a method of gender identity exploration (McHale et al. 2009). Adolescence is also fraught with social instability and desire for peer acceptance. As such, it can be a unique period of gender norm maintenance, socially reinforcing adherence to gender norms and sanctioning norm violation. Thus, it is possible that peer pressure to conform to gender norms is more broadly felt during this time than earlier in childhood.

Present Study

Felt pressure to conform to gender norms is an important construct for understanding processes of gender socialization. Previous felt pressure literature emphasized the outcomes of being pressured to conform to gender norms, especially for gender atypical individuals. However, disaggregating across sources of felt pressure may help capture important nuances in the experience and outcomes of felt pressure as they relate to both own- and other-gender typicality. Thus, the goal of the present study was to expand on the existing literature by distinguishing felt pressure by source and examine the relation of felt pressure to both own- and other-gender typicality. In addition, these relations were explored using a short-term longitudinal study with early adolescents just after the transition to middle school, to capture the pressures and shifts in gender typicality unique to this developmental stage.

Three research questions were developed to help us understand the influence of felt pressure on gender typicality during early adolescence. The first research question addresses whether perceived pressure to conform to gender norms could be statistically distinguished by source; do pressures from parents, peers, and the self form distinct factors? Items representing felt pressure from parents, peers, and the self were expected to form factors that can be used separately for subsequent analyses (Hypothesis 1).

Second, whether pressure from different sources (parents, peers, and the self) has unique influences on the development of gender typicality was explored. To do this, both concurrent and longitudinal relations of felt pressure to conform to gender norms from parents, peers, and the self and own- and other-gender typicality were explored. It was expected that gender atypicality (i.e., higher own-gender typicality and/or lower other-gender typicality) would concurrently relate to higher levels of felt pressure to conform, especially felt pressure from peers (Hypothesis 2). Over time, it was expected that felt pressure would relate to an increase in gender typicality (Hypothesis 3a). It was hypothesized that gender atypicality would relate to an increase in felt pressure over time (Hypothesis 3b). Finally, whether these hypothesized associations between felt pressure and gender typicality differed for girls and boys was also explored.

Method

Participants

Participants were 212 6th grade (54% girls; $M_{age} = 11.11$ years, $SD_{age} = 0.48$) students from a middle school in the Southwestern U.S. Students were from diverse racial-ethnic backgrounds (45% Latinx, 20% White, 9% Native American, 7% Black, 2% Asian, and 17% multi-racial), and most qualified for free or reduced lunch (75%).

Measures

Gender typicality

Participants responded to questions asking about their perceived similarity to their own and the other gender group (Martin et al. 2017). This is a 5-item scale including the item "How similar do you feel to boys?" Responses were recorded on a Likert scale from 0 (*not at all*) to 4 (*a lot*). All participants responded to the five items twice, once asking about similarity to girls and once about similarity to boys. Responses were then recoded into own- and other-gender scores where higher scores indicated greater gender typicality. Alphas for own-gender typicality ($\alpha_{Time1} = 0.79$, $\alpha_{Time2} = 0.80$) and other-gender typicality ($\alpha_{Time1} = 0.74$, $\alpha_{Time2} = 0.80$) were in the acceptable range at both time points.

Perceived pressure to conform to gender norms

Participants rated the degree to which they felt pressure to conform to gender norms from each of the three sources—parents, peers, and self. Four items represented felt pressure from self (i.e., for boys: "I would be upset if I saw myself acting like a girl"), from parents (i.e., for girls: "My parents would be upset if I liked boys' toys and activities"), and from peers (i.e., for boys: "Other kids would be upset if I acted like a girl"). Items were adapted from Egan and Perry's (2001) measure of felt pressure to match the domains of gender typing assessed by the measure of gender typicality developed by Martin and colleagues (2017). Responses to the 12 items were recorded on a 5-point Likert scale from 0 = *not at all* to 4 = *a lot*. Higher scores indicate more pressure to not be like the other gender. Factor analyses (see Analysis Plan and Results) confirmed that these items represent felt pressure from self, parents, and peers. Alphas for felt pressure from parents ($\alpha_{Time1} = 0.83$, $\alpha_{Time2} = 0.84$), peers ($\alpha_{Time1} = 0.83$, $\alpha_{Time2} = 0.86$), and self ($\alpha_{Time1} = 0.82$, $\alpha_{Time2} = 0.85$) were in the acceptable range at both time points.

Procedure

Parents were provided consent forms and asked if they would like to opt their child out of the current study, and children were provided assent forms; children whose parents did not opt out and who provided their assent participated in the study. During the fall (October) and spring (March) semesters of the school year, students completed a

45-min paper survey about gender identity, peer relationships, and their experiences at school. Surveys were administered in a classroom setting, where a research assistant read the questions and answers aloud and other assistants were available to answer questions throughout. Students were then given a small gift for participating.

Analytic Plan

To discern whether felt pressure could be divided by source, three confirmatory factor analyses (CFA) using Mplus 7.11 (Muthén and Muthén 1998–2013) were conducted. Included in each analysis were the four items corresponding to each source of felt pressure. Model fit was examined using traditional fit indices (i.e., RMSEA, CFI, SRMR; Hu and Bentler 1999). The correlations among factors were examined to identify how strongly each factor related to the others.

To address the remaining research questions, a saturated cross-lagged panel model including the five variables of interest—own-gender typicality, other-gender typicality, felt pressure from self, felt pressure from parents, and felt pressure from peers—at each of the two time points (see Fig. 1) was tested. Autoregressive/stability paths were included for each variable, as well as all possible cross-paths.

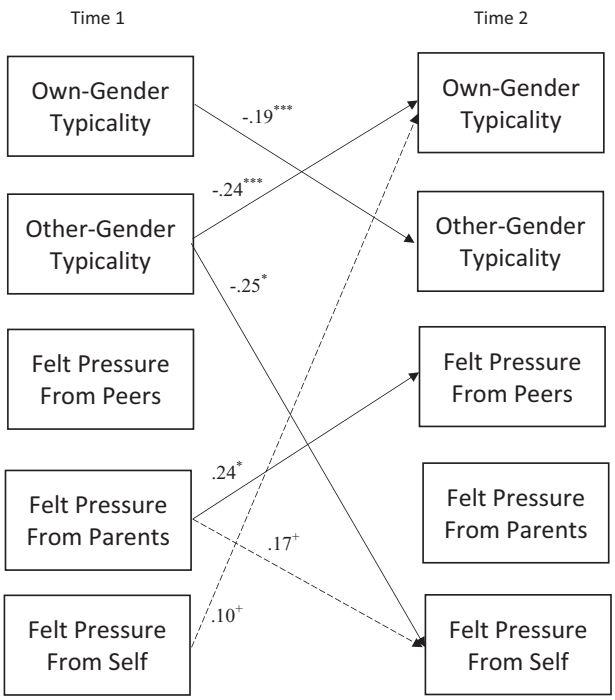

Fig. 1 Panel model illustrating longitudinal relations of gender typicality and felt pressure by source. Non-significant paths and autoregressive paths not shown for clarity. Dotted lines indicate marginal effects. $^{+}p < 0.10$, $^{*}p < 0.05$, $^{***}p < 0.001$

A multi-group framework was used to test the relation of felt pressure to gender typicality (i.e., paths from Time 1 felt pressure from self, parents, and peers to Time 2 own- and other-gender typicality) for moderation by gender. Thus, models were tested wherein these paths were freely estimated by group (i.e., boys and girls) and constrained to be equal across groups. Models were then compared using log-likelihood ratio tests.

Results

Hypothesis 1: Felt Pressure can be Distinguished by Source

The first hypothesis was that sources of felt pressure could be distinguished by source; this hypothesis was supported. As expected, results of the CFAs suggested that factors representing each source of pressure could be used separately; factors for felt pressure from self, parents, and peers demonstrated good fit (RMSEA = 0.00–0.08, SRMR = 0.01–0.02, CFI = 0.99–1.00; see Table 1 for means, standard deviations, and correlations). Bivariate correlations among the composite scores for felt pressure from self, parents, and peers ranged from $r = 0.74$ to 0.81.

There is a clear relation between these factors, but it is likely driven by domains of pressure (e.g., appearance, interests) that are replicated across each source (e.g., "My parents would be upset if I acted like a girl" and "Other kids would be upset if I acted like a girl") and thus create shared method variance. An EFA identified factors based on a mixture of both conditions (e.g., source or domain of pressure); thus a CFA was used to confirm a priori expectations such that items from one source would load with others of that source (i.e., parent pressure items load onto a parent pressure factor) and not with items for the same domain (i.e., parent pressure to conform in appearance and peer pressure to conform in appearance loading onto an appearance pressure factor). Results of this CFA suggested that the models fit well when structured in this way (i.e., items loading onto separate factors by source).

Hypothesis 2: Sources of Felt Pressure Differentially Relate to Gender Typicality

The second hypothesis was that gender atypicality would relate to higher felt pressure to conform, especially felt pressure from peers; this hypothesis was partially supported. Concurrent correlations among own- and other-gender typicality and felt pressure from parents, peers, and the self are provided in Table 1. At Times 1 and 2, own-gender typicality was negatively correlated with other-gender typicality. In addition, at each time point, felt

Table 1 Descriptive statistics for all study variables

	M(*SD*)							
	Total	Girls	Boys	1.	2.	3.	4.	5.
1. FP Parents	2.88 (1.37)	2.75 (1.37)	3.00 (1.37)	–	0.79***	0.76***	0.12	−0.14
2. FP Peer	2.87 (1.32)	2.53 (1.31)	3.21 (1.24)	0.80***	–	0.81***	0.16*	−0.30***
3. FP Self	2.99 (1.33)	2.53 (1.33)	3.48 (1.16)	0.74***	0.78***	–	0.32***	−0.44***
4. Own Typ	4.17 (0.82)	3.91 (0.82)	4.48 (0.72)	0.12	0.23**	0.41***	–	−0.47***
5. Other Typ	1.81 (0.75)	2.03 (0.88)	1.56 (0.46)	−0.23**	−0.31***	−0.53***	−0.69***	–

FP = felt pressure, *Own Typ* = own-gender typicality, *Other Typ* = other-gender typicality. Means shown are for Time 1 variables; means for Time 2 are similar. Correlations for Time 1 are above the diagonal and for Time 2 are below the diagonal

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

pressure from peers and self were positively related to own-gender typicality and negatively related to other-gender typicality, but felt pressure from parents was not related to either.

Hypotheses 3a and 3b: Felt Pressure Relates to Changes in Gender Typicality

It was hypothesized that felt pressure would relate to an increase in gender typicality and that gender atypicality would relate to an increase in felt pressure over time; this hypothesis was partially supported. To establish whether the three sources of felt pressure (self, parents, and peers) predicted change in gender typicality (own and other), a cross-lagged panel model was conducted. (Because the model was saturated, no fit indices are reported). All stability paths (e.g., the path from Time 1 own-gender typicality to Time 2 own-gender typicality) were significant (all $ps < 0.001$), indicating that individuals' levels of each variable were fairly stable over time. However, there were also significant cross-paths (see Fig. 1 for unstandardized coefficients). Overall, the types of felt pressure did not show strong predictive relations to later typicality, which was contrary to this hypothesis. The only exception was felt pressure from self, which marginally predicted an increase in own-gender typicality. To explore other possible contributors to change, other estimated cross-paths were examined. Felt pressure from parents predicted an increase in felt pressure from peers and an increase in felt pressure from self (marginal). Interestingly, own-gender typicality was related to a decrease in other-gender typicality across 6th grade. Other-gender typicality predicted a decrease in own-gender typicality and a decrease in felt pressure from self. Other estimated cross-paths were nonsignificant.

To explore whether the relations described above differed significantly by gender, the effects of felt pressure on gender typicality were tested separately for adolescent boys and girls. Results of a chi-square likelihood ratio test suggested that the freely estimated model (i.e., the model with different paths by gender group) did not significantly improve fit over the constrained model (i.e., with paths set to be equal across gender groups), $\chi^2_{diff}(6) = 3.56$, $p = 0.31$. Thus, the more parsimonious model was retained; as expected, paths did not significantly vary across gender.

Although not an explicit research question, whether the present approach provided different information from what would have been gleaned from the traditional approach was explored. Thus, to provide a comparison to previous research, a similar analysis (i.e., a saturated panel model) using a composite score of felt pressure (rather than distinguishing felt pressure by source) was conducted. In this model, felt pressure related to an increase in own-gender typicality and a decrease in other-gender typicality over time. Gender typicality did not relate to a change in felt pressure over time.

Discussion

Because of the ubiquity of messages from multiple socialization sources of the importance of conforming to gender norms, felt pressure is an important construct for understanding gender development. However, previous research has largely examined these pressures aggregated across sources. It is possible that the relative influence of pressures can vary across source, and that this influence can vary developmentally. Thus, the purpose of the present study was to assess whether felt pressure to conform to gender norms from parents, peers, and the self differentially affects adolescents' gender typicality.

It was expected that felt pressure, especially from peers, would relate to gender atypicality; however, the pattern found was contrary to this expectation. When measured concurrently, felt pressure from peers and the self related to greater gender *typicality* (i.e., higher own-gender typicality and lower other-gender typicality). When examined longitudinally, felt pressure from parents and peers did not predict change in individuals' gender typicality, and felt

pressure from self only marginally predicted an increase in own-gender typicality. In summary, over a period of six months, only pressure from the self had an impact on developing gender identity in adolescents.

The directionality (and potential bidirectionality) of the relation between pressure and gender typicality was also an important aspect of the study. Specifically, it was hypothesized that variations in gender typicality, either by being low on own-gender typicality or high on other-gender typicality, would elicit increased felt pressure from parents and peers (and possibly the self). Interestingly, gender typicality did influence felt pressure over time; other-gender typicality predicted a decrease in felt pressure from self. Additional longitudinal findings indicated that own-gender typicality predicted a decrease in other-gender typicality, and other-gender typicality predicted a decrease in own-gender typicality over time.

Distinguishing the Sources of Felt Pressure

A primary goal of this study was to establish the utility of studying felt pressure to conform to gender norms not as a general composite construct, but as a nuanced perception of pressure from different socialization sources—parents, peers, and the self. Indeed, adolescents felt differently about each pressure source. Items measuring felt pressure were able to be represented by distinct factors for pressure from each source. Within-time correlations with these separate factors revealed that felt pressure from peers and the self related to higher own-gender typicality and lower other-gender typicality. Felt pressure from parents was generally not correlated with gender typicality, though it did relate to lower other-gender typicality at Time 2. Each of the significant relations are along expected lines: more pressure relates to more perceived gender typicality.

Regarding correlations over time, the presence or absence of longitudinal effects involving felt pressure varied by source. For example, felt pressure from the self was the most influential over time for these youth. Although this path was marginal, the self's effect on typicality was stronger than either peer and parent effects. Perhaps this relates to the perceived nature of both pressure and typicality; if one were to study behavioral norm conformity, perhaps peer pressure might evoke the strongest outcomes, given the intense gender-based harassment that atypicality can evoke (Toomey et al. 2014). As it stands, these results validate the unique insight generated by including the self as a source of felt pressure for understanding early adolescents' gender development.

Although not a primary goal, pressure from parents predicted feeling pressure from peers. There may be an overall "heightened sensitivity/salience" effect in that if one becomes aware of pressure or disapproval from one socializer one may be more prone to recognize or label pressure from another source. In fact, this heightened perception of pressure from both parents and peers may reflect greater gender schematicity for some adolescents: if adolescents are more inclined to perceive messages as gendered, this would apply to messages from both parents and peers. For example, if a male adolescent perceives pressure from their parent, they may be more sensitive to any characteristics that may be perceived as feminine; subsequent messages from peers perceived to be related to these characteristics may then be perceived as pressure to conform to gender norms.

Longitudinal Relations of Felt Pressure and Typicality

These findings provide some insight about socialization pressures and about the directionality of effects between gender typicality and felt pressure. Recent research using concurrent measures has found that gender typical youth report higher levels of felt pressure (Pauletti et al. 2017; Tam et al. 2019); however, the question remaining from these results is whether prior felt pressure influenced these youth to become gender typical (socialization efforts were successful) or whether typical youth experience increasing felt pressure as they come to more strongly identify with their gender collective. These findings suggest that there may be bi-directional effects among these constructs. Felt pressure from self marginally related to an increase in own-gender typicality, and other-gender typicality related to a decrease in felt pressure from self. This indicates that, for these early adolescents, a negotiation of own-gender typicality, other-gender typicality, and felt pressure (from the self) is taking place; pressure can shift typicality, and typicality can shift pressure. More research is needed to explore longer-term influences among these constructs across adolescence. Although the present findings do not provide irrefutable proof of such a bi-directional relation, these findings do suggest that further research attention to the potential longitudinal bi-directional influences of felt pressure and gender typicality is warranted.

Different socialization sources have different motivations and intended outcomes for their behavior (e.g., parents might wish children to avoid the teasing that accompanies non-conformity, whereas adolescent peers might use gender non-conformity as a way to compete for social status). Because of the developmental importance of peers during this stage, it was expected that peer socialization would be a stronger predictor of typicality. Although research has established that gender typicality is variable and can be influenced by peer homophobic name-calling (DeLay et al. 2017), it is possible that typicality is too stable over this period of time to find change effects from more general

forms of felt pressure. Alternatively, this effect may not have been seen because the sample consisted of early adolescents who had just transitioned to the middle school context. It is possible, however, that the influence of felt pressure from peers on gender typicality will increase during adolescence; thus, future studies should examine these processes across development to see if peer influence on typicality is stronger as youth progress through adolescence.

Another surprising finding was that other-gender typicality predicted a decrease in felt pressure from self, suggesting that there could be a degree of self-acceptance regarding one's non-conformity that contributes to lowering internal pressures to conform to gender norms. It could also illustrate a process of cognitive dissonance resolution to protect self-esteem; if other-gender typicality is high and felt pressure to conform is high, well-being indicators, such as self-esteem, are at risk (Pauletti et al. 2014). Lowering the internal importance of conformity resolves this tension and leaves adjustment unaffected. In addition, felt pressure from the self marginally predicted an increase in own-gender typicality. As proposed above, if internal importance to conform to gender norms is high, increasing in conformity should be helpful for adjustment.

Another unexpected outcome of the current study is that own-gender typicality predicted decreased other-gender typicality over time and vice versa. This could be interpreted to mean that typical individuals grow more typical over time and atypical individuals grow less typical. Indeed, previous research has documented the increase in gender typing for girls and boys during adolescence (e.g., Hill and Lynch 1983). What is unique about this finding, however, is that own- and other-gender typicality were measured separately and were found to have bidirectional effects on one another; as an individual becomes more similar to their own gender, they also become less similar to the other gender and vice versa. These findings suggest that both pathways involve consolidation of identity as either being more or less gender typical. It will be important to assess whether the consolidation of these different pathways also relates to psychological adjustment outcomes for both groups.

Gender Differences in the Effects of Felt Pressure

As expected, there was no gender moderation of the links between felt pressure and gender typicality; the relations were similar for boys and girls. However, mean level differences were apparent. Boys consistently report higher felt pressure than girls (Tam et al. 2019; Zosuls et al. 2016) and face stricter punishments for gender norm transgressions (Yu et al. 2017), but mean level differences do not necessarily indicate a change in the relation between typicality and pressure. It is possible that a gender difference would be more apparent if the relation of different felt pressure sources to adjustment outcomes was examined; perhaps adolescent boys' adjustment is more strongly affected by certain pressure sources than adolescent girls' adjustment. Nevertheless, the lack of gender difference in the relation of felt pressure to typicality is still interesting; the results indicate that girls' and boys' typicality develops in similar ways when examining the process of adolescents' socialization by the self, parents, and peers.

Limitations

Although the present study provides significant insights about longitudinal changes in gender identity development, it is not without limitations. First, the study involved short-term assessment of changes. This decreased the likelihood of finding effects whereas a longer-term longitudinal study, and especially one assessing cumulative effects, would have a stronger potential for identifying direction of effects in these processes. Thus, the effects detected in the current study would likely be even stronger had there been more longitudinal data. Furthermore, each measure involved self-report, which may introduce issues of shared variance. Nevertheless, self-report is the only method that can accurately assess perceptions of felt pressure and one's subjective view of gender typicality (Spencer et al. 1997).

In addition, the scope of the present study necessitated the selection of self, parents, and peers as socializers of gender. However, many other sources of pressure are present in adolescents' lives, such as media, teachers, coaches, and siblings (e.g., Leaper and Brown 2008). It will be important for future research to examine the relative influence of these additional sources of felt pressure to more fully understand adolescents' gender typicality and adjustment.

Future Directions

The present analysis suggests that researchers should consider and separately analyze the three sources of pressure when examining gender identity development and gender socialization. Pressure from each of these sources develops differently and potentially has different pathways and reasons for influencing individuals' gender development. For example, the motivations for parents to socialize their children's gender expression are different from the motivations of peers. Thus, individuals likely perceive the importance or "legitimacy" of these pressures differently. If atypical individuals feel pressure for conformity from parents or peers, but themselves value authentic self-expression, the pressure felt from others may remain unrelated to their gender expression (i.e., they resist the pressure to conform). However, if the pressure to conform is internal

(i.e., from the self), the value they place on conformity likely relates to their gender typicality more strongly. Marginal evidence emerged that felt pressure from self marginally predicts an increase in own-gender typicality.

It is possible that the differential influence of the sources of felt pressure manifest more strongly in the prediction of adjustment outcomes, rather than in the prediction of change in gender typicality. For example, perhaps gender atypical adolescents' adjustment is more strongly affected by felt pressure from peers than from parents. Thus, future studies should consider interactive effects of gender typicality and felt pressure on adjustment along with the potential relative influence of different socialization sources. If this differentiation of sources of felt pressure proves useful for identifying harmful processes for adolescent adjustment (e.g., peer victimization for gender non-conformity), the indicated source of pressure would be a primary route to intervene (e.g., encouraging peer acceptance of gender diversity).

Another important avenue for future research is better understanding the development of felt pressure from the self. Most research on the socialization of gender focuses on messages from external sources; however, felt pressure from the self is shown in the present analyses to be the strongest predictor of change in gender typicality for early adolescents. In addition, the existing research on the self-socialization of gender (e.g., Martin and Halverson 1981; Tobin et al. 2010) focuses primarily on the development of gender identity and gender typing, not on the development of felt pressure. It is likely that similar processes occur for the development of self felt pressure as for gender typing—i.e., a combination of internal schemas, ideals, and motivation, and messages from external sources about gender norms. This is partially illustrated by the marginal prediction of self felt pressure from perceived pressure from parents. This could indicate that, at this age, early adolescents are primarily internalizing felt pressure from parents into felt pressure from the self—incorporating parental messages into messages they tell themselves. In sum, how pressure from parents and peers relates to pressure from self remains largely unknown. Although the present study provides preliminary insight into this process, more work is needed to clarify relation and direction of these various sources of pressure.

Conclusion

A central concern of gender development research is how children and adolescents navigate and construct a gender identity. The underlying processes are hypothesized to be complex and multifaceted; nevertheless, all theories of gender development presume a leading role of socialization forces, such as parents and peers, to provide direct and indirect information for children and adolescents about cultural and societal norms. This study represents an important first step into elucidating the nuance of gender identity development by distinguishing effects of felt pressure from parents, peers, and the self on and adolescents' own- and other-gender typicality. The findings suggest that adolescents' perceptions of parents, peers, and their own social pressures are distinct, and each contributes differently to gender development. It is important for future work to explore the development of these three sources of felt pressure and to illustrate their competing or complementing nature across more developmental periods.

Authors' Contributions R.E.C. conceived of the study, performed the statistical analysis, and drafted the manuscript; M.G.N. aided in conceptualization and helped draft the manuscript; C.L.M. participated in its design and participated in the interpretation of the data; D.D. designed the study, conducted data collection, and participated in the interpretation of the data. All authors read and approved the final manuscript.

Data Sharing Declaration The datasets generated and/or analyzed during the current study are not publicly available but are available from the corresponding author upon reasonable request.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee (Arizona State University IRB, STUDY00001416) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained for all individual participants included in the study.

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